

Arizona Administrative REGISTER

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DIRECTOR
Public Services Division
Scott Cancelosi

PUBLISHER
Secretary of State
MICHELE REAGAN

RULES MANAGING EDITOR
Arizona Administrative Register
Rhonda Paschal

From the Publisher

ABOUT THIS PUBLICATION

The paper copy of the *Administrative Register* (A.A.R.) is the official publication for rules and rulemaking activity in the state of Arizona.

Rulemaking is defined in Arizona Revised Statutes known as the Arizona Administrative Procedure Act (APA), A.R.S. Title 41, Chapter 6, Articles 1 through 10.

The Office of the Secretary of State does not interpret or enforce rules published in the *Arizona Administrative Register* or *Code*. Questions should be directed to the state agency responsible for the promulgation of the rule as provided in its published filing.

The *Register* is cited by volume and page number. Volumes are published by calendar year with issues published weekly. Page numbering continues in each weekly issue.

In addition, the *Register* contains the full text of the Governor's Executive Orders and Proclamations of general applicability, summaries of Attorney General opinions, notices of rules terminated by the agency, and the Governor's appointments of state officials and members of state boards and commissions.

ABOUT RULES

Rules can be: made (all new text); amended (rules on file, changing text); repealed (removing text); or renumbered (moving rules to a different Section number). Rules activity published in the *Register* includes: proposed, final, emergency, expedited, and exempt rules as defined in the APA.

Rulemakings initiated under the APA as effective on and after January 1, 1995, include the full text of the rule in the *Register*. New rules in this publication (whether proposed or made) are denoted with underlining; repealed text is stricken.

WHERE IS A "CLEAN" COPY OF THE FINAL OR EXEMPT RULE PUBLISHED IN THE REGISTER?

The *Arizona Administrative Code* (A.A.C.) contains the codified text of rules. The A.A.C. contains rules promulgated and filed by state agencies that have been approved by the Attorney General or the Governor's Regulatory Review Council. The *Code* also contains rules exempt from the rulemaking process.

The printed *Code* is the official publication of a rule in the A.A.C. is prima facie evidence of the making, amendment, or repeal of that rule as provided by A.R.S. § 41-1012. Paper copies of rules are available by full Chapter or by subscription. The *Code* is posted online for free.

LEGAL CITATIONS AND FILING NUMBERS

On the cover: Each agency is assigned a Chapter in the *Arizona Administrative Code* under a specific Title. Titles represent broad subject areas. The Title number is listed first; with the acronym A.A.C., which stands for the *Arizona Administrative Code*; following the Chapter number and Agency name, then program name. For example, the Secretary of State has rules on rulemaking in Title 1, Chapter 1 of the *Arizona Administrative Code*. The citation for this chapter is 1 A.A.C. 1, Secretary of State, Rules and Rulemaking

Every document filed in the office is assigned a file number. This number, enclosed in brackets, is located at the top right of the published documents in the *Register*. The original filed document is available for 10 cents a copy.

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PUBLISHER
SECRETARY OF STATE
Michele Reagan

PUBLIC SERVICES STAFF
DIRECTOR
Scott Cancelosi

RULES MANAGING EDITOR
Rhonda Paschal

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PUBLICATION DEADLINES
Publication dates are published in the back of the *Register*. These dates include file submittal dates with a three-week turnaround from filing to published document.

CONTACT US
The Honorable Michele Reagan
Office of the Secretary of State
1700 W. Washington Street, Fl. 7
Phoenix, AZ 85007
(602) 364-3223

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Participate in the Process

Look for the Agency Notice

Review (inspect) notices published in the *Arizona Administrative Register*. Many agencies maintain stakeholder lists and would be glad to inform you when they proposed changes to rules. Check an agency's website and its newsletters for news about notices and meetings.

Feel like a change should be made to a rule and an agency has not proposed changes? You can petition an agency to make, amend, or repeal a rule. The agency must respond to the petition. (See A.R.S. § 41-1033)

Attend a public hearing/meeting

Attend a public meeting that is being conducted by the agency on a Notice of Proposed Rulemaking. Public meetings may be listed in the Preamble of a Notice of Proposed Rulemaking or they may be published separately in the *Register*. Be prepared to speak, attend the meeting, and make an oral comment.

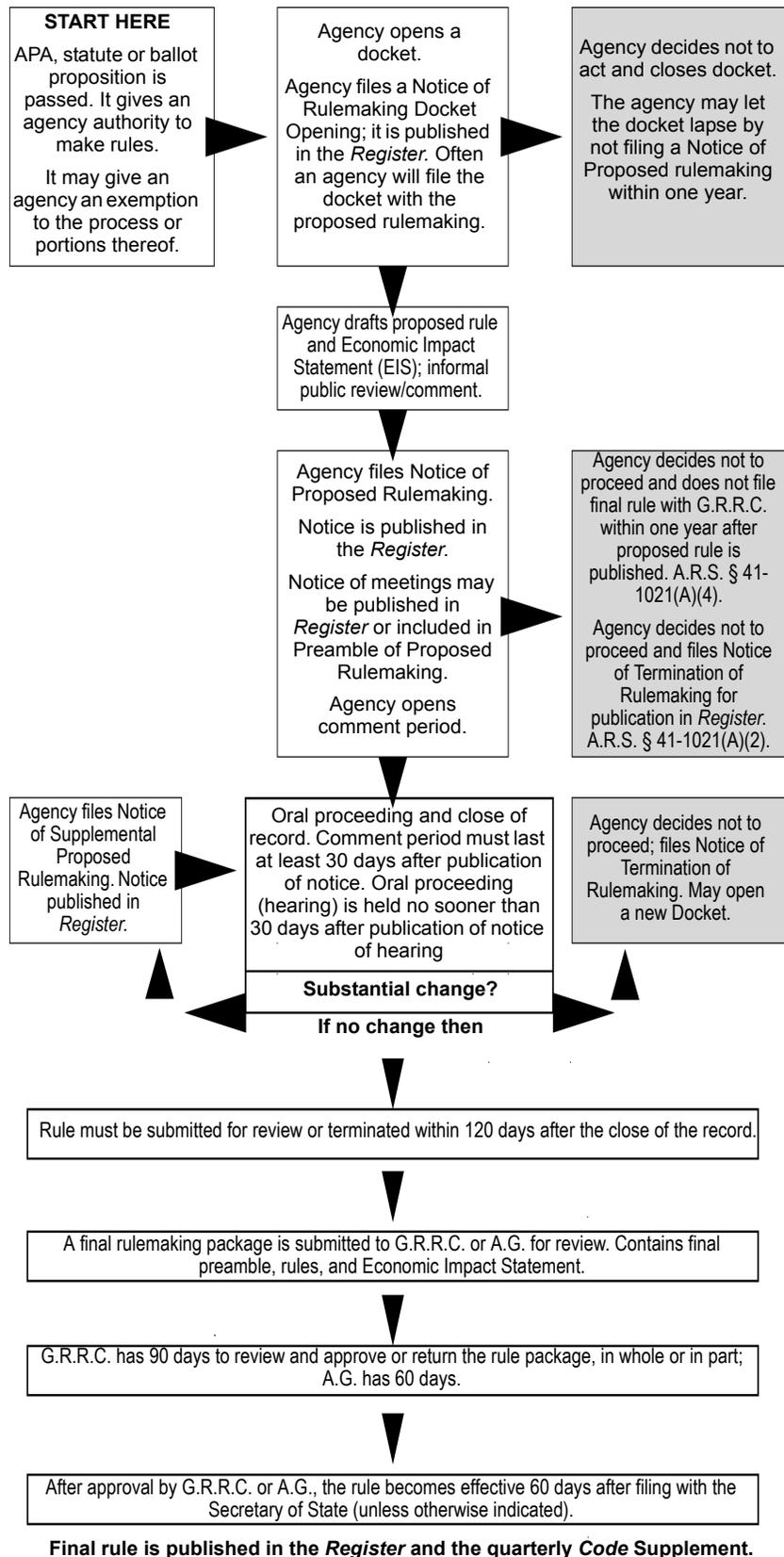
An agency may not have a public meeting scheduled on the Notice of Proposed Rulemaking. If not, you may request that the agency schedule a proceeding. This request must be put in writing within 30 days after the published Notice of Proposed Rulemaking.

Write the agency

Put your comments in writing to the agency. In order for the agency to consider your comments, the agency must receive them by the close of record. The comment must be received within the 30-day comment timeframe following the *Register* publication of the Notice of Proposed Rulemaking.

You can also submit to the Governor's Regulatory Review Council written comments that are relevant to the Council's power to review a given rule (A.R.S. § 41-1052). The Council reviews the rule at the end of the rulemaking process and before the rules are filed with the Secretary of State.

Arizona Regular Rulemaking Process



Definitions

Arizona Administrative Code (A.A.C.): Official rules codified and published by the Secretary of State's Office. Available online at www.azsos.gov.

Arizona Administrative Register (A.A.R.): The official publication that includes filed documents pertaining to Arizona rulemaking. Available online at www.azsos.gov.

Administrative Procedure Act (APA): A.R.S. Title 41, Chapter 6, Articles 1 through 10. Available online at www.azleg.gov.

Arizona Revised Statutes (A.R.S.): The statutes are made by the Arizona State Legislature during a legislative session. They are compiled by Legislative Council, with the official publication codified by Thomson West. Citations to statutes include Titles which represent broad subject areas. The Title number is followed by the Section number. For example, A.R.S. § 41-1001 is the definitions Section of Title 41 of the Arizona Administrative Procedures Act. The "§" symbol simply means "section." Available online at www.azleg.gov.

Chapter: A division in the codification of the *Code* designating a state agency or, for a large agency, a major program.

Close of Record: The close of the public record for a proposed rulemaking is the date an agency chooses as the last date it will accept public comments, either written or oral.

Code of Federal Regulations (CFR): The *Code of Federal Regulations* is a codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government.

Docket: A public file for each rulemaking containing materials related to the proceedings of that rulemaking. The docket file is established and maintained by an agency from the time it begins to consider making a rule until the rulemaking is finished. The agency provides public notice of the docket by filing a Notice of Rulemaking Docket Opening with the Office for publication in the *Register*.

Economic, Small Business, and Consumer Impact Statement (EIS): The EIS identifies the impact of the rule on private and public employment, on small businesses, and on consumers. It includes an analysis of the probable costs and benefits of the rule. An agency includes a brief summary of the EIS in its preamble. The EIS is not published in the *Register* but is available from the agency promulgating the rule. The EIS is also filed with the rulemaking package.

Governor's Regulatory Review (G.R.R.C.): Reviews and approves rules to ensure that they are necessary and to avoid unnecessary duplication and adverse impact on the public. G.R.R.C. also assesses whether the rules are clear, concise, understandable, legal, consistent with legislative intent, and whether the benefits of a rule outweigh the cost.

Incorporated by Reference: An agency may incorporate by reference standards or other publications. These standards are available from the state agency with references on where to order the standard or review it online.

Federal Register (FR): The *Federal Register* is a legal newspaper published every business day by the National Archives and Records Administration (NARA). It contains federal agency regulations; proposed rules and notices; and executive orders, proclamations, and other presidential documents.

Session Laws or "Laws": When an agency references a law that has not yet been codified into the Arizona Revised Statutes, use the word "Laws" is followed by the year the law was passed by the Legislature, followed by the Chapter number using the abbreviation "Ch.," and the specific Section number using the Section symbol (§). For example, Laws 1995, Ch. 6, § 2. Session laws are available at www.azleg.gov.

United States Code (U.S.C.): The Code is a consolidation and codification by subject matter of the general and permanent laws of the United States. The Code does not include regulations issued by executive branch agencies, decisions of the federal courts, treaties, or laws enacted by state or local governments.

Acronyms

A.A.C. – *Arizona Administrative Code*

A.A.R. – *Arizona Administrative Register*

APA – *Administrative Procedure Act*

A.R.S. – *Arizona Revised Statutes*

CFR – *Code of Federal Regulations*

EIS – *Economic, Small Business, and Consumer Impact Statement*

FR – *Federal Register*

G.R.R.C. – *Governor's Regulatory Review Council*

U.S.C. – *United States Code*

About Preambles

The Preamble is the part of a rulemaking package that contains information about the rulemaking and provides agency justification and regulatory intent.

It includes reference to the specific statutes authorizing the agency to make the rule, an explanation of the rule, reasons for proposing the rule, and the preliminary Economic Impact Statement.

The information in the Preamble differs between rulemaking notices used and the stage of the rulemaking.



NOTICES OF PROPOSED RULEMAKING

This section of the Arizona Administrative Register contains Notices of Proposed Rulemakings.

A proposed rulemaking is filed by an agency upon completion and submittal of a Notice of Rulemaking Docket Opening. Often these two documents are filed at the same time and published in the same Register issue.

When an agency files a Notice of Proposed Rulemaking under the Administrative Procedure Act (APA), the notice is published in the Register within three weeks of filing. See the publication schedule in the back of each issue of the Register for more information.

Under the APA, an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the Register before beginning any proceedings for making, amending, or repealing any rule. (A.R.S. §§ 41-1013 and 41-1022)

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the proposed rules should be addressed to the agency the promulgated the rules. Refer to item #4 below to contact the person charged with the rulemaking and item #10 for the close of record and information related to public hearings and oral comments.

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR POLLUTION CONTROL

[R16-241]

PREAMBLE

1. Article, Part, or Section Affected (as applicable)

- Article 13
R18-2-B1301
R18-2-B1301.01
R18-2-B1302
R18-2-C1301
R18-2-C1302
R18-2-715
R18-2-715.01
Appendix 14
Appendix 15

Rulemaking Action

- New Article
New Section
New Section
New Section
New Section (Reserved)
New Section
Amend
Amend
New Appendix
New Appendix

2. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: A.R.S. §§ 49-104(A)(10), 49-404(A)
Implementing statute: A.R.S. §§ 49-425(A)

3. Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the proposed rule:

Notice of Rulemaking Docket Opening: 22 A.A.R. 3336, November 25, 2016 (in this issue).

4. The agency's contact person who can answer questions about the rulemaking:

For the rules applicable to the Hayden Lead Nonattainment Area:

Name: Natalie Muilenberg
Address: Department of Environmental Quality
Air Quality Division, AQIP Section
1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-1089
Fax: (602) 771-2299
Email: nm3@azdeq.gov

For the Article 7 amendments and rules applicable to the Hayden and Miami Sulfur Dioxide Nonattainment Areas:

Name: Lisa Tomczak
Address: Department of Environmental Quality
Air Quality Division, AQIP Section

1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-4450
Fax: (602) 771-2299
Email: lt5@azdeq.gov

5. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

Summary.

The Arizona Department of Environmental Quality (ADEQ) is proposing to amend R18-2-715 and -715.01. ADEQ is also proposing to add a new Article with new rules applicable to two copper smelters: one located in Hayden, Gila County, and one located in Miami, Gila County.

The purpose of this rulemaking is to control lead and sulfur dioxide air pollution in Hayden and sulfur dioxide pollution in Miami as part of the State Implementation Plan (SIP) program under the federal Clean Air Act (CAA).

The rules will be submitted to the U.S. Environmental Protection Agency (EPA) with a revision to Arizona's SIP for the Hayden lead nonattainment area, the Hayden sulfur dioxide nonattainment area, and the Miami sulfur dioxide nonattainment area. A.R.S. § 41-1038 is not applicable to this rulemaking because the failure to take such rulemaking action would result in sanctions under CAA Section 179.

Background.

Hayden lead nonattainment area

In 2008, EPA revised the nearly 40-year-old air quality standards for lead, strengthening them by almost 90 percent. 73 *Fed. Reg.* 66964 (2008). The maximum allowable level of lead in ambient air is a rolling three-month average of 0.15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) evaluated over a three-year period. EPA reviewed and synthesized over 6,000 international studies that covered a broad range of human health and environmental impacts of lead air pollution. EPA tightened the standards to "provide increased protection for children and other at-risk populations against an array of adverse health effects, most notably including neurological effects in children." 73 *Fed. Reg.* 66964, 66965 (2008).

The promulgation of the 2008 lead National Ambient Air Quality Standards (NAAQS) requires states to subsequently submit boundary designations to EPA of areas that meet the standards ("attainment"), do not meet the standards ("nonattainment"), and cannot be classified. These designation recommendations must be submitted to EPA no later than one year after the promulgation of a new NAAQS, and EPA is required to complete designations within two years of promulgation.

In December of 2009, ADEQ recommended to EPA that most of Arizona be designated unclassified/attainment for the 2008 lead NAAQS. At the time, a violation of the NAAQS was recorded at one of EPA's CERCLA/Superfund ambient air monitors near a copper smelter in Hayden currently owned and operated by ASARCO LLC (Asarco). ADEQ requested that EPA delay its designation of the Hayden area because Asarco committed to improve its control of lead emissions in the future. ADEQ recommended that if the Hayden area continued to violate the NAAQS in 2010, it should be designated nonattainment.

After receiving ADEQ's recommendation, EPA conducted a technical analysis on the Hayden area, investigating the sources of lead emissions, topography, meteorology, and data from the violating air quality monitor. In 2010, EPA proposed to designate the Hayden area as nonattainment using air quality data from the violating CERCLA/Superfund monitor. However, commenters challenged the designation because EPA used data from a monitor that was not part of the State and Local Air Monitoring Stations (SLAMS) network and not collected in accordance with quality control and quality assurance requirements. 79 *Fed. Reg.* 25077, 25079 (2014). In response, EPA designated the Hayden area as unclassifiable in 2011 until sufficient data could be collected by a SLAMS monitor in accordance with federal requirements. Later in 2012, Asarco installed a baghouse on the anode furnace to curb particulate and lead emissions from the smelter.

Finally, in 2014, EPA redesignated the Hayden area from unclassifiable to nonattainment after several violations were recorded at ADEQ's Globe Highway SLAMS monitor. 79 *Fed. Reg.* 52205 (2014). The boundaries of the nonattainment area matched those of the Hayden sulfur dioxide nonattainment area, located in both Gila and Pinal Counties. The area's nonattainment designation triggers planning and control requirements under the CAA to bring the area to attainment as expeditiously as practicable.



In 2015, Asarco entered into a consent decree with EPA (see Consent Decree No. CV-15-02206-PHX-DLR) to settle a civil enforcement action. The action alleged that ASARCO had violated, and continued to violate, the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Primary Copper Smelting, 40 C.F.R. Part 63, Subpart QQQ. To comply with the consent decree, Asarco will spend over \$150 million to reduce emissions at its smelter and lead concentrations in the ambient air of the surrounding Town of Hayden. Control equipment installation and retrofit requirements in the consent decree are also part of the control strategy for the Hayden area’s SIP revision and this rulemaking.

Asarco’s copper smelter is one of three in the United States and has been operating since the early 1900s, around the same time the Town of Hayden was established. In general, Asarco’s smelter produces copper anodes using an INCO flash furnace smelter, Peirce-Smith batch converters, and anode refining technologies. First, copper concentrate is produced from several of Asarco’s mining and milling facilities and transported to the Asarco Hayden Smelter for further refining. Some concentrate may also be custom smelted on behalf of other companies. The concentrate is mixed with flux in the bedding plant and then routed to fluidized bed dryers for drying.

Once dried, the copper concentrate is next introduced into the INCO flash furnace with oxygen enriched air, where it is flash smelted and separates into a heavier copper-bearing matte layer and a lighter slag layer. The lighter slag layer is skimmed into a pot which is transported to the slag dump for deposition. The molten matte is tapped from the flash furnace and is poured into a ladle that transfers it to the converter furnace for further refining.

At the converter furnaces, each batch of matte goes through a series of blowing cycles that drive off the remaining sulfur and other impurities and produce blister copper. From the converters, the molten blister copper is transferred to the anode furnace where it is reduced with natural gas and poured into anode molds for shipment to Asarco’s refinery in Amarillo, Texas.

Lead is an impurity that is naturally occurring in the copper ore that is mined and in the copper concentrate that is produced. Lead has the potential to be emitted from the smelting processes in gaseous and particulate form. Smelting process emissions can occur from the INCO flash furnace, the converters, and the anode furnaces. All process emissions are already controlled by either process gas cleaning systems, electrostatic precipitators, or baghouses. However, not all emissions are captured; some are emitted into the atmosphere as process fugitive emissions. Process fugitive emissions occur from matte tapping and slag skimming at the flash furnace, the converters, and anode furnace and anode casting operations. In addition to process fugitive emissions, lead, in the form of particulate matter, is emitted by dust-causing sources. At Asarco’s Hayden operations, fugitive lead dust is generated from sources like open-air concentrate storage and handling, slag pouring, reverbs storage and handling, and roadways.

ADEQ’s analysis concluded that Asarco’s Hayden Operations is the primary source of lead emissions within the Hayden lead nonattainment area, thus, planning and rulemaking efforts are focused on the facility.

Ultimately, ADEQ’s planning and rulemaking efforts aim to improve air quality in the Hayden lead nonattainment area to protect human health and the environment. ADEQ also recognizes Asarco’s role and contributions to Hayden’s local economy, which is historically built on copper mining and smelting, and intends to provide enough flexibility for the facility’s successful operation.

Hayden and Miami sulfur dioxide nonattainment areas

The Hayden and Miami areas were designated as nonattainment for sulfur dioxide in 1979 due to violations of the 1971 sulfur dioxide NAAQS. In 1979, Arizona adopted rules to lower sulfur dioxide emissions from the smelters. The State of Arizona submitted revisions to its SIP to EPA on September 20, 1979; January 10, 1980; and September 10, 1980. The revisions consisted of a demonstration of good engineering practice (GEP) stack height for the copper smelter in Hayden, Arizona, and the application of multi-point rollback (MPR) in establishing sulfur dioxide emissions limits. EPA published a notice of proposed rulemaking on November 30, 1981, conditionally approving Arizona’s submittals. 46 *Fed. Reg.* 58098 (1981). On June 3, 1982, Arizona submitted a SIP revision to satisfy the conditional approval and Arizona’s demonstration of MPR. The MPR rules, which established stack emission limits for the smelters, were approved by EPA on January 14, 1983. 48 *Fed. Reg.* 1717 (1983).

Following EPA’s approval of the rule, the smelters began to implement improved process and control technology. In August 1991, the owner and operator of the Miami smelter submitted a study to ADEQ to partially fulfill

outstanding SIP commitments for analysis of fugitive emissions. The study was implemented to describe sulfur dioxide fugitive emission units and provide an estimate of fugitive emissions during typical smelter operation. On April 11, 1996, Asarco submitted the results of a fugitive sulfur dioxide emissions study to ADEQ to fulfill outstanding SIP commitments for analysis of fugitive emissions.

To meet CAA requirements for redesignation and demonstrate continued attainment of air quality standards, air quality analyses were performed for the smelters during the time period 2001 – 2002. These analyses used maximum actual emissions (both stack and fugitive) in relation to resulting ambient concentrations and showed that the smelters were not expected to cause or contribute to a violation of the 1971 sulfur dioxide standards. In 2002, ADEQ conducted two rulemakings adopting new limits for the smelters. These rulemakings were finalized in R18-2-715(F), (G), and (H) along with corresponding changes to compliance and monitoring procedures in R18-2-715.01.

In 2004, ADEQ made several technical and administrative changes to A.A.C. Title 18, Chapter 2, Appendix 8 to clarify procedures for calculating material balance for sulfur applicable to three copper smelters: one located in Hayden, Gila County (currently owned by Asarco); one located in Miami, Gila County (currently owned by Freeport McMoRan); and one located in San Manuel, Pinal County. In 2006, ADEQ revised R18-2-715 to account for the shutdown of the smelter located in San Manuel and the March 2005 termination of its permit by deleting all references to the smelter from the rule.

On June 22, 2010, EPA replaced the existing annual and 24-hour primary sulfur dioxide NAAQS with a new 1-hour sulfur dioxide standard set at a level of 75 parts per billion (ppb) to better protect public health by reducing public exposure to elevated short-term concentrations of sulfur dioxide. *75 Fed. Reg.* 35520 (2010). The EPA revoked both the annual and 24-hour primary sulfur dioxide NAAQS. On August 5, 2013, EPA published the final designation of both the Hayden and Miami planning area as nonattainment for the 2010 sulfur dioxide NAAQS. *78 Fed. Reg.* 47191 (2013).

Regulatory requirements

To satisfy CAA requirements under Section 110 and Part D, ADEQ must develop and submit to EPA revisions to Arizona's SIP for the Hayden lead nonattainment area, Hayden sulfur dioxide nonattainment area, and Miami sulfur dioxide nonattainment area within 18 months of designation. The SIP revision must provide for the attainment of the 2008 lead NAAQS and 2010 sulfur dioxide NAAQS by containing, among other requirements:

1. Provisions to assure that reasonably available control measures are implemented;
2. A demonstration through air quality modeling that the plan will provide for attainment of the NAAQS as expeditiously as practicable, but no later than five years after the area's designation as nonattainment;
3. Provisions that result in reasonable further progress toward timely attainment through adherence to an ambitious compliance schedule;
4. Contingency measures that are to be implemented if the area fails to meet attainment or its reasonable further progress milestones; and
5. A permit program meeting the requirements of CAA Section 173 governing the construction and operation of new lead sources in the area.

As part of the SIP revision and in order to provide a successful strategy that will bring the Hayden and Miami areas into attainment, ADEQ will be submitting these rules to EPA, making them federally enforceable under Arizona's SIP. The rules set emission limits, control requirements, and compliance methods for the Asarco copper smelter in the Hayden lead and Hayden sulfur dioxide nonattainment areas and the Freeport McMoRan copper smelter in the Miami sulfur dioxide nonattainment area.

Section by Section Explanation of Proposed Rules:

Arizona is revising its rules for sulfur dioxide (R18-2-715 and -715.01) and adding a new Article to incorporate specific rules for the Hayden and Miami nonattainment areas. These new rules will be included in Article 13, which contained the rules for the state's terminated diesel conversion grant program, expired under A.R.S. § 41-1056(J) on April 30, 2013.



Hayden lead nonattainment area

Rule R18-2-B1301 primarily sets an emission limit and control requirements for Asarco’s copper smelter. The new emission limit will ensure that the smelter’s lead emissions will not cause or contribute to violations of the 2008 lead NAAQS. Within the rule, operational standards, monitoring requirements, compliance demonstration procedures, and recordkeeping/reporting requirements are tailored specifically for the smelter with the aim to reduce lead emissions. ADEQ conducted modeling to demonstrate future attainment of the 2008 lead NAAQS using the emission limits required by this rule.

Rule R18-2-B1301.01 sets control requirements for lead-bearing fugitive dust sources within Asarco’s Hayden operations. To comply with the rule, Asarco must develop a fugitive dust plan that addresses controls and compliance requirements for sources like paved and unpaved roads, concentrate storage, and reverts crushing. The rule also sets specific housekeeping requirements for such sources to control lead-bearing fugitive dust. The rule includes other requirements like recordkeeping, reporting, and a contingency measure should the area fail to attain.

Hayden and Miami sulfur dioxide nonattainment areas

Rule R18-2-B1302 sets control requirements and emission limits for sulfur dioxide for Asarco’s Hayden operations. Rule R18-2-C1302 sets control requirements and emission limits for sulfur dioxide for Freeport McMoRan’s Miami operations.

The sulfur dioxide NAAQS promulgated by EPA in 2010 adopted a new level, averaging time, and form of the primary standard. To comply with the new standard, control measures must be implemented that will lower emissions of sulfur dioxide sufficient for an area to attain the NAAQS. On April 23, 2014 EPA issued final guidance to assist agencies with the development of SIPs to comply with the new standard and CAA requirements. The guidance provided an approach whereby emission limits based on averaging times longer than one hour could be imposed as long as the limits reflect comparable stringency to a 1-hour critical emissions value (CEV). The CEV is the hourly emission rate that the model predicts would result in the five-year average of the annual 99th percentile of the daily maximum hourly sulfur dioxide concentrations at the level of the NAAQS. The approach requires that the source’s hourly emissions are effectively measured and that adequate assurance of attainment is evaluated through performance of a dispersion modeling analysis. The attainment modeling performed for the Hayden and Miami smelters evaluates emission limits with averaging times that are longer than one hour and demonstrates comparable stringency to a 1-hour CEV.

Due to differences in operations, Asarco and Freeport McMoRan are implementing control measures unique to each facility. The varied nature of the operations at the Hayden and Miami smelters require rules tailored to their specific operations in order for each area to meet the 2010 sulfur dioxide NAAQS. The new limits for both smelters also require minor changes to the compliance and monitoring provisions.

6. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

Hayden lead nonattainment area

Arizona Department of Environmental Quality. (2016). “Modeling Technical Support Document for the Hayden lead (lead) Nonattainment Area.”

Hayden sulfur dioxide nonattainment area

Arizona Department of Environmental Quality and Asarco LLC. (2016). “Modeling Technical Support Document for the Hayden Sulfur Dioxide (SO2) Nonattainment Area.”

Miami sulfur dioxide nonattainment area

Arizona Department of Environmental Quality and Freeport-McMoRan Copper and Gold Inc. (2016). “Miami Sulfur Dioxide Nonattainment Area SIP Revision Attainment Demonstration Technical Support Document.”

All documents are available for the public to review, Monday through Friday, 8:30 a.m. – 4:30 p.m., at the ADEQ Records Center located at:
1110 W Washington St
Phoenix, AZ 85007

For more information, contact the Records Center at (602) 771-4380 or recordscenter@azdeq.gov.

7. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

This proposed rulemaking does not diminish a previous grant of authority of a political subdivision of this state.

8. The preliminary summary of the economic, small business, and consumer impact:

The following discussion addresses each of the elements required for an economic, small business, and consumer impact statement (EIS) under A.R.S. § 41-1055.

An identification of the rule making.

The rulemaking addressed by this EIS consists of new rules added to the new Article 13 (R18-2-B1301; R18-2-B1301.01; R18-2-B1302; R18-2-C1301 (Reserved), and R18-2-C1302). The purpose of the amendments and new rulemaking is to bring nonattainment areas in the State of Arizona into compliance with new air quality standards for lead and sulfur dioxide pollution.

This EIS addresses the impact of the 2008 lead NAAQS and the 2010 sulfur dioxide NAAQS that requires the owner and operators of copper smelters, Asarco and Freeport McMoRan, to install new and improved air pollution control equipment, apply for a new permit, and comply with new emission limits. The new NAAQS may result in increased compliance costs for Asarco and Freeport McMoran and minor increased administrative costs for ADEQ.

An identification of the persons who will be directly affected by, bear the costs of or directly benefit from the rule making.

The persons who will be directly affected by and bear the costs of this rulemaking are the owners and operators of the Miami and Hayden Smelters, which are Freeport McMoRan and Asarco, respectively. There are no other smelting facilities in the state of Arizona affected by this rulemaking.

The persons who will benefit from this rulemaking are the residents of Hayden and Miami, as well as the employees of Asarco and Freeport McMoRan, due to the improved air quality that will result from this rulemaking and the corresponding control technology Asarco and Freeport McMoRan will be implementing to control lead and sulfur dioxide pollution.

A cost benefit analysis of the following:

(a) The probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the rule making.

ADEQ estimates that the current number of full-time employees assigned in the Permits and Compliance Sections of the Air Quality Division at ADEQ are adequate to implement and enforce the 2008 lead NAAQS in the Hayden nonattainment area and the 2010 sulfur dioxide NAAQS in the Hayden and Miami nonattainment areas. The costs of the rules to the implementing agency will therefore be minimal. Furthermore, permits for sources in the nonattainment areas are revised every five years, with minor revisions occurring periodically. Under A.A.C. R18-2-301(2) and R18-2-326(B)(1)(a), the permit applicant—in this case, Asarco and Freeport McMoRan—will ultimately be required to reimburse ADEQ for the cost of revisions as part of permit fees.

ADEQ has permitting, enforcement, and compliance jurisdiction in the Hayden and Miami nonattainment areas, and therefore, no other state agencies will be affected by this rulemaking.

(b) The probable costs and benefits to a political subdivision of this state directly affected by the implementation and enforcement of the rule making.

No political subdivision of the state operates a smelter of metal ore like copper. Under A.R.S. § 49-402(A)(2), ADEQ has original jurisdiction over all “sources, permits, and violations which pertain to...smelting of metal ore.” The costs of enforcing these new rules applicable to the Asarco and Freeport McMoRan copper smelters are likely to be minimal and will be recoverable through permit fees acquired from Asarco and Freeport McMoRan.

(c) The probable costs and benefits to businesses directly affected by the rule making, including any anticipated effect on the revenues or payroll expenditures of employers who are subject to the rule making.

The rules that are the subject of this preamble and EIS are necessary to comply with federal requirements for the SIP program under the CAA. If ADEQ fails to adopt these rules, the federal requirements will apply to the copper



smelters through the adoption of a Federal Implementation Plan (FIP) issued by EPA under Section 110(c) of the CAA. However, the issuance of a FIP would likely require more strict emission limits and controls for the copper smelters, and further delay the areas' attainment of the lead and sulfur dioxide NAAQS as expeditiously as practicable, as required by the CAA.

If ADEQ fails to submit approvable SIPs, the nonattainment areas would be subject to sanctions under CAA Section 179(b), which can include a prohibition of highway funds and emission offsets requirements for other facilities. Therefore this rulemaking is an effort to not only curb air pollution in Arizona, but to also avoid federal consequences.

Lead and sulfur dioxide pollution cause extreme health risks and burdensome healthcare costs. Such related costs and benefits obtained from controlling lead and sulfur dioxide pollution are discussed further below.

The effects of lead air pollution

According to EPA, lead is emitted into the air from a wide variety of source types. 73 Fed. Reg. 29184, 29190 (2008). Source types include aviation fuel, industrial boilers, iron and steel foundries, and metal ore smelters. Once deposited out of the air, lead can be disturbed and re-suspended into the air. For example, if dust containing particles of lead settles on a road, the lead can become airborne when a truck drives on the road. Lead pollution in the air can be exceptionally troublesome due to its ease of transport in smaller particle sizes. Lead also subsists in the environment for a very long time, making full remediation difficult.

Lead can enter the human body through many routes, but it is primarily inhaled when it is a component of air pollution. In its review of scientific literature for the 2008 lead NAAQS, EPA examined air-related lead exposure through:

1. Inhalation of airborne lead, including re-suspended lead particles
2. Ingestion of lead deposited as indoor or outdoor dust or soil, dietary items (like crops and livestock), and drinking water

EPA recognizes that "lead has been demonstrated to exert 'a broad array of deleterious effects on multiple organ systems via widely diverse mechanisms of action.'" 73 Fed. Reg. 29184, 29197 (2008). Furthermore, a "safe" level of lead in the human body that causes little to no harm has yet to be determined. In promulgating the 2008 lead NAAQS, EPA focused primarily on neurological effects in children and cardiovascular effects in adults that "are currently clearly of greatest public health concern."

Health experts agree that the developing nervous system of a child is the most sensitive to lead exposure. EPA states, "Functional manifestations of lead neurotoxicity during childhood include sensory, motor, cognitive, and behavioral impacts." 73 Fed. Reg. 29184, 29198 (2008). Studies have observed lower IQ, reduced academic achievement, and decreased graduation rates in adolescents exposed to lead. Lead exposure is associated with more negative ratings by teachers and/or parents for children exhibiting inattentiveness, impulsivity, distractibility, and lack of concentration. Higher concentrations of lead in the blood are also linked to impaired memory and visual-spatial skills. Additional studies show early exposure to lead in adolescents may result in an increased likelihood of antisocial and criminal behavior later in life. Since children are exposed to lead early, it has more time to accumulate in the blood supply and bones, hindering overall development and growth.

Lead exposure in adults can cause coronary heart disease, strokes, premature death, and hypertension. Furthermore, lead bioaccumulates in the body, causing persistent, long-term health problems. Lead exposure can also cause kidney disease, anemia, decreased sperm count, increased blood pressure, and interference with vitamin D metabolism. In the body of a pregnant woman, lead can easily cross the placenta, resulting in continued fetal exposure during pregnancy with lasting neurological impacts after birth. Pregnant women who are exposed to even low levels of lead are at high risk for premature birth.

Other symptoms caused by lead exposure include: irritability; shortened attention span; fatigue; impaired growth; loss of appetite; learning disabilities; headaches; seizures; nausea and vomiting; and severe abdominal pain.

A discussion of the monetary costs and health-based benefits of the proposed rulemaking for lead follows.

Lead emissions controls and costs

The CAA prohibits the EPA from considering costs in setting or revising the NAAQS for any pollutant. However, in promulgating the 2008 lead NAAQS, EPA analyzed the associated costs for pollution control equipment and benefits associated with improved public health. EPA estimates that full implementation of the lead NAAQS by sources across the U.S. in 2016 alone would cost approximately \$150 million to \$2.8 billion. The health benefits far outweigh these costs, estimated between \$3.8 billion to \$6.9 billion. 73 *Fed. Reg.* 66964 (2008).

As part of the consent decree, Asarco will implement the Converter Retrofit Project at its Hayden copper smelter to reduce lead and sulfur dioxide emissions. The project will replace the existing five 13-foot diameter copper converters with three 15-foot diameter converters that operate more efficiently. Improved primary and secondary hooded ventilation systems will also be installed above the smelting equipment to capture process off-gases. A new tertiary hooding system will further prevent emissions from escaping the smelting building. An upgraded vent gas baghouse will collect particulate and gaseous emissions coming from the converter dryers and flash furnace.

In addition to the Converter Retrofit Project, Asarco will also be implementing additional control technology for leaded fugitive dust sources. For example, solids from the acid plant scrubbers that process emissions from the flash furnace and copper converters will be dried in a fully enclosed system that is maintained under negative pressure instead of being dried in open piles outside. Materials like concentrate and reverts will no longer be stored in open piles outside, but rather on concrete pads with fences to block the wind and water sprays to minimize fugitive emissions. Unpaved roads will also be sprayed with chemical dust suppressants and paved roads will be sprayed with water to control leaded dust emissions. In addition to complying with the consent decree, these modifications will also contribute to the control strategy for the Hayden lead nonattainment area SIP.

In 2015, Asarco's Hayden operations emitted over three tons of lead emissions. In 2019, that amount is projected to decrease by half to roughly 1.5 tons. The cost of the retrofit project is estimated to be \$110 million.

Benefits of lead emissions controls

The primary benefit of installing the emissions control technologies is an overall reduction in lead in ambient air, which in turn, decreases health and welfare risks from exposure.

Health issues cause more hospital stays and sick time taken from work, putting more burden on health care systems and the economy. EPA estimated between \$3.8 billion to \$6.9 billion of benefits can be contributed to the new lead NAAQS, reflecting public health improvements and an expected increase in lifetime earnings as a result of avoiding IQ loss.

This rulemaking will also help the State of Arizona avoid federal sanctions implemented under the CAA. If the State fails in submitting the rules and SIP revision for the Hayden lead nonattainment area, EPA has the authority to prohibit highway funding and increase costly emission offset requirements for new or modified facilities.

This rulemaking is necessary because of the health benefits derived from the improved controls implemented at the copper smelter and to avoid federal consequences.

The effects of sulfur dioxide pollution

According to the Agency for Toxic Substances and Disease Registry (ATSDR), sulfur dioxide is a colorless gas with a pungent odor. Sulfur dioxide is a liquid when under pressure; it easily dissolves in water and cannot catch fire. Sulfur dioxide in the air results primarily from activities associated with the burning of fossil fuels (coal, oil) such as at power plants or from copper smelting. Once released into the environment, sulfur dioxide moves to the air where it can convert to sulfuric acid, sulfur trioxide, and sulfates.

Short-term exposures to high levels of sulfur dioxide can be life-threatening. Exposure to 100 parts per million parts of air (ppm) is considered immediately dangerous to life and health. Previously healthy nonsmoking miners who breathed sulfur dioxide released as a result of an explosion in an underground copper mine developed burning of the nose and throat, breathing difficulties, and severe airway obstructions. Long-term exposure to persistent levels can also affect health. Lung function changes have been observed in some workers exposed to 0.4 - 3.0 ppm of sulfur dioxide for 20 years or more. However, these workers were also exposed to other chemicals, making it difficult to attribute their health effects to sulfur dioxide exposure alone. Additionally, exercising asthmatics are sensitive to the respiratory effects of low concentrations (0.25 ppm) of sulfur dioxide.



Typical outdoor concentrations of sulfur dioxide may range from 0 to 1 ppm. Occupational exposures to sulfur dioxide may lawfully range from 0 to 5 ppm under state OSHA (Occupational Safety and Health Administration) regulations. During any 8-hour work shift of a 40-hour work week, the average concentration of sulfur dioxide in the workplace may not exceed 5 ppm.

Most of the effects of sulfur dioxide exposure that occur in adults (i.e., difficulty breathing, changes in the ability to breathe as deeply or take in as much air per breath, and burning of the nose and throat) are also of potential concern in children, but it is unknown whether children are more vulnerable to exposure. Children may be exposed to more sulfur dioxide than adults because they breathe more air for their body weight than adults do. Children also exercise more frequently than adults. Exercise increases breathing rate. This increase results in both a greater amount of sulfur dioxide in the lungs and enhanced effects on the lungs. One study suggested that a person's respiratory health, and not his or her age, determines vulnerability to the effects of breathing sulfur dioxide.

Sulfur dioxide emissions controls and costs

Freeport McMoRan-Miami

The construction work being performed at Freeport McMoRan's Miami smelter includes process changes along with environmental upgrades to achieve sulfur dioxide emission reductions so that the Miami area will meet the new ambient air quality standards. The Miami smelter will receive new converter mouth covers, partially enclose the converter aisle to create a canopy, install an aisle scrubber, install an anode plant bag house, and upgrade the smelter furnace to ensure attainment of EPA's more stringent sulfur dioxide NAAQS. At this time, the cost of the project is estimated to be \$250 million.

Asarco-Hayden

The Converter Retrofit Project and associated controls discussed above for lead pollution will also greatly mitigate sulfur dioxide emissions. As mentioned earlier, the project involves replacement of the existing five 13-foot diameter converters with three 15-foot diameter converters. Corresponding modifications will be made to the converter aisle in order to accommodate the larger converters. The retrofit includes installation of a new converter primary gas system. New secondary hoods will also be installed and designed to fit the new, larger converters and new primary hoods. The new secondary hoods will direct sulfur dioxide ventilation gases during blowing operations to the acid plant instead of a baghouse, improving control. Other upgrades include installation of a new converter aisle tertiary gas collection system, enhanced lime injection at the secondary and new vent gas baghouse to further control sulfur dioxide emissions, and improvements to the acid plant. Overall, the retrofit is projected to reduce current sulfur dioxide emissions by 90 percent, with a total sulfur dioxide capture rate of 99.5 percent of the sulfur dioxide produced during the copper smelting process. The cost of the converter retrofit project is estimated to be \$110 million.

Benefits of sulfur dioxide emissions controls

One of the primary benefits of installing the emissions control technologies is an overall reduction in sulfur dioxide emissions. EPA first set health based standards for sulfur dioxide in 1971 at a 24-hour primary standard at 140 parts per billion (ppb) and an annual average standard at 30 ppb. In 1996, EPA reviewed the sulfur dioxide NAAQS and chose not to revise the standards. The 2010 revision to the sulfur dioxide NAAQS established a new one-hour standard at a level of 75 ppb. *75 Fed. Reg. 35520 (2010)*.

Lowering the standard will result in health benefits by lowering exposure to sulfur dioxide, specifically short-term exposure. Initial respiratory reactions to sulfur dioxide include narrowing of the airways in the lungs and difficulty breathing. Individuals with sensitive or compromised respiratory systems, such as children, the elderly, and individuals with respiratory related illnesses are more susceptible to these reactions. These negative reactions commonly result in increased emergency room and hospital visits. The revised NAAQS is designed to lower emissions and reduce exposure to high levels of sulfur dioxide by lowering the level of the standard and establishing new averaging time frame. EPA estimates that a level of 75 ppb for sulfur dioxide will result in cost benefits between \$13 billion and \$33 billion from reduced emergency room visits, hospitalizations, lost work days, and cases of aggravated asthma and bronchitis.

In addition to direct impacts, sulfur dioxide is also a precursor to particulate matter that is 2.5 micrometers in diameter, which can penetrate deep into the lungs and cause serious health effects including increases in cardiovascular illness and mortality.

Additional benefits of this rulemaking include continued oversight and control of air emissions by ADEQ. As stated earlier for lead pollution, without approval of this rulemaking and SIPs, the CAA specifies that EPA must develop a federal implementation plan (FIP) to regulate sources within the planning area. In addition to a FIP, the Hayden and Miami nonattainment areas would also be subject to highway sanctions and offsets. Highway sanctions are prohibitions on certain transportation projects or grants within the planning area. Offset sanctions are requirements for new or modified sources to have a ratio of emissions reductions to increased emissions at a level of at least two to one. Both ADEQ and the business community will benefit from continued regulation at the state level as a result of avoiding federal sanctions.

A general description of the probable impact on private and public employment in businesses, agencies and political subdivisions of this state directly affected by the rule making.

ADEQ anticipates that employment impacts will be minor. ADEQ does not expect short- or long-term employment, production, or industrial growth in Arizona to be negatively impacted by this rulemaking. Furthermore, no sources are expected to close from the implementation of this rulemaking.

Asarco-Hayden Operations

Asarco estimates that 10 contractors and 100 full-time employees will be needed in order to complete the retrofit project. Some of the contractors will be hired for planned maintenance outages during the construction period. Roughly 50 percent of the contractors will be hired from Arizona and the other 50 percent from the Southwest in general. Procurement of equipment for the retrofit project is scheduled to begin in 2015, with full completion of the project scheduled by the fourth quarter of 2018. Asarco is not planning to create any new full or part-time positions at the company as a result of this project.

Freeport McMoRan-Miami Operations

Through the various phases of the construction project described above, Freeport McMoRan expects to have over 500 contractors/individuals working on the construction; although this number will vary over the construction period. This estimate does not include contractors required for planned maintenance outages during the same time frame. While the number of contractors required for planned maintenance outages is contingent upon the work to be completed during the outage, it usually requires between 500 and 1,000 contractors.

Because of the increased demand for contractors, Freeport McMoRan anticipates a short-term increase in employment by the contractors throughout the project. Contractors will be selected on an as needed basis; some local and specialty contractors from outside the State may be necessary. No new positions will be created within Freeport McMoRan's Miami smelter for this project.

Construction will occur in two major phases. Phase 1 started with ADEQ's approval of the smelter's significant permit revision authorizing the proposed construction. Phase 2 will begin shortly after internal approval to move forward is received and Freeport McMoRan anticipates the project will be completed eight quarters after that approval is received.

A statement of the probable impact of the rule making on small businesses.

(a) An identification of the small businesses subject to the rule making.

Under A.R.S. § 41-1001(21):

"Small business" means a concern, including its affiliates, which is [1] *independently owned and operated*, which is [2] *not dominant in its field* and which [3] *employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year.* (Emphasis added.)

The lead and sulfur dioxide-related rules will apply only to the companies that own and operate copper smelters in Hayden and Miami, which is currently Asarco and Freeport McMoRan, respectively. These companies do not qualify as small businesses.

As of 2014, Asarco's Hayden operations employed over 600 people. Asarco is a subsidiary of Grupo Mexico, a public company, and one of the major copper producers in the world. According to its 2014 annual report, Grupo



Mexico’s net profit was \$1.7 billion. Grupo Mexico nor Asarco’s Hayden operations meet the definition of a “small business” under A.R.S. § 41-1001(21).

As of this rulemaking, Asarco currently contracts with Smithco Enterprises, LLC, an operation that processes smelter byproducts like reverts for Asarco. Smithco’s business relies heavily on Asarco’s copper smelter. Several control measures required by this rulemaking (and the consent decree) will apply to some of Smithco’s operations. However, Asarco is paying for the control measures as part of the consent decree with EPA. Therefore, this rulemaking will not have a direct impact on Smithco.

In 2015, Freeport McMoRan, also a public company and top producer of copper in the world, reported a \$15.8 billion revenue. Also in 2015, its Miami mine and smelter produced 43 million pounds of copper. As of 2016, roughly 760 people are employed at Freeport’s Miami operations. Freeport McMoRan’s Miami operations do not meet the definition of a “small business” under A.R.S. § 41-1001(21).

(b) The administrative and other costs required for compliance with the rule making.

Not applicable.

(c) A description of the methods that the agency may use to reduce the impact on small businesses.

Not applicable.

(d) The probable cost and benefit to private persons and consumers who are directly affected by the rule making.

Not applicable.

A statement of the probable effect on state revenues.

Since any costs associated with the rulemaking will be recoverable through air quality permit fees, there will be no net effect on state revenues.

A description of any less intrusive or less costly alternative methods of achieving the purpose of the rule making.

ADEQ was not able to identify any less intrusive or costly alternative methods for achieving the purpose of the rulemaking—attainment of the 2008 lead NAAQS and 2010 sulfur dioxide NAAQS. The smelters owned by Asarco and Freeport McMoRan are the primary source of emissions and are responsible for installing adequate control technologies that will bring the areas into compliance.

A description of any data on which a rule is based with a detailed explanation of how the data was obtained and why the data is acceptable data. An agency advocating that any data is acceptable data has the burden of proving that the data is acceptable. For the purposes of this paragraph, "acceptable data" means empirical, replicable and testable data as evidenced in supporting documentation, statistics, reports, studies or research.

To support the emission limits and control requirements in both rules, ADEQ conducted air quality modeling using data obtained from Asarco, Freeport McMoRan, and air quality monitors. ADEQ followed EPA Guidance in conducting the modeling.

Before conducting the air quality modeling, ADEQ identified lead and sulfur dioxide pollution sources in the Hayden nonattainment area and sulfur dioxide pollution sources in the Miami nonattainment area. To do this, ADEQ obtained emissions data from EPA’s National Emission Inventory (NEI). After analyzing the emissions data, ADEQ determined that no other sources or combination of sources contributed as much as the Asarco smelter in the Hayden nonattainment area and the Freeport McMoRan smelter in the Miami nonattainment area.

ADEQ used the emissions data, in addition to meteorological and topographical data, to develop emissions limits that demonstrate attainment. Since the copper smelters in both areas were identified as the primary sources of emissions, the modeling efforts concentrated on the facilities’ operations. The emission limits derived from the modeling are conservative and factor in the emission control equipment efficiency as well as peak smelter production levels.

The modeling Technical Support Documents outline ADEQ's methods, approach, and empirical results. The documents for both nonattainment areas are available for review at ADEQ's Records Center. See section 6 of this preamble for more information.

9. The agency's contact person who can answer questions about the economic, small business and consumer impact statement:

Name: Natalie Muilenberg
Address: Department of Environmental Quality
Air Quality Division, AQIP Section
1110 W. Washington
Phoenix, AZ 85007
Telephone: (602) 771-1089 or (800) 234-5677 ext. 7711089
Fax: (602) 771-2299
E-mail: nm3@azdeq.gov

10. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

ADEQ will be conducting a public hearing to receive feedback, comments, questions, and concerns on the proposed rulemaking. All interested parties may attend. ADEQ will respond to comments in a summary that is submitted with the SIP revisions, which will include the rules subject of this rulemaking.

The public comment period for this rulemaking will take place on: December 5, 2016 – January 9, 2017.

The public hearing for the rules will be conducted on:
January 9, 2017 at 2:00 p.m.
At the Arizona Department of Environmental Quality
Room 3175
1110 W. Washington St.
Phoenix, AZ 85007

Comments for Hayden and Miami Sulfur Dioxide Nonattainment Areas

Written comments for the Article 7 amendments and rules applicable to the Hayden and Miami Sulfur Dioxide Nonattainment Areas may be submitted at any time during the public comment period by mail, fax, or email to:

Lisa Tomczak
Department of Environmental Quality
Air Quality Division, AQIP Section
1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-4450
Fax: (602) 771-2299
E-mail: lt5@azdeq.gov

Comments for Hayden Lead Nonattainment Area

Written comments for the rules applicable to the Hayden Lead Nonattainment Areas may be submitted at any time during the public comment period by mail, fax, or email to:

Natalie Muilenberg
Department of Environmental Quality
Air Quality Division, AQIP Section
1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-1089
Fax: (602) 771-2299
E-mail: nm3@azdeq.gov



Information on the public process can be found online at ADEQ's event calendar here: <http://azdeq.gov/events>.

11. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

There are no matters prescribed by statute applicable specifically to ADEQ or this specific rulemaking.

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

The rules subject of this rulemaking do not inherently require a permit. As Class I Major Sources pursuant to A.A.C. R18-2-101.61, Asarco and Freeport McMoRan are permitted in accordance with Title V of the CAA and Title 49, Chapter 3 of the Arizona Revised Statutes. Therefore, the rules will be incorporated into a revision of Asarco and Freeport McMoRan's Title V permit.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

The rules will help the Hayden and Miami nonattainment areas comply with Title I of the Clean Air Act. The rules are not more stringent than what is federally required.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

No person(s) submitted an analysis to ADEQ.

12. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

Not applicable.

13. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

**CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL**

ARTICLE 13. STATE IMPLEMENTATION PLAN RULES FOR SPECIFIC LOCATIONS

PART A. RESERVED

PART B. HAYDEN, ARIZONA, PLANNING AREA

- R18-2-B1301. Limits on Lead Emissions from the Hayden Primary Copper Smelter
- R18-2-B1301.01. Limits on Lead-Bearing Fugitive Dust from the Hayden Primary Copper Smelter
- R18-2-B1302. Limits on SO₂ Emissions from the Hayden Primary Copper Smelter

PART C. MIAMI, ARIZONA, PLANNING AREA

- R18-2-C1301. Reserved
- R18-2-C1302. Limits on SO₂ Emissions from the Miami Smelter

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

- R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements
- R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring
- A14. Appendix 14. Procedures for Sulfur Dioxide and Lead Fugitive Emissions Studies for the Hayden Primary Copper Smelter
- A15. Appendix 15. Test Methods for Determining Opacity and Stabilization of Unpaved Roads

ARTICLE 13. STATE IMPLEMENTATION PLAN RULES FOR SPECIFIC LOCATIONS

PART A. RESERVED**PART B. HAYDEN, ARIZONA, PLANNING AREA****R18-2-B1301. Limits on Lead Emissions from the Hayden Primary Copper Smelter****A.** Applicability.

1. This Section applies to the owner or operator of the primary copper smelter located in Hayden, Arizona at latitude 33°0'15"N and longitude 110°46'31"W.
2. Effective date. Except as otherwise provided, the requirements of this Section shall become applicable on the earlier of July 1, 2018 or 180 calendar days after completion of all Converter Retrofit Project improvements authorized by Significant Permit Revision No. 60647.

B. Definitions. In addition to general definitions contained in R18-2-101, the following definitions apply to this Section:

1. "ACFM" means actual cubic feet per minute.
2. "Anode furnace baghouse stack" means the dedicated stack that vents controlled off-gases from the anode furnaces to the main stack.
3. "Blowing" shall mean the introduction of air or oxygen-enriched air into the converter furnace molten bath through tuyeres that are submerged below the level of the molten bath. The flow of air through the tuyeres above the level of the molten bath or into an empty converter shall not constitute blowing.
4. "Capture system" means the collection of components used to capture gases and fumes released from one or more emission units, and to convey the captured gases and fumes to one or more control devices or a stack. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.
5. "CFR" means the Code of Federal Regulations.
6. "Control device" means a piece of equipment used to clean and remove pollutants from gases and fumes released from one or more emission units that would otherwise be released to the atmosphere. Control devices may include, but are not limited to, baghouses, Electrostatic Precipitators (ESPs), and sulfuric acid plants.
7. "Emission unit" means the INCO flash furnace, converter furnaces, anode furnaces, and associated ancillary equipment.
8. "Hayden Smelter" means the primary copper smelter located in Hayden, Gila County, Arizona at latitude 33°0'15"N and longitude 110°46'31"W.
9. "Main stack" means the center and annular portions of the 1,000-foot stack, which vents controlled off-gases from the INCO flash furnace, the converters, and anode furnaces and also vents exhaust from the tertiary hoods.
10. "SCFM" means standard cubic feet per minute.
11. "SLAMS monitor" means an ambient air monitor part of the State and Local Air Monitoring Stations network operated by State or local agencies for the purpose of demonstrating compliance with the National Ambient Air Quality Standards.
12. "Smelting process-related fugitive lead emissions" means uncaptured and/or uncontrolled lead emissions that are released into the atmosphere from smelting copper in the INCO flash furnace, converters, and anode furnaces.

C. Emission limit. Main stack lead emissions shall not exceed 0.683 pound of lead per hour.**D.** Operational Standards.

1. Process equipment and control device operations. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate smelter processes and associated emission capture and/or control equipment in a manner consistent with good air pollution control practices for minimizing lead emissions to the level required by subsection (C). Determination of whether acceptable operating and maintenance procedures are being used shall be based on all information available to the Department and EPA Region IX, which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and records, and inspection of the relevant equipment.
2. Capture system and control device operations and maintenance plan. The owner or operator shall develop and implement an operations and maintenance plan for each capture system and/or control device used to ventilate or control process gas or emissions from the flash furnace, including matte tapping, slag skimming and slag return operations; converter primary hoods, converter secondary hoods, tertiary ventilation system;



and anode refining operations. The operations and maintenance plan must address the following requirements as applicable to each capture system and/or control device.

- a. Monitoring devices. The plan shall provide for installation, operation, calibration, and maintenance of appropriate monitoring devices to measure and record operating limit values or settings at all times the required capture and control system is operating, except during periods of monitor calibration, repair, and malfunction. The initial plan shall provide for volumetric flow monitoring on the vent gas baghouse (inlet or outlet), each converter primary hood, each converter secondary hood, the tertiary ventilation system, and the anode furnace baghouse (inlet or outlet). All monitoring devices shall be accurate within +/- 10 percent and calibrated according to manufacturer's instructions. If direct measurement of the exhaust flow is infeasible due to physical limitations or exhaust characteristics, the owner or operator may propose a reliable equivalent method for approval. Initial monitoring may be adjusted as provided in subsection (D)(2)(e). Dampers that are manually set and remain in the same position while the capture system is operating are exempt from these monitoring requirements. Capture system damper position setting(s) shall be specified in the plan.
- b. Operational limits. The owner or operator shall establish operating limits in the operations and maintenance plan for the capture systems and/or control devices that are representative and reliable indicators of the performance of the capture system and control device operations. Initial operating limits may be adjusted as provided in subsection (D)(2)(e). Initial operating limits shall include the following:
 - i. Identification of those modes of operation when the double dampers between the flash furnace vessel and the vent gas system will be closed and the interstitial space evacuated to the acid plant.
 - ii. A minimum air flow for the furnace ventilation system and associated damper positions for each matte tapping hood or slag skimming hood when operating to ensure that the operation(s) are within the confines or influence of the capture system.
 - iii. A minimum air flow for the secondary hood baghouse and associated damper positions for each slag return hood to ensure that the operation is within the confines or influence of the capture system's ventilation draft during times when the associated process is operating.
 - iv. A minimum air infiltration ratio for the converter primary hoods of 1:1 averaged over 24 converter Blowing hours, rolled hourly measured as volumetric flow in primary hood less the volumetric flow of tuyere Blowing compared to the volumetric flow of tuyere Blowing.
 - v. A minimum secondary hood exhaust rate of 35,000 SCFM during converter Blowing, averaged over 24 converter Blowing hours, rolled hourly.
 - vi. A minimum secondary hood exhaust rate of 133,000 SCFM during all non-Blowing operating hours, averaged over 24 non-Blowing hours, rolled hourly.
 - vii. A minimum negative pressure drop across the secondary hood when the doors are closed equivalent to 0.007 inches of water.
 - viii. A minimum exhaust rate on the tertiary hooding of 400,000 ACFM during all times material is processed in the converter aisle, averaged over 24 hours and rolled hourly.
 - ix. Fan amperes or minimum air flow for the anode furnace baghouse and associated damper positions for each anode furnace hood to ensure that the anode furnace off-gas port is within the confines or influence of the capture system's ventilation draft during times when the associated furnace is operating.
 - x. The anode furnace charge mouth shall be kept covered when the tuyeres are submerged in the metal bath except when copper is being charged to or transferred from the furnace.
 - xi. The temperatures of the acid plant catalyst bed, which shall at minimum, meet the manufacturer's recommendations.
 - xii. The acid plant catalyst replenishment schedule, which shall at minimum, meet the manufacturer's recommendations.
- c. Preventative maintenance. The owner or operator shall perform preventative maintenance on each capture system and control device according to written procedures specified in the operations and maintenance plan. The procedures must include a preventative maintenance schedule that is consistent with the manufacturer's or engineer's instructions, or operator's experience working with the equipment, and frequency for routine and long-term maintenance. This provision does not prohibit additional maintenance beyond that required by the plan.

- d. Inspections. The owner or operator shall perform inspections in accordance with written procedures in the operations and maintenance plan for each capture system and control device that are consistent with the manufacturer's, engineer's, or operator's instructions for each system and device.
 - e. Plan development and revisions.
 - i. The owner or operator shall develop and keep current the plan required by this Section. Any plan or plan revision shall be consistent with this Section, shall be designed to ensure that the capture and control system performance conforms to the attainment demonstration in the Hayden 2008 Lead National Ambient Air Quality Standards Nonattainment Area State Implementation Plan (SIP), and shall be submitted to the Department for review. Any plan or plan revision submitted shall include the associated manufacturer's, engineer's or operator's recommendations and/or instructions used for capture system and control device operations and maintenance.
 - ii. The owner or operator shall submit the initial plan to the Department no later than May 1, 2018 and shall include the initial volumetric flow monitoring provisions in subsection (D)(2)(a), the initial operational limits in subsection (D)(2)(b), the preventative maintenance procedures in subsection (D)(2)(c), and the inspection procedures in subsection (D)(2)(d).
 - iii. The owner or operator shall submit to the Department for approval a plan revision with changes, if any, to the initial volumetric flow monitoring provisions in subsection (D)(2)(a) and initial operational limits in subsection (D)(2)(b) not later than six months after completing a fugitive emissions study conducted in accordance with Appendix 14. The Department shall submit the approved changes to the volumetric flow monitoring provisions and operational limits pursuant to this subsection to EPA Region IX as a SIP revision not later than 12 months after completion of a fugitive emissions study.
 - iv. Other plan revisions may be submitted at any time when necessary. All plans and plan revisions shall be designed to achieve operation of the capture system and/or control device consistent with the attainment demonstration in the Hayden 2008 Lead National Ambient Air Quality Standards Nonattainment Area SIP. Except for changes to the volumetric flow monitoring provisions in subsection (D)(2)(a) and operational limits in subsection (D)(2)(b), which shall require prior approval, plans and plan revisions may be implemented upon submittal and shall remain in effect until superseded or until disapproved by the Department. Disapprovals are appealable Department actions.
3. Emissions from the anode furnace baghouse stack shall be routed to the Main Stack.
- E.** Performance Test Requirements.
- 1. Main stack performance tests. No later than 180 calendar days after completion of all Converter Retrofit Project improvements authorized by Significant Permit Revision No. 60647, the owner or operator shall conduct initial performance tests on the following:
 - a. the gas stream exiting the anode furnaces baghouse prior to mixing with other gas streams routed to the main stack.
 - b. the gas stream exiting the acid plant at a location prior to mixing with other gas streams routed to the main stack.
 - c. the gas stream exiting the secondary baghouse at a location prior to mixing with other gas streams routed to the main stack.
 - d. the gas stream collected by the tertiary hooding at a location prior to mixing with other gas streams routed to the main stack.
 - e. the gas stream exiting the vent gas baghouse at a location prior to mixing with other gas streams routed to the main stack.
 - 2. Subsequent performance tests on the gas streams specified in subsection (E)(1) shall be conducted at least annually.
 - 3. Performance tests shall be conducted under such conditions as the Department specifies to the owner or operator based on representative performance of the affected sources and in accordance with 40 CFR 60, Appendix A, Reference Method 29.
 - 4. At least 30 calendar days prior to conducting a performance test pursuant to subsection (E)(1), the owner or operator shall submit a test plan, in accordance with R18-2-312(B) and the Arizona Testing Manual, to the Department for approval. The test plan must include the following:
 - a. Test duration;
 - b. Test location(s);



- c. Test method(s), including those for test method performance audits conducted in accordance with subsection (E)(6); and
- d. Source operation and other parameters that may affect the test result.
- 5. The owner or operator may use alternative or equivalent performance test methods as defined in 40 CFR § 60.2 when approved by the Department and EPA Region IX, as applicable, prior to the test.
- 6. The owner or operator shall include a test method performance audit during every performance test in accordance with 40 CFR § 60.8(g).

F. Compliance Demonstration Requirements.

- 1. For purposes of determining compliance with the main stack emission limit in subsection (C)(1), the owner or operator shall calculate the combined lead emissions in pounds per hour from the gas streams identified in subsection (E)(1) based on the most recent performance tests conducted in accordance with subsection (E).
- 2. The owner or operator shall determine compliance with the requirements in subsection (D)(2) as follows:
 - a. Maintaining and operating the emissions capture and control equipment in accordance with the capture system and control device operations and maintenance plan required in subsection (D)(2) and recording operating parameters for capture and control equipment as required in subsection (D)(2)(b); and
 - b. Conducting a fugitive emissions study in accordance with Appendix 14 starting not later than 6 months after completion of the Converter Retrofit Project authorized by Significant Permit Revision No. 60647. The fugitive emissions study shall demonstrate, as set forth in Appendix 14, that fugitive emissions from the smelter are consistent with estimates used in the attainment demonstration in the Hayden 2008 Lead National Ambient Air Quality Standards Nonattainment Area SIP.
- 3. The owner or operator shall include periods of startup, shutdown, malfunction, or other upset conditions when determining compliance with the emission limit in subsection (C).

G. Recordkeeping. The owner or operator shall maintain the following records for at least five years and keep on-site for at least two years:

- 1. All records as specified in the operations and maintenance plan required under subsection (D)(2).
- 2. All records of major maintenance activities and inspections conducted on emission units, capture systems, monitoring devices, and air pollution control equipment, including those set forth in the operations and maintenance plan required by subsection (D)(2).
- 3. All records of performance tests, test plans, and audits required by subsection (E).
- 4. All records of compliance calculations required by subsection (F).
- 5. All records of fugitive emission studies and study protocols conducted in accordance with Appendix 14.
- 6. All records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of concentrate drying, smelting, converting, anode refining, and casting emission units; and any malfunction of the associated air pollution control equipment that is inoperative or not operating correctly.
- 7. All records of reports and notifications required by subsection (H).

H. Reporting. The owner or operator shall provide the following to the Department:

- 1. Notification of commencement of construction of any equipment necessary to comply with the operational or emission limits.
- 2. Semiannual progress reports on construction of any such equipment postmarked by July 30 for the preceding January-June period and January 30 for the preceding July-December period.
- 3. Notification of initial startup of any such equipment within 15 business days of such startup.
- 4. Whenever the owner or operator becomes aware of any exceedance of the emission limit set forth in subsection (C), the owner or operator shall notify the Department orally or by electronic or facsimile transmission as soon as practicable, but no later than two business days after the owner or operator first knew of the exceedance.
- 5. Within 30 days after the end of each calendar-year quarter, the owner or operator shall submit a quarterly report to the Department for the preceding quarter that shall include dates, times, and descriptions of deviations when the owner or operator operated smelting processes and related control equipment in a manner inconsistent with the operations and maintenance plan required by subsection (D)(2).
- 6. Reports from performance testing conducted pursuant to subsection (E) shall be submitted to the Department within 60 calendar days of completion of the performance test. The reports shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312(A).

R18-2-B1301.01. Limits on Lead-Bearing Fugitive Dust from the Hayden Primary Copper Smelter

A. Applicability.

- 1. This Section applies to the owner or operator of the primary copper smelter located in Hayden, Arizona at latitude 33°0'15"N and longitude 110°46'31"W.

2. Effective Date. Except as otherwise provided, no later than December 1, 2018, the owner or operator shall comply with all requirements of this Section.

B. Definitions. In addition to general definitions contained in R18-2-101, the following definitions apply to this Section:

1. “ACFM” means actual cubic feet per minute.
2. “Acid plant scrubber blowdown drying system” means the process in which Venturi scrubber blowdown solids are dried and packaged via a thickener, filter press, electric dryer, and supersack filling stations.
3. “Control measure” means a piece of equipment used, or actions taken, to minimize lead-bearing fugitive dust emissions that would otherwise be released to the atmosphere. Control equipment may include, but are not limited to, wind fences, chemical dust suppressants, and water sprayers. Actions may include, but are not limited to, relocating sources, curtailing operations, or ceasing operations.
4. “Hayden Lead Nonattainment Area” means the townships in Gila and Pinal Counties, as identified and codified in 40 CFR § 81.303, that are designated nonattainment for the 2008 Lead National Ambient Air Quality Standards.
5. “Hayden Smelter” means the primary copper smelter located in Hayden, Gila County, Arizona at latitude 33°0’15”N and longitude 110°46’31”W.
6. “High wind event” means any period of time beginning when the average wind speed, as measured at a meteorological station maintained by the owner or operator that is approved by the Department, is greater than or equal to 15 miles per hour over a 15 minute period, and ending when the average wind speed, as measured at the approved meteorological station maintained by the owner or operator, falls below 15 miles per hour over a 15 minute period.
7. “Lead-bearing fugitive dust” means uncaptured and/or uncontrolled particulate matter containing lead that is entrained in the ambient air and is caused by activities, including, but not limited to, the movement of soil, vehicles, equipment, and wind.
8. “Material pile” means material, including concentrate, uncrushed reverts, crushed reverts, and bedding material, that is stored in a pile outside a building or warehouse and is capable of producing lead-bearing fugitive dust.
9. “Non-smelting process sources” means sources of lead-bearing fugitive dust that are not part of the hot metal process, which includes smelting in the INCO flash furnace, converting, and anode refining and casting. Non-smelting process sources include storage, handling, and unloading of concentrate, uncrushed reverts, crushed reverts, and bedding material; acid plant scrubber blowdown solids; and paved and unpaved roads.
10. “Ongoing visible emissions” means observed emissions to the outside air that are not brief in duration.
11. “Road” means any surface on which vehicles pass for the purpose of carrying people or materials from one place to another in the normal course of business at the Hayden Smelter.
12. “Slag” means the inorganic molten material that is formed during the smelting process and has a lower specific gravity than copper-bearing matte.
13. “Slag hauler” means any vehicle used to transport molten slag.
14. “Storage and handling” means all activities associated with the handling and storage of materials that take place at the Hayden Smelter, including, but not limited to, stockpiling, transport on conveyor belts, transport or storage in rail cars, crushing and milling, arrival and handling of offsite concentrate, bedding, and handling of reverts.
15. “Trackout/carry-out” means any materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that may then fall onto the road.

C. Operational Standards.

1. Equipment operations. At all times, the owner or operator shall operate and maintain all non-smelting process sources, including all associated air pollution control equipment, control measures, and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing lead-bearing fugitive dust, and in accordance with the fugitive dust plan required by subsection (C)(2) and performance and housekeeping requirements in subsection (D). A determination of whether acceptable operating and maintenance procedures are being used shall be based on all available information to the Department and EPA Region IX, which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and records, review of fugitive dust plans, and inspection of the relevant equipment.
2. Fugitive dust plan. The owner or operator shall develop, implement, and follow a fugitive dust plan that is designed to minimize lead-bearing fugitive dust from non-smelting process sources. At minimum, the fugitive dust plan shall contain the following:
 - a. Performance and housekeeping requirements in subsection (D).



- b. Design plans and specifications for each wind fence to be installed to control lead-bearing fugitive dust from non-smelting process sources identified in subsections (D)(11) through (D)(14). The dust plan shall contain height limits for the materials being stored in each wind fence, consistent with the design plans and specifications for that particular wind fence. Wind fence design and specifications shall:
 - i. Require full encircling of the source to be controlled, with reasonable and sufficient openings for ingress and egress;
 - ii. Consider the orientation of the wind fence to the prevailing winds;
 - iii. Consider the strength of the winds in the area where the fence will be located;
 - iv. Consider the porosity of the material to be used, which shall not exceed 50 percent; and
 - v. Consider the height of the fence relative to the height of the material being stored. At minimum, wind fence height shall be greater than or equal to the material pile height.
- c. Design plans and specifications for each new or modified water sprayer system used to control lead-bearing fugitive dust from non-smelting process sources specified in subsections (D)(11) through (D)(14). The number, type, location, watering intensity, flow rates, and other operational parameters of the water sprayers must meet moisture content objectives for sources specified in subsections (D)(11) through (D)(14). The owner or operator may include in the dust plan an exemption to the water requirements at times when the materials are sufficiently moist or it is raining and thus there is no need for additional wetting until the next scheduled watering to meet moisture content objectives. The dust plan shall include the following for each water sprayer:
 - i. watering schedule;
 - ii. watering intensity;
 - iii. minimum flow rate or pressure drop;
 - iv. appropriate and/or continuous monitoring;
 - v. schedule for calibration based on the manufacturer's recommended calibration schedule;
 - vi. preventative maintenance schedule; and
 - vii. other applicable operational parameters.
- d. Necessary improvements and/or modifications to material conveyor systems, along with a schedule for implementing improvements or modifications, targeted to minimize lead-bearing fugitive dust from non-smelting process sources specified in subsections (D)(11) through (D)(14), as applicable, to the greatest extent practicable. The improvements or modifications may include, but is not limited to, hooding of transfer points, utilizing water sprayers, and employing scrapers, brushes, or cleaning systems at all points where belts loop around themselves to catch and contain material before it falls to the ground.
- e. Design plans for the concrete pads for the non-smelting process sources specified in subsections (D)(11) and (D)(13). The concrete pads shall be designed to capture, store, and control stormwater or sprayed water to minimize emissions to the greatest extent practicable, including curbing around the outer edges of the concrete pad where feasible.
- f. Additional controls and measures for sources specified in subsections (D)(11) through (D)(14) to be implemented during high wind events. These additional controls or measures, which must include curtailment or other alteration of activity when appropriate, must be implemented at these sources during all periods of high wind.
- g. Sample inspection sheets, checklists, or logsheets for each of the inspections identified in subsection (D)(6), and in accordance with the following:
 - i. The inspection sheets or checklists shall include:
 - (1) Specific descriptions of the equipment being inspected and the specific functions being evaluated;
 - (2) The findings of the inspection;
 - (3) The date, time, and location of inspections; and
 - (4) An identification of who performed the inspection or logged the results.
 - ii. The logsheets for high wind events shall include:
 - (1) High wind event start time;
 - (2) High wind event end time;
 - (3) Description of area or activity inspected; and
 - (4) Description of corrective action taken if necessary.
- h. Design plans of the new acid plant scrubber blowdown drying system specified in subsection (D)(15).



- a. Opacity from lead-bearing fugitive dust emissions shall not exceed 20 percent from any part of the facility at any time. Opacity shall be determined by using 40 CFR 60, Appendix A, Reference Method 9, except for unpaved roads, in which opacity shall be determined pursuant to subsection (D)(10)(c).
 - b. In the event that an employee observes ongoing visible emissions at a non-smelting process source covered by this Section, that employee shall promptly contact a Reference Method 9-certified observer, who shall promptly evaluate the emissions and conduct a Reference Method 9 reading, if possible.
 - c. A Reference Method 9-certified observer shall conduct a weekly visible emissions survey of all non-smelting process sources covered by this Section and perform a Reference Method 9 reading for any plumes that on an instantaneous basis appear to exceed 15 percent opacity.
8. Corrective actions.
- a. At any time that visible emissions from the non-smelting process sources covered by this Section appear to exceed 15 percent opacity, the owner or operator shall take prompt corrective action to identify the source of the emissions and abate such emissions, with the corrective action starting within 30 minutes after discovery.
 - i. For any non-smelting process source that produces visible emissions that appear to exceed 15 percent opacity, the owner or operator shall perform an analysis of the root cause, and implement a strategy designed to prevent, to the extent feasible, the ongoing recurrence of the source of visible emissions. Within 14 days of completion of its analysis, if appropriate, the owner or operator shall modify the fugitive dust plan in subsection (C)(2) for any changes identified from the analysis differing from the current provisions of the fugitive dust plan.
 - b. At any time that the owner or operator becomes aware that provisions of the fugitive dust plan and/or performance and housekeeping provisions required by this Section are not being met, the owner or operator shall take prompt action to return to compliance, which may include modifications to monitoring, recordkeeping, and reporting requirements in the fugitive dust plan. This includes, but is not limited to, the following actions:
 - i. Return water sprayers to full operational status;
 - ii. Repair damaged conveyor hoodings or other enclosures;
 - iii. Apply additional water to ensure that sources are meeting moisture content requirements;
 - iv. Clean any trackout or spillage of dust-producing material, including dropoff of dust producing material from conveyors, using a street sweeper, vacuum, or wet broom with sufficient water and at the speed recommended by the manufacturer;
 - v. Reapplication of chemical dust suppressants in areas where the coating has broken down on unpaved roads; and
 - vi. Revisions to the fugitive dust plan to undertake improved monitoring, recordkeeping, and reporting requirements necessary to ensure that the controls contained in the fugitive dust plan are being implemented as contemplated by the fugitive dust plan.
9. Paved Roads. These requirements apply to all roads at the facility currently paved and roads to be paved in the future. The owner or operator shall:
- a. Clean roads at least once daily with a sweeper, vacuum, or wet broom in accordance with applicable manufacturer recommendations.
 - b. Maintain the integrity of the road surface.
 - c. Clean up trackout and carry-out of material on the following schedule:
 - i. As expeditiously as practicable, when trackout and carry-out extends a cumulative distance of 50 linear feet or more; and
 - ii. At the end of the workday, for all other trackout and carry-out.
 - d. Comply with a speed limit not to exceed 15 miles per hour for all vehicular traffic. At minimum, speed limit signs shall be posted at all entrances and truck loading and unloading areas and/or at conspicuous areas along the roadway.
10. Unpaved Roads. These requirements apply to the unpaved roads identified in subsections (D)(10)(a)(i) through (D)(10)(a)(v) below, including any access points where the unpaved roads adjoin paved roads and any areas of vehicular handling of material. The owner or operator shall:
- a. Implement a chemical dust suppressant application intensity and schedule, which at minimum shall be:
 - i. For the slag hauler road and all other unpaved roads used or to be used by the slag hauler, chemical dust suppressant shall be applied at least once per week during the summer, and once per every two weeks during the winter.



surface moisture content as determined from representative samples using ASTM Method D2216-10 or other equivalent methods approved by the Department and EPA Region IX.

- c. Maintain rumble grates at all of the bedding plant’s entrances and exits to shake off material on the loader tires as they enter and exit the area. Material that is tracked out of the bedding area must be cleaned up at the end of the workday.
- d. Operate its bedding activities in a manner designed to avoid any trackout outside an area protected by a wind fence. Areas of material spillage or trackout, whether inside or outside of an area protected by a wind fence, shall be rinsed or cleaned daily.

15. Acid Plant Scrubber Blowdown Drying System.

- a. The owner or operator shall dry acid plant scrubber blowdown solids only in an enclosed system that uses a venturi scrubber, thickener, filter press, and electric dryer that is maintained under negative pressure at all times that materials are being dried.
- b. The owner or operator shall maintain the negative pressure of the electric dryer using a 2,500 ACFM dryer ventilation fan that must run at all times the electric dryer is operational. Monitoring of the negative pressure shall be demonstrated through the run and stop states of the ventilation fan and electric dryer.
- c. The acid plant scrubber blowdown drying system shall include the following elements:
 - i. Venturi scrubber slurry that reports to a new thickener.
 - ii. Underflow from the thickener that goes to a filter press for further liquid removal, with the resulting filter cake sent to two electric dryers operating in parallel to provide final drying of the dust cake.
 - iii. Exhaust from the dryers sent to the packed gas cooling tower inlet duct.
 - iv. Dried cake discharged directly into bags.
- d. The owner or operator shall clean all areas previously used for scrubber blowdown drying and no longer use previous areas for scrubber blowdown drying.

E. Contingency Requirements.

- 1. If the owner or operator does not meet the compliance schedule below in subsection (E)(3), or if the Hayden Lead Nonattainment Area does not attain the 2008 Lead National Ambient Air Quality Standards by the attainment date established in the Act, whichever occurs first, then the owner or operator shall increase the paved road cleaning frequency specified in subsection (D)(9) to twice per day.
- 2. The owner or operator shall implement the contingency measure in subsection (E)(1) within 60 days of notification by EPA Region IX of either a failure to meet the compliance schedule in subsection (E)(3) or a failure to attain by the attainment date established in the Act, whichever occurs first.
- 3. The compliance schedule is as follows. The Fugitive Dust Plan referred to in the compliance schedule shall mean the Fugitive Dust Plan submitted to the Administrator by the owner or operator to comply with requirements set forth in Consent Decree No. CV-15-02206-PHX-DLR, which became effective on December 30, 2015 in the United States District Court for the District of Arizona, as that plan may be later revised pursuant to subsection (C)(3):

<u>Control Measure</u>	<u>Date of Implementation</u>
<u>Implementation of chemical dust suppression for unpaved roads.</u>	<u>Within 30 days of Administrator approval of application intensity and schedules in Fugitive Dust Plan.</u>
<u>Implementation of wind fences for materials piles (uncrushed reverts, reverts crushing and crushed reverts, bedding materials, and concentrate).</u>	<u>Within 120 days of Administrator approval of the Fugitive Dust Plan or the date of completion in the approved Fugitive Dust Plan, whichever is later.</u>
<u>Implementation of water sprays for materials piles (uncrushed reverts, reverts crushing and crushed reverts, bedding materials, and concentrate).</u>	<u>Within 120 days of Administrator approval of the Fugitive Dust Plan or the date of completion in the approved Fugitive Dust Plan, whichever is later.</u>
<u>Implementation of new acid plant scrubber blowdown drying system.</u>	<u>November 30, 2016</u>
<u>Implementation of new primary, secondary, and tertiary hooding systems for converter aisle for</u>	<u>July 1, 2018</u>

<u>purposes of complying with requirements in R18-2-B1301.</u>	
<u>Implementation of new ventilation system for matte tapping and slag skimming for flash furnace for purposes of complying with requirements in R18-2-B1301.</u>	July 1, 2018

F. Ambient Air and Meteorological Monitoring Requirements.

1. The owner or operator shall conduct ambient air monitoring and sampling for lead as follows:
 - a. At minimum, the owner or operator shall continue to maintain and operate the ambient lead monitors located at ST-14 (the smelter parking lot), ST-23 (Hillcrest area), ST-26 (post office), and ST-18 (next to the concentrate handling area).
 - b. Samples must be collected continuously at all monitor sites specified in subsection (F)(1)(a). For the purposes of this requirement, “continuously” means that 24-hour filters are placed and collected at minimum, every six calendar days at all sites consistent with 40 CFR § 58.12.
 - c. The owner or operator shall follow the Hayden Smelter’s Quality Assurance Project Plan (QAPP) applicable to these monitors.
 - d. The monitors must be operated and maintained in accordance with 40 CFR 58, Appendix A.
 - e. The owner or operator shall submit each filter removed from each monitor to a certified laboratory for analysis no later than 18 calendar days after the filter’s removal. The owner or operator shall ensure that the laboratory performs its analysis and submits the results to the owner or operator no later than 21 calendar days from the lab’s receipt of the filter.
 - f. The owner or operator shall calculate, update, and maintain as a record the following data within 14 calendar days of receipt of any results pertaining to the monitor filters received from a certified lab:
 - i. The total pollutants on the filters collected and analyzed; and
 - ii. Calculations of 30-day rolling average ambient air levels of lead for the ST-23, ST-26, and ST-18 monitors, and 60-day rolling average ambient air levels of lead for the ST-14 monitor, expressed as $\mu\text{g}/\text{m}^3$.
 - g. The owner or operator shall retain lead samples collected pursuant to this Section for at least three years. The samples shall be stored in individually sealed containers and labeled with the applicable monitor and date. Upon request, the samples shall be provided to the Department within five business days.
2. The owner or operator shall conduct meteorological monitoring as follows:
 - a. Continuously monitor and record wind speed and direction data using equipment and a meteorological station approved by the Department.
 - b. The owner or operator shall calculate and record average wind speed in miles per hour over 15 minutes, rolled each minute.
 - c. Conduct wind speed and direction measurements using methods in accordance with EPA’s Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV, Meteorological Measurements, Version 2.0.
3. The ambient air and meteorological monitoring stations required by this Section may be discontinued at the end of three full calendar years after the Hayden Lead Nonattainment Area is redesignated attainment for the 2008 Lead National Ambient Air Quality Standards.

G. Compliance Demonstration Requirements. The owner or operator shall demonstrate compliance with this Section by complying with all requirements in the fugitive dust plan pursuant to subsection (C)(2) and implementing all housekeeping and performance requirements pursuant to subsection (D).

H. Recordkeeping.

1. The owner or operator shall maintain the following records for at least five years and keep on-site for at least two years:
 - a. Current and past fugitive dust plans required by subsection (C)(2).
 - b. Physical inspection sheets, checklists, and logsheets for inspections conducted in accordance with subsection (D)(6).
 - c. All records of opacity and stabilization tests, if any, conducted in accordance with subsection (D)(10)(c).
 - d. All records of surface moisture content tests, if any, conducted in accordance with subsection (D)(11), subsection (D)(13), and subsection (D)(14).
 - e. All records of major maintenance activities and inspections conducted on monitors required by subsection (F).



- f. All records of quality assurance and quality control activities for the monitors required by subsection (F).
- g. All air quality monitoring samples, rolling averages of ambient lead concentrations and necessary calculations, and data required by subsection (F).
- h. All records of wind data from the meteorological station required by subsection (F).
- i. All records of any periods during which a monitoring device required by subsection (F) is inoperative or not operating correctly.
- j. All records of reports and notifications required by subsection (I).
- 2. All of the following records maintained for the purposes of the fugitive dust plan required by subsection (C)(2) must be maintained in a recordkeeping log or recordkeeping system. As part of the records, the owner or operator shall include the dates and times for each of the following observations or activities, the name of the employee documenting each activity or observation, and the nature and location of each observation activity:
 - a. Each instance of observed visible emissions of 15 percent opacity or greater, along with a description of any corrective action undertaken and its success.
 - b. Water sprayer operations, including timing and intensity of watering to be captured in the water sprayer recordkeeping system.
 - c. Timing, location, type, and amount of chemical suppressant and water applied to unpaved roads, and a description of the nature and timing of any additional corrective action taken, as necessary, to minimize emissions to the greatest extent practicable.
 - d. Timing and location of all sweeping and cleaning of trackout or spillage material.
 - e. Timing and location of all washdown of concrete areas.
 - f. Timing and location of sump cleanouts.
 - g. Results of all visible emissions surveys and Reference Method 9 readings.
 - h. Appropriate records for operating conditions, including electric dryer ventilation fan start and stop times for the newly designed acid plant scrubber blowdown drying system.
 - i. Calibration records for all measurement devices, including maintenance of manufacturer’s manuals or other documentation for suggested calibration schedules and accuracy levels for each measurement device.
 - j. Dates, times, and descriptions of deviations when the owner or operator’s operations was carried out in a manner inconsistent with the fugitive dust plan required by subsection (C)(2).

I. Reporting. On a quarterly basis, the owner or operator shall submit a report to the Department covering the prior quarter that includes the following:

- a. All instances where observed fugitive emissions coming from sources covered in this Section were 15 percent or greater.
- b. The date of all high wind events, with an identification of the location of the reading, wind speed, and duration of the event, and a description of actions taken as a result of the event on a source-by-source basis.
- c. All instances where corrective action was required with identification of the emission source involved, what triggered the corrective action, what action the owner or operator undertook to abate or mitigate the problem, and whether the corrective action achieved the intended results.
- d. A summary of all times when the electronic recordkeeping system was not recording data, and a summary and indication of the period when recorded data was outside of established operating parameters.
- e. A summary of progress of all new construction, installation, upgrades, or modifications to equipment or structures at the facility required by the fugitive dust plan and subsection (D), including dates of commencement and completion of construction, dates of operations of new or modified equipment or structures, and dates old or outdated equipment or structures were permanently retired.
- f. Raw monitoring data and calculated ambient lead concentrations from the ambient air monitoring stations required by subsection (F).

R18-2-B1302. Limits on SO₂ Emissions from the Hayden Primary Copper Smelter

A. Applicability.

- 1. This Section applies to the owner or operator of the Hayden Smelter. It establishes limits on sulfur dioxide emissions from the Hayden Smelter and monitoring, recordkeeping and reporting requirements for those limits.
- 2. Effective date. Except as otherwise provided, the requirements of this Section shall become applicable on the earlier of July 1, 2018 or 180 days after completion of all project improvements authorized by Significant Permit Revision No. 60647.

- B.** Definitions. In addition to general definitions contained in R18-2-101, the following definitions apply to this rule.
1. “ACFM” means actual cubic feet per minute.
 2. “Anode furnace baghouse stack” means the dedicated stack that vents controlled off-gases from the anode furnaces to the Main Stack.
 3. “Blowing” shall mean the introduction of air or oxygen-enriched air into the converter furnace molten bath through tuyeres that are submerged below the level of the molten bath. The flow of air through the tuyeres above the level of the molten bath or into an empty converter shall not constitute blowing.
 4. “Capture system” means the collection of components used to capture gases and fumes released from one or more emission units, and to convey the captured gases and fumes to one or more control devices or a stack. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.
 5. “Continuous emissions monitoring system” or “CEMS” means the total equipment, required under the emission monitoring provisions in this Chapter, used to sample, condition (if applicable), analyze, and to provide, on a continuous basis, a permanent record of emissions.
 6. “Hayden Smelter” means the primary copper smelter located in Hayden, Gila County, Arizona at latitude 33°0’15”N and longitude 110°46’31”W.
 7. “Main Stack” means the center and annular portions of the 1000 foot stack, which vents controlled off-gases from the INCO flash furnace, the converters, anode furnaces and also vents exhaust from the tertiary hoods.
 8. “Operating day” means any calendar day in which any of the following occurs:
 - a. Concentrate is smelted in the smelting furnace;
 - b. Copper or sulfur bearing materials are processed in the converters;
 - c. Blister or scrap copper is processed in the anode furnaces;
 - d. Molten metal, including slag, matte or blister copper, is transferred between vessels; or
 - e. Molten metal is cast into anodes or other intermediate or final products.
 9. “Out of control period” means the time that begins with the completion of the fifth, consecutive, daily calibration drift check with a calibration drift in excess of two times the allowable limit, or the time corresponding to the completion of the daily calibration drift check preceding the daily calibration drift check that results in a calibration drift in excess of four times the allowable limit, and the time that ends with the completion of the calibration check following corrective action that results in the calibration drifts at both the zero (or low-level) and high-level measurement points being within the corresponding allowable calibration drift limit.
 10. “SCFM” means standard cubic feet per minute.
- C.** Sulfur Dioxide Emissions Limitations.
1. Emissions from the Main Stack shall not exceed 1069.1 pounds per hour on a 14-operating day average unless 1,518 pounds or less is emitted during each hour of the 14-operating day period.
 2. The owner and operator shall not cause to be discharged into the atmosphere from any affected unit subject to 40 C.F.R. Part P any gases which contain sulfur dioxide in excess of the limit set forth in 40 C.F.R. section 60.163(a) (as in effect on July 1, 2016 and no later editions).
- D.** Operational Standards.
1. Process equipment and control device operations. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate smelter processes and associated emission control and/or control equipment in a manner consistent with good air pollution control practices for minimizing SO₂ emissions to the levels required by subsection (C). Determination of whether acceptable operating and maintenance procedures are being used will be based on all information available to the Director and EPA Region IX, which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and records, and inspection of the relevant equipment.
 2. Capture system and control device operations and maintenance plan. The owner or operator shall develop and implement an operations and maintenance plan for each capture system and/or control device used to ventilate or control process gas or emissions from the flash furnace including matte tapping, slag skimming, and slag return operations; converter primary hoods, converter secondary hoods, tertiary ventilation system, and anode refining operations. The operations and maintenance plan must address the following requirements as applicable to each capture system and/or control device.
 - a. Monitoring devices. The plan shall provide for installation, operation, calibration, and maintenance of appropriate monitoring devices to measure and record operating limit values or settings at all times the required capture and control system is operating, except during periods of monitor calibration, repair and malfunction. The initial plan shall provide for volumetric flow monitoring on the vent gas baghouse (inlet or outlet), each converter primary hood, each converter



secondary hood, the tertiary ventilation system and the anode furnace baghouse (inlet or outlet). All monitoring devices shall be accurate within +/-10 percent and calibrated according to manufacturer's instructions. If direct measurement of the exhaust flow is infeasible due to physical limitations or exhaust characteristics, the owner or operator may propose a reliable equivalent method for approval. Initial monitoring may be adjusted as provided in subsection (D)(2)(e). Dampers that are manually set and remain in the same position while the capture system is operating are exempt from these monitoring requirements. Capture system damper position setting(s) shall be specified in the plan.

b. Operational limits. The owner or operator shall establish operating limits in the operations and maintenance plan for the capture systems and/or control devices that are representative and reliable indicators of the performance of the capture system and control device operations. The initial operating limits may be adjusted as provided in subsection (D)(2)(e). Initial operating limits shall include the following:

- i. Identification of those modes of operation when the double dampers between the flash furnace vessel and the vent gas system will be closed and the interstitial space evacuated to the acid plant.
- ii. A minimum air flow for the furnace ventilation system and associated damper positions for each matte tapping hood or slag skimming hood when operating to ensure that the operation(s) are within the confines or influence of the capture system.
- iii. A minimum air flow for the secondary hood baghouse and associated damper positions for each slag return hood to ensure that the operation is within the confines or influence of the capture system's ventilation draft during times when the associated process is operating.
- iv. A minimum air infiltration ratio for the converter primary hoods of 1:1 averaged over 24 converter Blowing hours, rolled hourly measured as volumetric flow in primary hood less the volumetric flow of tuyere Blowing compared to the volumetric flow of tuyere Blowing.
- v. A minimum secondary hood exhaust rate of 35,000 SCFM during converter Blowing, averaged over 24 converter Blowing hours, rolled hourly.
- vi. A minimum secondary hood exhaust rate of 133,000 SCFM during all non-Blowing operating hours, averaged over 24 non-Blowing hours, rolled hourly.
- vii. A minimum negative pressure drop across the secondary hood when the doors are closed equivalent to 0.007 inches of water.
- viii. A minimum exhaust rate on the tertiary hooding of 400,000 ACFM during all times material is processed in the converter aisle, averaged over 24 hours and rolled hourly.
- ix. Fan amperes or minimum air flow for the anode furnace baghouse and associated damper positions for each anode furnace hood to ensure that the anode furnace off-gas port is within the confines or influence of the capture system's ventilation draft during times when the associated furnace is operating.
- x. The anode furnace charge mouth shall be kept covered when the tuyeres are submerged in the metal bath except when copper is being charged to or transferred from the furnace.
- xi. The temperatures of the acid plant catalyst bed, which shall at minimum, meet the manufacturer's recommendations.
- xii. The acid plant catalyst replenishment schedule, which shall at minimum, meet the manufacturer's recommendations.

c. Preventative maintenance. The owner or operator must perform preventative maintenance on each capture system and control device according to written procedures specified in the operation and maintenance plan. The procedures must include a preventative maintenance schedule that is consistent with the manufacturer's or engineer's instructions, or operator's experience working with equipment, and frequency for routine and long-term maintenance. This provision does not prohibit additional maintenance beyond that required by the plan.

d. Inspections. The owner or operator must perform inspections in accordance with written procedures in the operations and maintenance plan for each capture system and control device that are consistent with the manufacturer's, engineer's or operator's instructions for each system and device.

e. Plan development and revisions.

- i. The owner or operator shall develop and keep current the plan required by this Section. Any plan or plan revision shall be consistent with this Section, shall be designed to ensure that the capture and control system performance conforms to the attainment

demonstration in the Hayden 2010 Sulfur Dioxide National Ambient Air Quality Standards Nonattainment Area State Implementation Plan (SIP), and shall be submitted to the Department for review. Any plan or plan revision submitted shall include the associated manufacturer's recommendations and/or instructions used for capture system and control device operations and maintenance.

- ii. The owner or operator shall submit the initial plan to the Department no later than May 1, 2018 and shall include the initial volumetric flow monitoring provisions in subsection (D)(2)(a), the initial operational limits in subsection (D)(2)(b), the preventative maintenance procedures in subsection (D)(2)(c), and the inspection procedures in subsection (D)(2)(d).
- iii. The owner or operator shall submit to the Department for approval a plan revision with changes, if any, to the initial volumetric flow monitoring provisions in subsection (D)(2)(a) and initial operational limits in subsection (D)(2)(b) not later than six months after completing a fugitive emissions study conducted in accordance with Appendix 14. The Department shall submit the approved changes to the volumetric flow monitoring provisions and operational limits pursuant to this subsection to EPA Region IX as a SIP revision not later than 12 months after completion of a fugitive emissions study.
- iv. Other plan revisions may be submitted at any time when necessary. All plans and plan revisions shall be designed to achieve operation of the capture system and/or control device consistent with the attainment demonstration in the Hayden 2010 Sulfur Dioxide National Ambient Air Quality Standards Nonattainment Area SIP. Except for changes to the volumetric flow monitoring provisions in subsection (D)(2)(a) and operational limits in subsection (D)(2)(b), which shall require prior approval, plans and plan revisions may be implemented upon submittal and shall remain in effect until superseded or until disapproved by the Department. Disapprovals are appealable Department actions.

3. Emissions from the anode furnace baghouse stack shall be routed to the Main Stack.

E. Monitoring.

1. To determine compliance with subsection (C)(1) the owner or operator of the Hayden Smelter shall install, calibrate, maintain, and operate a CEMS for continuously monitoring and recording SO₂ concentrations and stack gas volumetric flow rates at the following locations:
 - a. The exit of the acid plant;
 - b. The exit of the secondary hood particulate control device after the High Surface Area (HSA) lime injection system;
 - c. The exit of the flash furnace particulate control device after the HSA lime injection system;
 - d. The tertiary ventilation system prior to mixing with any other exhaust streams; and
 - e. The anode furnace baghouse stack prior to mixing with any other exhaust streams.
2. Except during periods of systems breakdown, repairs, maintenance, out-of-control periods, calibration checks, and zero and span adjustments, the owner or operator shall continuously monitor SO₂ concentrations and stack gas volumetric flow rates at each location in subsection (E)(1).
3. For purposes of this section, continuous monitoring means the taking and recording of at least one measurement of SO₂ concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period when the associated process units are operating. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. All CEMS required by subsection (E)(1) shall complete at least one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
4. If the owner or operator can demonstrate to the Director that measurement of stack gas volumetric flow rate in the outlet of any particular piece of SO₂ control equipment would yield inaccurate results or would be technologically infeasible, then the Director may allow measurement of the flow rate at an alternative sampling point.
5. The owner or operator shall demonstrate that the CEMS required by subsection (E)(1) meet all of the following requirements:
 - a. The SO₂ CEMS installed and operated under this Section meets the requirements of 40 CFR 60, Appendix B, Performance Specification 2 and Performance Specification 6. The CEMS on the anode furnace baghouse stack and tertiary ventilation system shall complete an initial Relative Accuracy Test Audit (RATA) in accordance with Performance Specification 2. The RATA runs shall be tied to when the anode furnace is in use and, for the tertiary system, when the converters are in operation and/or material is being transferred in the converter aisle. Asarco may petition the Department and EPA Region IX on the criteria for subsequent RATAs for the anode furnace



- baghouse stack or tertiary ventilation system CEMS. The petition shall include submittal of CEMS data during the year.
- b. The SO₂ CEMS installed and operated under this Section meets the quality assurance requirements of 40 CFR 60, Appendix F.
- c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of the relative accuracy test audit (RATA) performed on the CEMS.
- d. The Director shall approve the location of all sampling points for monitoring SO₂ concentration and stack gas volumetric flow rates and the appropriate span values for the monitoring systems. This approval shall be in writing before installation and operation of the measurement instruments.
- e. The measurement system installed and used under this subsection is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per operating day unless the manufacturer specifies or recommends calibration at shorter intervals, in which case the owner or operator shall follow those specifications or recommendations. The owner or operator shall make available a record of these procedures that clearly shows instrument readings before and after zero adjustment and calibration.
- f. The owner or operator shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the CEMS required by this Section to allow for the replacement within six hours of any monitoring equipment part that fails or malfunctions during operation.
- 6. The owner operator of the Hayden Smelter may petition the department to substitute annual stack testing for the tertiary ventilation or the anode furnace baghouse stack CEMS if the owner or operator demonstrates, for a period of two years, that such CEMS contribute(s) less than five percent of the total sulfur dioxide emissions. Annual stack testing shall use Methods 1, 4, and 6C or an approved alternate method. Annual stack testing shall commence no later than the one year after the date the continuous emission monitoring system was removed. The owner or operator shall submit a test protocol to the department at least 30 days in advance of testing. The protocol shall provide for three or more 24-hour runs unless the owner or operator justifies a different period and the department approves such different period. Reports of testing shall be submitted to the department no later than 60 days after testing or 30 days after receipt, whichever is later. The report shall provide an emissions rate, in the form of a pound per hour or pound per unit of production factor, that shall be used in the compliance demonstration in subsection (F)(1). Except as provided herein, the owner or operator shall otherwise comply with section R18-2-312 in conducting such testing.

F. Compliance Demonstration Requirements.

- 1. For purposes of determining compliance with the emission limit in subsection (C)(1) the owner or operator shall calculate emissions for each operating day as follows:
 - a. Sum the hourly pounds of SO₂ vented to each uncontrolled shutdown ventilation flue and through each monitoring point listed in subsection (E)(1) for the current operating day and the preceding 13-operating days to calculate the total pounds of SO₂ emissions over the 14-operating day averaging period, as applicable.
 - b. Divide the total amount of SO₂ emissions calculated from subsection (F)(1)(a) by 336 to calculate the 14-operating day average SO₂ emissions.
 - c. If the calculation in subsection (F)(1)(b) exceeds 1069.1 pounds per hour, then the owner or operator shall sum the hourly pounds of SO₂ vented to each uncontrolled shutdown ventilation flue and through each monitoring point listed in subsection (E)(1) for each hour of the current operating day and each hour of the preceding 13-operating days to ascertain if any hour exceeded 1,518 pounds per hour.
- 2. When no valid hour or hours of data have been recorded by a continuous monitoring system required by subsections (E)(1) and (E)(2) and the associated process unit is operating, the owner or operator shall calculate substitute data for each such period according to the following procedures:
 - a. For a missing data period less than or equal to 24 hours, substitute the average of the hourly SO₂ concentrations recorded by the system for the hour before and the hour after the missing data period.
 - b. For a missing data period greater than 24 hours, substitute the greater of:
 - i. The 90th percentile hourly SO₂ concentrations recorded by the system during the previous 720 quality-assured monitor operating hours.
 - ii. The average of the hourly SO₂ concentrations recorded by the system for the hour before and the four hours after the missing data period.
 - c. Notwithstanding subsections (F)(3)(a) and (F)(3)(b), the owner or operator may present any credible evidence as to the quantity or concentration of emissions during any period of missing data.

3. The owner or operator shall determine compliance with the requirements in subsection (D)(2) as follows:
 - a. Maintaining and operating the emissions capture and control equipment in accordance with the capture system and control device operations and maintenance plan required in subsection (D)(2) and recording operating parameters for capture and control equipment as required in subsection (D)(2)(b); and
 - b. Conducting a fugitive study in accordance with Appendix 14 starting not later than 6 months after completion of the Converter Retrofit Project authorized by Significant Permit Revision No. 60647. The fugitive study shall demonstrate, as set forth in Appendix 14, that fugitive emissions from the smelter are consistent with estimates used in the attainment demonstration in the Hayden 2010 Sulfur Dioxide National Ambient Air Quality Standards Nonattainment Area SIP.
4. The owner or operator shall include periods of startup, shutdown, malfunction, or other upset conditions when determining compliance with the emission limits in subsection (C).
5. The owner and operator shall demonstrate compliance with the limit in subsection (C)(2) in accordance with 40 C.F.R. §§ 60.165 and 60.166 (as in effect on July 1, 2016 and not later editions).

G. Recordkeeping.

1. The owner or operator shall maintain a record of each operation and maintenance plan required under subsection (D)(2).
2. The owner or operator shall maintain the following records for at least five years:
 - a. All measurements from the continuous monitoring system required by subsection (E)(1), including the date, place, and time of sampling or measurement; parameters sampled or measured; and results. All measurements will be calculated daily.
 - b. All records of quality assurance and quality control activities for emissions measuring systems required by subsection (E)(1).
 - c. All records of calibration checks, adjustments, maintenance, and repairs conducted on the continuous monitoring systems required by subsection (E); including records of all compliance calculations required by subsection (F).
 - d. All records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of concentrate drying, smelting, converting, anode refining and casting emission units; any malfunction of the associated air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device required by subsection (E)(1) is inoperative or not operating correctly.
 - e. All records of planned and unplanned shutdown ventilation flue utilization events and calculations used to determine emissions from shutdown ventilation flue utilization events if the owner or operator chooses to use the alternative compliance determination method.
 - f. All records of major maintenance activities and inspections conducted on emission units, capture system, air pollution control equipment, and CEMS, including those set forth in the operations and maintenance plan required by subsection (D)(2).
 - g. All records of operating days and production records required for calculations in subsection (F).
 - h. All records of fugitive emissions studies and study protocols conducted in accordance with Appendix 14.
 - i. All records of reports and notifications required by subsection (H).

H. Reporting.

1. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of relative accuracy test audit (RATA) procedures performed on the continuous monitoring systems required by subsection (E)(1).
2. Within 30 days after the end of each calendar quarter, the owner or operator shall submit a data assessment report to the Director in accordance with 40 C.F.R. Part 60, Appendix F for the continuous monitoring systems required by subsection (E).
3. The owner or operator shall submit an excess emissions and monitoring systems performance report or summary report form in accordance with 40 C.F.R. § 60.7(c) to the Director quarterly for the continuous monitoring systems required by subsection (E)(1). Excess emissions means any 14-operating day average as calculated in subsection (F) in excess of the emission limit in subsection (C)(1), any period in which the capture and control system was operating outside of its parameters specified in the capture system and control device operation and maintenance plan in subsection (D)(2). For any 14-operating day period exceeding 1069.1 pounds per hour that the owner or operator claims does not exceed the limit in subsection (C)(1) because all hours in the operating period are below 1,518 pounds per hour, the owner or operator shall submit the CEMS data for each hour during that period. All reports shall be postmarked by the 30th day following the end of each calendar quarter time period.
4. The owner or operator shall provide the following to the Director:



- a. The owner or operator shall notify the Director of commencement of construction of any equipment necessary to comply with the operational or emission limits.
- b. The owner or operator shall submit semiannual progress reports on construction of any such equipment postmarked by July 30 for the preceding January-June period and January 30 for the preceding July-December period.
- c. The owner or operator shall submit notification of initial startup of any such equipment within 15 business days of such startup.

I. Preconstruction review. This Section is determined to be RACT for SO₂ emissions from the operations subject to subsection (C) for purposes of minor source NSR requirement addressed in R18-2-334.

PART C. MIAMI, ARIZONA, PLANNING AREA

R18-2-C1301. Reserved

R18-2-C1302. Limits on SO₂ Emissions from the Miami Smelter

A. Applicability.

- 1. This Section applies to the owner or operator of the Miami Smelter. It establishes limits on SO₂ emissions from the Miami Smelter and monitoring, recordkeeping and reporting requirements for those limits.
- 2. Effective date. Except as otherwise provided, the provisions of this Section shall take effect on the later of the effective date of the Administrator’s action approving it as part of the state implementation plan or January 1, 2018.

B. Definitions. In addition to general definitions contained in R18-2-101, the following definitions apply to this rule.

- 1. “Capture system” means the collection of components used to capture gases and fumes released from one or more emission points, and to convey the captured gases and fumes to one or more control devices. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.
- 2. “Electric furnace” means a furnace in which copper matte and slag are heated by electrical resistance without the mechanical introduction of air or oxygen.
- 3. “IsaSmelt® furnace” means a furnace in which air, oxygen, and fuel are injected through a top-submerged lance into a molten slag bath to produce slag and copper matte.
- 4. “Miami Smelter” means the primary copper smelter located near Miami, Gila County, Arizona at latitude 33°24’50”N and longitude 110°51’25”W.
- 5. “Out of control period” means the time that begins with the completion of the fifth, consecutive, daily calibration drift check with a calibration drift in excess of two times the allowable limit, or the time corresponding to the completion of the daily calibration drift check preceding the daily calibration drift check that results in a calibration drift in excess of four times the allowable limit, and the time that ends with the completion of the calibration check following corrective action that results in the calibration drifts at both the zero (or low-level) and high-level measurement points being within the corresponding allowable calibration drift limit.
- 6. “Operating day” means any calendar day in which any of the following occurs:
 - a. Concentrate is smelted in the Electric furnace or IsaSmelt® furnace;
 - b. Copper or sulfur bearing materials are processed in the converters;
 - c. Blister or scrap copper is processed in the anode furnaces or mold vessel;
 - d. Molten metal, including slag, matte or blister copper, is transferred between vessels;
 - e. Molten metal is cast into molds, anodes, or other intermediate or final products;
 - f. Power is provided to the electric furnace to make or maintain a molten bath;
 - g. The anode furnace is heated to make or maintain a molten bath.

C. Sulfur Dioxide Emission Limitations. Combined SO₂ emissions from the tail gas stack, vent fume stack, aisle scrubber stack, bypass stack, and smelter roofline fugitives shall not exceed 142.45 pounds per hour on a 30-day rolling average basis.

D. Operational Standards.

- 1. Process Equipment and control device operations. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate smelter processes and associated emission control devices in a manner consistent with good air pollution control practices for minimizing SO₂ emissions from the process gases associated with the IsaSmelt® furnace, electric furnace, and converters at least to the levels required by subsection (C)(1). Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director and EPA Region IX, which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and records, and inspection of the relevant equipment.

2. Capture system and control device operations and maintenance plan. The owner or operator shall develop and implement an operations and maintenance plan for each capture system and control device used to ventilate or control process gas or emissions associated with the IsaSmelt® furnace, electric furnace, and converters. The owner or operator shall submit the initial plan to the Department and EPA Region IX for review and approval by July 1, 2017.
 - a. The operations and maintenance plan must address the following requirements as applicable to each capture system and control device:
 - i. Monitoring devices. The plan shall provide for installation, operation, calibration, and maintenance of appropriate monitoring devices to measure and record operating limit or range values at all times the required system is operating. Dampers that are manually set and remain in the same position while the capture system is operating are exempt from these monitoring requirements.
 - ii. Operational limits and ranges. The owner or operator shall establish operating limits and ranges in the plan for each capture system and control device that are representative and reliable indicators of capture system performance and control device operation. If selected as an operational limit or range, capture system damper position settings shall be specified in the plan.
 - iii. Preventative maintenance. The owner or operator must perform preventative maintenance for each capture system and control device according to written procedures in the plan. The procedures must include a preventative maintenance schedule that is consistent with the manufacturer's or engineer's instructions and specified frequency for routine and long-term maintenance.
 - iv. Inspections. The owner or operator must perform inspections in accordance with written procedures in the plan for each capture system and control device, including position verification of any manual damper settings specified in the plan, that are consistent with the manufacturer's or engineer's instructions for each system and device.
 - b. The owner or operator shall operate and maintain each capture system and each control device in accordance with the plan required by subsection (D)(2) and as approved by the Department and EPA Region IX, except as provided herein. Until receiving initial approval of the plan, the owner or operator shall operate and maintain each capture system and each control device in accordance with the plan as initially submitted pursuant to subsection (D)(2). The owner or operator shall submit plan revisions for review by the Department and EPA Region IX. At any time, the Department and/or EPA Region IX may require the owner or operator to revise the plan if determined to be inconsistent with subsection (D)(2)(a). Within 60 days of receiving written notification from the Department or EPA Region IX specifying such inconsistency, the owner or operator shall submit a proposal to the Department and EPA Region IX that addresses the inconsistency. The owner or operator shall maintain a current copy of the plan onsite and available for review and inspection upon request.

E. Monitoring.

1. To determine compliance with subsection (C)(1), the owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems to monitor and record SO₂ concentrations and stack gas volumetric flow rates at the following locations:
 - a. The acid plant tail gas stack;
 - b. The vent fume stack;
 - c. The aisle scrubber stack; and
 - d. The bypass stack.
2. To determine compliance with the emission limit in subsection (C)(1), the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record fugitive SO₂ concentrations at the Smelter roofline.
3. Except during periods of continuous monitoring system breakdown, repairs, maintenance, out-of-control periods, calibration checks, and zero and span adjustments, the owner or operator shall continuously monitor SO₂ concentrations and stack gas volumetric flow rates at each location specified in subsection (E)(1) and use the monitored concentrations and volumetric flow rates when demonstrating compliance with the SO₂ emission limit in subsection (C)(1) in accordance with subsection (F).
4. Except during periods of continuous monitoring system breakdown, repairs, maintenance, out-of-control periods, calibration checks and zero and span adjustments, the owner or operator shall continuously monitor fugitive SO₂ emissions at the Smelter roofline and use the monitored concentrations and volumetric flow rates when demonstrating compliance with the SO₂ emission limit in subsection (C)(1) in accordance with subsection (F).



5. For purposes of subsections (E)(3) and (E)(4), continuous monitoring means the taking and recording of at least one measurement of SO₂ concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period when the associated process units are operating. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. All continuous monitoring systems required by subsection (E)(1) shall complete at least one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
6. If the owner or operator can demonstrate to the Director and EPA Region IX that measurement of stack gas volumetric flow rate in the outlet of any particular piece of SO₂ control equipment would yield inaccurate results or would be technologically infeasible, then the Director and EPA Region IX may allow measurement of the flow rate at an alternative sampling point.
7. The owner or operator shall demonstrate that the continuous monitoring systems required by subsection (E)(1) meet all of the following requirements:
 - a. Each SO₂ continuous monitoring system shall meet the specifications under 40 CFR 60, Appendix B, Performance Specification 6.
 - b. Each SO₂ continuous monitoring system installed and operated under this Section shall also meet the quality assurance requirements of 40 CFR 60, Appendix F, Procedure 1.
 - c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of the relative accuracy test audit (RATA) procedures performed on each continuous monitoring system.
 - d. The Director shall approve the location of all sampling points for monitoring SO₂ concentrations and stack gas volumetric flow rates in writing before installation and operation of measurement instruments.
 - e. The span of each continuous monitoring system for the acid plant tail stack, vent fume stack, and aisle scrubber stack shall be set at a SO₂ concentration of zero to 0.20 percent by volume.
 - f. The span of the continuous monitoring system for the bypass stack shall be set at a SO₂ concentration of zero to 20 percent by volume.
 - g. The zero (or low-level value between 0 and 20 percent of the span value) and span (50 to 100 percent of span value) calibration drifts shall be checked at least once each operating day in accordance with a written procedure. The zero and span must, at a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit in 40 CFR Part 60, Appendix B, Performance Specification 2. The system must allow the amount of the excess zero and span drift to be recorded and quantified.
 - h. The owner or operator shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring system equipment required by this Section to allow for the replacement within six hours of any monitoring system equipment part that fails or malfunctions during operation.
8. The owner or operator shall develop and implement a roofline fugitive emissions monitoring plan for the continuous monitoring system required by subsection (E)(2). The owner or operator shall submit the initial plan to the Department and EPA Region IX for review and approval by July 1, 2017.
 - a. The roofline fugitive emissions monitoring plan must address the following requirements:
 - i. The continuous monitoring system required by subsection (E)(2) must include measurement of fugitive emissions from, at a minimum, the Converter, Electric Furnace, Anode Furnace, and IsaSmelt® systems that is representative of total fugitive emissions.
 - ii. Each measurement system shall include at least one SO₂ analyzer and sufficient sampling locations that ensure collection of a representative sample along the roof monitor for each monitor system. The number of sample probes and their locations for each monitoring system shall account for the physical configuration of the vent, the locations of emitting activities relative to the vent, and heat generated by the equipment served by the vent.
 - iii. Each measurement system shall include validation of adequate velocity for flow measurements and sufficient flow and temperature sensors to ensure calculation of representative exhaust flows through each vent. The number of such sensors and their locations for each monitoring system shall account for the physical configuration of the vent, the locations of emitting activities relative to the vent, and heat generated by the equipment served by the vent.
 - iv. Each measurement system shall include an on-site data collection system that continuously logs and stores the measured SO₂ concentration, the measured flow velocity, and the measured temperature.
 - v. An appropriate range for zero-span drift shall be established for all SO₂ analyzers to ensure proper calibration and operation. Unless otherwise provided in the roofline

fugitive emissions monitoring plan required by subsection (E)(8), the zero (or low-level) value determination shall be made using a gas containing between zero to 20 percent of the span value for SO₂ and the span (or high-level) value determination shall be made using a certified gas with a value between 50 and 100 percent of the span value for SO₂. For each SO₂ analyzer, a daily zero-span check shall be performed by introducing zero gas and a known concentration of span gas to the analyzer. If the zero or span drift for an analyzer is greater than five percent of the span gas concentration for five consecutive days or greater than 10 percent of the span gas concentration for one day, the analyzer shall be found to be operating improperly and appropriate measures shall be taken to return the analyzer to proper operation. The zero-span check shall be repeated after any such corrective action is taken.

- vi. All SO₂ analyzers shall be inspected quarterly by the owner or operator and inspected annually by an independent auditor. The inspections shall be conducted in accordance with the data accuracy assessment requirements of 40 CFR 60, Appendix F, Procedure I, Section 5 or as otherwise provided in the roofline fugitive emissions monitoring plan required by subsection (E)(8). The quarterly inspections consist of two certified concentrations of SO₂ to each sample probe system and comparing the known concentrations to the concentrations logged by the corresponding on-site data collection system to generate a relative error for each system.
 - vii. The flow and temperature data shall be checked daily for proper operation of flow and temperature sensors in accordance with the roofline fugitive emissions monitoring plan required by subsection (E)(8). If a flow or temperature sensor is found to be operating improperly, appropriate measures shall be taken to return the sensor to proper operation.
 - viii. All temperature sensors shall be inspected annually. The inspection shall be conducted according to the manufacturer's specification. A temperature sensor tolerance range representative of proper sensor operation shall be established in the roofline fugitive emissions monitoring plan required by subsection (E)(8). If a temperature sensor is found to measure outside of an established tolerance range, the sensor shall be found to be operating improperly and appropriate measures shall be taken to return the sensor to proper operation.
 - ix. All flow sensors shall be calibrated semi-annually with calibration tools according to the manufacturer's specifications. A calibration tool range representative of proper sensor operation shall be established in the roofline fugitive emissions monitoring plan required by subsection (E)(8). If a flow sensor is found to measure outside of an established range, the sensor shall be found to be operating improperly and appropriate measures shall be taken to return the sensor to proper operation.
- b. The owner or operator shall operate and maintain the continuous monitoring system required by subsection (E)(2) in accordance with the roofline fugitive emissions monitoring plan required by subsection (E)(2) and as approved by the Department and EPA Region IX, except as provided herein. Until receiving initial approval of the plan, the owner or operator shall operate and maintain the continuous monitoring system required by subsection (E)(2) in accordance with the plan as initially submitted pursuant to subsection (E)(2). The owner or operator shall keep the plan current and consistent with subsection (E)(8)(a). The owner or operator shall maintain a current copy of the plan onsite and available for review and inspection upon request. The Department and/or EPA Region IX may require the owner or operator to revise the plan if determined to be inconsistent with subsection (E)(8)(a). Within 60 days of receiving written notification from the Department or EPA Region IX specifying such inconsistency, the owner or operator shall submit a proposal to the Department and EPA Region IX that addresses the inconsistency.

F. Compliance Demonstration Requirements.

- 1. Within 180 days of the effective date set forth in subsection (A)(2), the owner or operator shall demonstrate compliance with the emission limit in subsection (C)(1) by calculating SO₂ emissions for each operating day as follows:
 - a. Sum the hourly pounds of SO₂ measured by the continuous monitoring systems required by subsection (E)(1) and (E)(2) for the current operating day and the preceding 29 operating days to calculate the total pounds of SO₂ emissions over the 30-operating day averaging period.
 - b. Multiply the operating days occurring during a 30-day averaging period by 24 to calculate the total operating hours over the most recent 30-operating day period.



- c. Divide the total amount of SO₂ emissions calculated from subsection (F)(1)(a) by the total operating hours calculated from subsection (F)(1)(b) to calculate the 30-day rolling hourly average SO₂ emissions.
- 2. For the continuous monitoring systems required by subsections (E)(1) and (E)(2), hourly emissions shall be computed as follows:
 - a. Except as provided under subsection (F)(3)(c), for a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, i.e., one data point in each of the 15-minute quadrants of the hour.
 - b. Except as provided under subsection (F)(2)(c), for a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.
 - c. For any operating hour in which required maintenance or quality-assurance activities are performed:
 - i. If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or
 - ii. If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.
 - d. If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements of subsection (F)(3)(c) are met, based solely on valid data recorded after the successful calibration.
 - e. For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.
 - f. Data recorded during periods of continuous monitoring system breakdown, repair, maintenance, out of control periods, calibration checks, and zero and span adjustments shall not be included in the data averages computed under subsection (F)(3).
 - g. Either arithmetic or integrated averaging of all data may be used to calculate the hourly average. The data may be recorded in reduced or non-reduced form.
- 3. When no valid hour or hours of data have been recorded by a continuous monitoring system required by subsections (E)(1) and (E)(2) and the associated process unit is operating, the owner or operator shall calculate substitute data for each such period according to the following procedures:
 - a. For a missing data period less than or equal to 24 hours, substitute the average of the hourly SO₂ concentrations recorded by the system for the hour before and the hour after the missing data period.
 - b. For a missing data period greater than 24 hours, substitute the greater of:
 - i. The 90th percentile hourly SO₂ concentrations recorded by the system during the previous 720 quality-assured monitor operating hours; or
 - ii. The average of the hourly SO₂ concentrations recorded by the system for the hour before and the hour after the missing data period.
- 4. The owner or operator shall include periods of startup, shutdown, malfunction, or other upset conditions when determining compliance with the emission limit in subsection (C)(1).

G. Recordkeeping.

- 1. The owner or operator shall maintain records as specified in the capture system and control device operations and maintenance plan required under subsection (D)(2) and the roofline fugitive emissions monitoring plan required under subsection (E)(8).
- 2. The owner or operator shall maintain the following records for at least five years:
 - a. All measurements from the continuous monitoring systems required by subsection (E)(1) and (E)(2); including the date, place, and time of sampling or measurement, parameters sampled or measured, and results.
 - b. All records of all compliance calculations required by subsection (F).
 - c. All records of quality assurance and quality control activities conducted on the continuous monitoring systems required by subsection (E)(1) and (E)(2).
 - d. All records of continuous monitoring system breakdowns, repairs, maintenance, out of control periods, calibration checks, and zero and span adjustments for the continuous monitoring systems required by subsection (E)(1) and (E)(2).
 - e. All records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of Smelter processes; any malfunction of the associated air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device required by subsection (E)(1) and (E)(2) is inoperative.

- f. All records of all major maintenance activities conducted on emission units, capture system, air pollution control equipment, and continuous monitoring systems; including those set forth in the operations and maintenance plan required by subsection (D)(2).
 - g. All records of reports and notifications required by subsection (H).
- H. Reporting**
- 1. Within 30 days after the end of each calendar quarter, the owner or operator shall submit a data assessment report to the Director in accordance with 40 C.F.R. Part 60, Appendix F, Procedure 1 for the continuous monitoring systems required by subsection (E).
 - 2. The owner or operator shall submit an excess emissions and monitoring systems performance report and-or summary report form in accordance with 40 C.F.R. § 60.7(c) to the Director semiannually for the continuous monitoring systems required by subsection (E)(1) and (E)(2). All reports shall be postmarked by the 30th day following the end of each six-month period.
 - 3. The owner or operator shall provide the following to the Director:
 - a. Notification of commencement of construction of the project improvements and equipment authorized by Significant Permit Revision No. 53592 to comply with the operational or emission limits in this Section no later than 30 days after such date.
 - b. Semiannual progress reports on construction of any such improvements and equipment on January 1 and July 1 of each calendar year until construction is complete.
 - c. Notification of initial startup of any such improvements and equipment within 15 days after such date.
- I. Preconstruction review. This Section is determined to be RACT for SO₂ emissions from the operations subject to subsection (C) for purposes of minor source NSR requirements addressed in R18-2-334.**

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

- A. No change
 - 1. No change
 - 2. No change
- B. No change
- C. No change
- D. No change
- E. No change
 - 1. No change
 - 2. No change
 - 3. No change
 - 4. No change
- F. No change
 - 1. No change
 - a. No change
 - b. No change
 - 2. No change
 - a. No change
 - b. No change
- G. No change
- H. No change
- I. Owners and operators of primary copper smelters shall comply with this Section until the new compliance dates established in R18-2-B1302 and R18-2-C1302.

R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

- A. No change
- B. No change
- C. No change
 - 1. No change
 - a. No change
 - b. No change
 - 2. No change
- D. No change



1. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(1) and R18-2-715(G)(4) is January 15, 2002, and
 2. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(2), (F)(3), (G)(2), and (H) is the effective date of this rule.
- E.** No change
1. No change
 2. No change
- F.** No change
- G.** No change
- H.** No change
- I.** No change
- J.** No change
- K.** No change
1. No change
 2. No change
 3. No change
 4. No change
 5. No change
 - a. No change
 - b. No change
 - c. No change
 - d. No change
 - e. No change
- L.** No change
- M.** No change
- N.** No change
- O.** No change
- P.** No change
1. No change
 2. No change
 3. The number of three-hour emissions averages that exceeded each of the applicable emissions levels listed in R18-2-715(F) and (G)(1)(b) for the compliance periods ending on each day of the month being reported;
 4. The date on which a cumulative occurrence limit listed in R18-2-715(F) or (G)(1)(b) was exceeded if the exceedance occurred during the month being reported; and
 5. No change
- Q.** No change
- R.** The owner or operator shall determine compliance with the cumulative occurrence and fugitive emission limits contained in R18-2-715(G)(4) as follows:
1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period, as defined in subsection (R)(8), ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(1)(a) if either:
 - a. No change
 - b. No change
 2. No change
 3. For purposes of subsection (R)(2), a three-hour emissions average in excess of an emission level E_f violates the associated cumulative occurrence limit n listed in R18-2-715(G)(1)(b) if:
 - a. No change
 - b. No change
 4. No change
 5. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(G)(1)(b).
 6. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(G)(1).
 7. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(G)(1)(b).
 8. No change

- S. To determine compliance with R18-2-715(G)(4), the owner or operator of the smelter subject to R18-2-715(G)(4) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations of the converter roof fugitive emissions.
1. No change
 2. No change
- T. The emission limit in R18-2-715(G)(2) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G)(2) as follows:
1. No change
 2. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(G)(2) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.
- U. No change
1. No change
 2. No change
 3. No change
- V. Owners and operators of primary copper smelters shall comply with this Section until the new compliance dates established in R18-2-B1302 and R18-2-C1302.

A14. APPENDIX 14.

PROCEDURES FOR SULFUR DIOXIDE AND LEAD FUGITIVE EMISSIONS STUDIES FOR THE HAYDEN PRIMARY COPPER SMELTER

A14.1. Applicability

This appendix applies to the owner or operator of the primary copper smelter located in Hayden, Arizona at latitude 33°0'15"N and longitude 110°46'31"W.

A14.2. Study Objectives

The owner or operator shall conduct fugitive emissions studies to derive a measurement or accurate estimate of total fugitive sulfur dioxide and lead emissions from the Hayden primary copper smelter during operations, including planned and unplanned start-up and shutdown periods and malfunctions, for the processes identified in A14.3 below. The studies shall include uncaptured fugitive sulfur dioxide emissions from the smelter processing units, but not emissions due solely to the use of fuel for space heating or steam generation, burners at anode casting, or slag pouring at the slag dump. The studies shall evaluate the extent to which correlations may exist between fugitive sulfur dioxide, lead, and particulate matter (PM/PM₁₀/PM_{2.5}) emissions, and shall develop such correlations as feasible.

The studies shall also be used to help validate that the operating conditions or ranges specified in the capture and control device maintenance and operations plans required in R18-2-B1301(D)(2) and R18-2-B1302(D)(2) are consistent with operating conditions demonstrating attainment of the 2008 Lead National Ambient Air Quality Standards (NAAQS) in the Hayden 2008 Lead NAAQS Nonattainment Area State Implementation Plan (SIP) and the 2010 Sulfur Dioxide NAAQS in the Hayden 2010 Sulfur Dioxide NAAQS Nonattainment Area SIP.

A14.3. Processes Evaluated

From the fugitive emissions studies, the owner or operator shall develop an emission factor or accurate estimate of fugitive emissions for sulfur dioxide and lead during operations, including planned and unplanned start-up and shutdown periods and malfunctions, produced by each of the following smelting processes:

- Flash furnace building, including flash furnace and dryer operations
- Converter aisle, including converter and related operations
- Anode furnace aisle, including oxidizing, poling and related operations

A14.4. Averaging Periods

The emission estimate shall include the average pounds per hour emission factor for the fugitive lead and sulfur dioxide emissions from each step in the smelting process identified in A14.3. The estimate shall include all time periods, including planned and unplanned start-up and shutdown periods and malfunctions.

A14.5. Methods and Study Protocols

The owner or operator shall submit to the Department and EPA Region IX for review and approval study protocols at least six months prior to conducting fugitive emission studies. Study protocols must be approved by the Department and EPA



Region IX prior to commencement of fugitive emissions studies. Study protocols shall specify the method(s) used to meet the study objectives as described in A14.2, including during all recurring operating scenarios from all processes identified in A14.3.

Each fugitive emissions measurement system shall include validation of adequate velocity for flow measurements (i.e., the expected exhaust velocity is within the measurement range of the instrument), and have a sufficient number of flow and temperature sensors to ensure calculation of representative exhaust flows through each roof monitor vent. The number of such sensors and their locations for each monitoring system shall account for the physical configuration of the roof monitor vent, the locations of emitting activities relative to the roof monitor vent, and heat generated by the equipment served by the roof monitor vent.

The fugitive emissions studies shall include operation and process information to help understand the emission impacts of startup, shutdown, malfunctions, and significant changes in process operations. This shall include, for example, dates, times and duration of these events, cause of malfunctions, and descriptions of process changes.

After the completion of each fugitive emissions study, the owner or operator shall modify study methods based on data and lessons learned from previous studies, and submit such modified methods in the proceeding study protocols prior to conducting future emissions studies.

A14.6. Study Duration, Frequency, and Submission Schedule

The first fugitive emissions study must commence not later than six months after the completion of the Converter Retrofit Project authorized by Significant Permit Revision No. 60647. The second study commencement date shall occur within the same calendar quarter, but five years later from the date of commencement of the first study. The owner or operator shall submit the results of each fugitive emissions study in a report to the Department and EPA Region IX for review and approval not later than six months after completing a study. The data collection portion of the first and second fugitive emissions studies shall be conducted for a period of 12 months to assess the content and quantity of fugitive sulfur dioxide and lead emissions.

A14.7. Study Reports and Subsequent Studies

At minimum, fugitive emission study reports submitted pursuant to A14.6 must include:

- i. Resultant emission factors used to determine fugitive emissions of sulfur dioxide and lead.
- ii. Resultant average fugitive lead emissions for each process identified in A14.3.
- iii. Resultant peak one-hour fugitive sulfur dioxide emissions for each process identified in A14.3.
- iv. Seasonal differences, if any.
- v. Comparisons of results from past studies, if any.
- vi. Descriptions and identification of volumetric flow monitoring provisions in R18-2-B1301(D)(2)(a) and R18-2-B1302(D)(2)(a) and operational limits R18-2-B1301(D)(2)(b) and R18-2-B1302(D)(2)(b) that are associated with fugitive emissions.
- vii. An analysis of whether the results from a study demonstrate that the volumetric flow monitoring provisions in R18-2-B1301(D)(2)(a) and R18-2-B1302(D)(2)(a) and the operational limits in R18-2-B1301(D)(2)(b) and R18-2-B1302(D)(2)(b) continuously ensure that actual fugitive sulfur dioxide and lead emissions are consistent with the modeled emission rates used in the attainment demonstrations in the Hayden 2008 Lead NAAQS Nonattainment Area SIP and the Hayden 2010 Sulfur Dioxide NAAQS Nonattainment Area SIP. The analysis must also identify subsequent fugitive emissions studies, if any, needed to remedy inaccurate operational limits and volumetric flow monitoring provisions and to ensure attainment of the 2008 Lead NAAQS and 2010 Sulfur Dioxide NAAQS. The scope, duration, and frequency of any subsequent fugitive emissions studies must also be identified. This provision and the report's conclusion neither require nor prohibit future fugitive emission studies.
- viii. An analysis of whether supplemental modeling is needed to demonstrate that resultant fugitive emissions from a study provide attainment of the 2008 Lead NAAQS and 2010 Sulfur Dioxide NAAQS.
- ix. A summary of methods as followed per approved study protocols.

A14.8. Revisions to Operations and Maintenance Plan

If an analysis conducted in accordance with A14.7(vi) demonstrates that fugitive emissions associated with volumetric flow monitoring provisions in R18-2-B1301(D)(2)(a) and R18-2-B1302(D)(2)(a) and operational limits in R18-2-B1301(D)(2)(b) and R18-2-B1302(D)(2)(b) may exceed the modeled emission rates used in the Hayden 2008 Lead NAAQS Nonattainment Area SIP attainment demonstration and/or the Hayden 2010 Sulfur Dioxide NAAQS Nonattainment Area SIP attainment demonstration, and result in an increased likelihood of a NAAQS exceedance based on modeling required under A14.9, then the owner or operator shall submit to the Department for approval, not later than six months after completing a study.

recommended changes to operational limits and volumetric flow monitoring provisions as an operations and maintenance plan revision pursuant to R18-2-B1301(D)(2)(e) and R18-2-B1302(D)(2)(e) that would achieve necessary fugitive emissions levels to demonstrate attainment of the NAAQS at the same level of assurance as in the attainment demonstrations. Until receiving approval of the plan revision, the owner or operator shall operate and maintain the volumetric flow monitoring provisions and the operational limits in accordance with the plan as initially submitted pursuant to R18-2-B1301(D)(2)(e) and R18-2-B1302(D)(2)(e). Additionally, the owner and operator shall submit new attainment demonstrations pursuant to A14.9, making appropriate demonstrations of attainment at adjusted fugitive emissions levels.

Similarly, if an analysis conducted in accordance with A14.7(vi) demonstrates that fugitive emissions associated with the volumetric flow monitoring provisions in R18-2-B1301(D)(2)(a) and R18-2-B1302(D)(2)(a) and operational limits in R18-2-B1301(D)(2)(b) and R18-2-B1302(D)(2)(b) may exceed the modeled emission rates used in the Hayden 2008 Lead NAAQS Nonattainment Area SIP attainment demonstration and/or the Hayden 2010 Sulfur Dioxide NAAQS Nonattainment Area SIP attainment demonstration, and result in an increased likelihood of a NAAQS exceedance based on modeling required under A14.9, then the Department shall submit appropriate changes to the operational limits and volumetric flow monitoring provisions, and any revised attainment demonstration pursuant to A14.9, if applicable, to EPA Region IX as a SIP revision not later than 12 months after completion of a fugitive emissions study.

A14.9. Supplemental Modeling

If an analysis conducted in accordance with A14.7(vii) demonstrates that fugitive emissions associated with volumetric flow monitoring provisions in R18-2-B1301(D)(2)(a) and R18-2-B1302(D)(2)(a) and operational limits in R18-2-B1301(D)(2)(b) and R18-2-B1302(D)(2)(b) are greater than the modeled emission rates used in the Hayden 2008 Lead NAAQS Nonattainment Area SIP attainment demonstration and/or the Hayden 2010 Sulfur Dioxide NAAQS Nonattainment Area SIP attainment demonstration, the owner or operator shall remodel to demonstrate whether the 2010 Sulfur Dioxide NAAQS and/or 2008 Lead NAAQS will be attained as such higher rates. The owner or operator shall submit such modeling to the Department and EPA Region IX for review and approval not later than six months after completing a fugitive emissions study.

If the revised modeling demonstrates that the 2010 Sulfur Dioxide NAAQS and/or 2008 Lead NAAQS will be attained, the Department shall submit such modeling demonstration and revised fugitive emissions assumptions as a SIP revision to EPA Region IX not later than 12 months after completion of a fugitive emissions study. Alternatively, the owner or operator shall propose additional emission control requirements to revise the SIP, or any combination of revised control measures and modeled attainment, to demonstrate attainment of the 2010 Sulfur Dioxide NAAQS and/or 2008 Lead NAAQS.

A15. APPENDIX 15.

TEST METHODS FOR DETERMINING OPACITY AND STABILIZATION OF UNPAVED ROADS

A15.1. Applicability

This appendix applies to unpaved roads at the primary copper smelter located in Hayden, Arizona at latitude 33°0'15"N and longitude 110°46'31"W.

A15.2. Opacity Test Method

The purpose of this test method is to estimate the percent opacity of fugitive dust plumes caused by vehicle movement on unpaved roads. This method can only be conducted by an individual who has received certification as a qualified observer. Qualification and testing requirements can be found in Section A15.4 of this appendix.

A15.2.1. Step 1

Stand at least 16.5 feet from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140° sector to the back. Following the above requirements, make opacity observations so that the line of vision is approximately perpendicular to the dust plume and wind direction. If multiple plumes are involved, do not include more than one plume in the line of sight at one time.

A15.2.2. Step 2

Record the fugitive dust source location, source type, method of control used, if any, observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position to the fugitive dust source, and color of the plume and type of background on the visible emission observation from both when opacity readings are initiated and completed.



A15.2.3. Step 3

Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of vision. Make opacity observations approximately 1 meter above the surface from which the plume is generated. Note that the observation is to be made at only one visual point upon generation of a plume, as opposed to visually tracking the entire length of a dust plume as it is created along a surface. Make two observations per vehicle, beginning with the first reading at zero seconds and the second reading at five seconds. The zero-second observation should begin immediately after a plume has been created above the surface involved. Do not look continuously at the plume but, instead, observe the plume briefly at zero seconds and then again at five seconds.

A15.2.4. Step 4

Record the opacity observations to the nearest 5 percent on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 5-second period. While it is not required by the test method, EPA recommends that the observer estimate the size of vehicles which generate dust plumes for which readings are taken (e.g. midsize passenger car or heavy-duty truck) and the approximate speeds the vehicles are traveling when readings are taken.

A15.2.5. Step 5

Repeat Step 3 (Section A15.2.3 of this appendix) and Step 4 (Section A15.2.4 of this appendix) until you have recorded a total of 12 consecutive opacity readings. This will occur once six vehicles have driven on the source in your line of observation for which you are able to take proper readings. The 12 consecutive readings must be taken within the same period of observation but must not exceed 1 hour. Observations immediately preceding and following interrupted observations can be considered consecutive.

A15.2.6. Step 6

Average the 12 opacity readings together. If the average opacity reading equals 20 percent or lower, the source is in compliance.

A15.3. Silt Content Test Method

The purpose of this test method is to estimate the silt content of the trafficked parts of unpaved roads. The higher the silt content, the more fine dust particles that are released when cars and trucks drive on unpaved roads.

A15.3.1. Equipment

A15.3.1.1. A set of sieves with the following openings: 4 millimeters (mm), 2 mm, 1 mm, 0.5 mm and 0.25 mm (or a set of standard/commonly available sieves), a lid, and collector pan.

A15.3.1.2. A small whisk broom or paintbrush with stiff bristles and dustpan 1 ft. in width. (The broom/brush should preferably have one, thin row of bristles no longer than 1.5 inches in length).

A15.3.1.3. A spatula without holes.

A15.3.1.4. A small scale with half-ounce increments (e.g., postal/package scale).

A15.3.1.5. A shallow, lightweight container (e.g., plastic storage container).

A15.3.1.6. A sturdy cardboard box or other rigid object with a level surface.

A15.3.1.7. A basic calculator.

A15.3.1.8. Cloth gloves (optional for handling metal sieves on hot, sunny days).

A15.3.1.9. Sealable plastic bags (if sending samples to a laboratory).

A15.3.1.10. A pencil/pen and paper.

A15.3.2. Step 1

Look for a routinely traveled surface, as evidenced by tire tracks. (Only collect samples from surfaces that are not damp due to precipitation or dew. This statement is not meant to be a standard in itself for dampness where watering is being used as a control measure. It is only intended to ensure that surface testing is done in a representative manner.) Use caution when taking samples to ensure personal safety with respect to passing vehicles. Gently press the edge of a dustpan (1 foot in width) into the surface four times to mark an area that is 1 square foot. Collect a sample of loose surface material using a

whiskbroom or brush and slowly sweep the material into the dustpan, minimizing escape of dust particles. Use a spatula to lift heavier elements such as gravel. Only collect dirt/gravel to an approximate depth of 3/8 inch or 1 cm in the 1 square foot area. If you reach a hard, underlying subsurface that is < 3/8 inch in depth, do not continue collecting the sample by digging into the hard surface. In other words, you are only collecting a surface sample of loose material down to 1 cm. In order to confirm that samples are collected to 1 cm in depth, a wooden dowel or other similar narrow object at least one foot in length can be laid horizontally across the survey area while a metric ruler is held perpendicular to the dowel.

At this point, you can choose to place the sample collected into a plastic bag or container and take it to an independent laboratory for silt content analysis. A reference to the procedure the laboratory is required to follow is at the end of this section.

A15.3.3. Step 2

Place a scale on a level surface. Place a lightweight container on the scale. Zero the scale with the weight of the empty container on it. Transfer the entire sample collected in the dustpan to the container, minimizing escape of dust particles. Weigh the sample and record its weight.

A15.3.4. Step 3

Stack a set of sieves in order according to the size openings specified above, beginning with the largest size opening (4 mm) at the top. Place a collector pan underneath the bottom (0.25 mm) sieve.

A15.3.5. Step 4

Carefully pour the sample into the sieve stack, minimizing escape of dust particles by slowly brushing material into the stack with a whiskbroom or brush. (On windy days, use the trunk or door of a car as a wind barricade.) Cover the stack with a lid. Lift up the sieve stack and shake it vigorously up, down and sideways for at least 1 minute.

A15.3.6. Step 5

Remove the lid from the stack and disassemble each sieve separately, beginning with the top sieve. As you remove each sieve, examine it to make sure that all of the material has been sifted to the finest sieve through which it can pass (e.g., material in each sieve [besides the top sieve that captures a range of larger elements] should look the same size). If this is not the case, re-stack the sieves and collector pan, cover the stack with the lid, and shake it again for at least 1 minute. (You only need to reassemble the sieve(s) that contain material, which requires further sifting.)

A15.3.7. Step 6

After disassembling the sieves and collector pan, slowly sweep the material from the collector pan into the empty container originally used to collect and weigh the entire sample. Take care to minimize escape of dust particles. You do not need to do anything with material captured in the sieves; only the collector pan. Weigh the container with the material from the collector pan and record its weight.

A15.3.8. Step 7

If the source is an unpaved road, multiply the resulting weight by 0.38. The resulting number is the estimated silt loading. Then, divide by the total weight of the sample you recorded earlier in Step 2 (Section A15.3.3 of this appendix) and multiply by 100 to estimate the percent silt content.

A15.3.9. Step 8

Select another two routinely traveled portions of the unpaved road and repeat this test method. Once you have calculated the silt loading and percent silt content of the 3 samples collected, average your results together.

A15.3.10. Step 9

Examine results. If the average silt loading is less than 0.33 oz/ft², the surface is STABLE. If the average silt loading is greater than or equal to 0.33 oz/ft², then proceed to examine the average percent silt content. If the source is an unpaved road and the average percent silt content is 6 percent or less, the surface is STABLE. If your field test results are within 2 percent of the standard (for example, 4–8 percent silt content on an unpaved road), it is recommended that you collect 3 additional samples from the source according to Step 1 (Section A15.3.2 of this appendix) and take them to an independent laboratory for silt content analysis.

A15.3.11. Independent Laboratory Analysis

You may choose to collect 3 samples from the source, according to Step 1 (Section A15.3.2 of this appendix), and send them to an independent laboratory for silt content analysis rather than conduct the sieve field procedure. If so, the test method the laboratory is required to use is: U.S. Environmental Protection Agency (1995), "Procedures for Laboratory Analysis of



Surface/Bulk Dust Loading Samples”, (AP-42 Fifth Edition, Volume I, Appendix C.2.3 “Silt Analysis”), Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina.

A15.4. Qualification and Testing

A15.4.1. Certification Requirements

To receive certification as a qualified observer, a candidate must be tested and demonstrate the ability to assign opacity readings in 5 percent increments to 25 different black plumes and 25 different white plumes, with an error not to exceed 15 percent opacity on any one reading and an average error not to exceed 7.5 percent opacity in each category. Candidates shall be tested according to the procedures described in Section A15.4.2 of this appendix. Any smoke generator used pursuant to Section A15.4.2 of this appendix shall be equipped with a smoke meter which meets the requirements of Section A15.4.3 of this appendix. Certification tests that do not meet the requirements of Sections A15.4.2 and A15.4.3 of this appendix are not valid. The certification shall be valid for a period of 6 months, and after each 6-month period the qualification procedures must be repeated by an observer in order to retain certification.

A15.4.2. Certification Procedure

The certification test consists of showing the candidate a complete run of 50 plumes, 25 black plumes and 25 white plumes, generated by a smoke generator. Plumes shall be presented in random order within each set of 25 black and 25 white plumes. The candidate assigns an opacity value to each plume and records the observation on a suitable form. At the completion of each run of 50 readings, the score of the candidate is determined. If a candidate fails to qualify, the complete run of 50 readings must be repeated in any retest. The smoke test may be administered as part of a smoke school or training program, and may be preceded by training or familiarization runs of the smoke generator, during which candidates are shown black and white plumes of known opacity.

A15.4.3. Smoke Generator Specifications

Any smoke generator used for the purpose of Section A15.4.2 of this appendix shall be equipped with a smoke meter installed to measure opacity across the diameter of the smoke generator stack. The smoke meter output shall display in-stack opacity, based upon a path length equal to the stack exit diameter on a full 0 percent to 100 percent chart recorder scale. The smoke meter optical design and performance shall meet the specifications shown in Table 1 of this appendix. The smoke meter shall be calibrated as prescribed in Section A15.4.3.1 of this appendix prior to conducting each smoke reading test. At the completion of each test, the zero and span drift shall be checked, and if the drift exceeds plus or minus 1 percent opacity, the condition shall be corrected prior to conducting any subsequent test runs. The smoke meter shall be demonstrated, at the time of installation, to meet the specifications listed in Table 1 of this appendix. This demonstration shall be repeated following any subsequent repair or replacement of the photocell or associated electronic circuitry, including the chart recorder or output meter, or every 6 months, whichever occurs first.

A15.4.3.1. Calibration

The smoke meter is calibrated after allowing a minimum of 30 minutes warm-up by alternately producing simulated opacity of 0 percent and 100 percent. When stable response at 0 percent or 100 percent is noted, the smoke meter is adjusted to produce an output of 0 percent or 100 percent, as appropriate. This calibration shall be repeated until stable 0 percent and 100 percent readings are produced without adjustment. Simulated 0 percent and 100 percent opacity values may be produced by alternately switching the power to the light source on and off while the smoke generator is not producing smoke.

A15.4.3.2. Smoke Meter Evaluation

The smoke meter design and performance are to be evaluated as follows:

A15.4.3.2.1. Light Source

Verify, from manufacturer's data and from voltage measurements made at the lamp, as installed, that the lamp is operated within plus or minus 5 percent of the nominal rated voltage.

A15.4.3.2.2. Spectral Response of Photocell

Verify from manufacturer's data that the photocell has a photopic response (i.e., the spectral sensitivity of the cell shall closely approximate the standard spectral-luminosity curve for photopic vision which is referenced in (b) of Table 1 of this appendix).

A15.4.3.2.3. Angle of View

Check construction geometry to ensure that the total angle of view of the smoke plume, as seen by the photocell, does not exceed 15°. Calculate the total angle of view (ϕ_v) as follows:

Total Angle of View = $2 \tan^{-1} (d/2L)$

where:

d = The photocell diameter + the diameter of the limiting aperture; and

L = The distance from the photocell to the limiting aperture. The limiting aperture is the point in the path between the photocell and the smoke plume where the angle of view is most restricted. In smoke generator smoke meters, this is normally an orifice plate.

A15.4.3.2.4. Angle of Projection

Check construction geometry to ensure that the total angle of projection of the lamp on the smoke plume does not exceed 15°. Calculate the total angle of projection (ϕ_p) as follows:

Total Angle of Projection = $2 \tan^{-1} (d/2L)$

where:

d = The sum of the length of the lamp filament + the diameter of the limiting aperture; and

L = The distance from the lamp to the limiting aperture.

A15.4.3.2.5. Calibration Error

Using neutral-density filters of known opacity, check the error between the actual response and the theoretical linear response of the smoke meter. This check is accomplished by first calibrating the smoke meter, according to Section A15.4.3.1 of this appendix, and then inserting a series of three neutral-density filters of nominal opacity of 20 percent, 50 percent, and 75 percent in the smoke meter path length. Use filters calibrated within plus or minus 2 percent. Care should be taken when inserting the filters to prevent stray light from affecting the meter. Make a total of five nonconsecutive readings for each filter. The maximum opacity error on any one reading shall be plus or minus 3 percent.

A15.4.3.2.6. Zero and Span Drift

Determine the zero and span drift by calibrating and operating the smoke generator in a normal manner over a 1-hour period. The drift is measured by checking the zero and span at the end of this period.

A15.4.3.2.7. Response Time

Determine the response time by producing the series of five simulated 0 percent and 100 percent opacity values and observing the time required to reach stable response. Opacity values of 0 percent and 100 percent may be simulated by alternately switching the power to the light source off and on while the smoke generator is not operating.

Table 1: Smoke Meter Design and Performance Specifications

<u>Parameter</u>	<u>Specification</u>
<u>a. Light source</u>	<u>Incandescent lamp operated at nominal rated voltage</u>
<u>b. Spectral response of photocell</u>	<u>Photopic (daylight spectral response of the human eye)</u>
<u>c. Angle of view</u>	<u>15° maximum total angle</u>
<u>d. Angle of projection</u>	<u>15° maximum total angle</u>
<u>e. Calibration error</u>	<u>Plus or minus 3 percent opacity; maximum</u>
<u>f. Zero and span drift</u>	<u>Plus or minus 1 percent opacity, 30 minutes</u>
<u>g. Response time</u>	<u>Less than or equal to 5 seconds</u>



NOTICES OF FINAL RULEMAKING

This section of the Arizona Administrative Register contains Notices of Final Rulemaking. Final rules have been through the regular rulemaking process as defined in the Administrative Procedures Act. These rules were either approved by the Governor's Regulatory Review Council or the Attorney General's Office. Certificates of Approval are on file with the Office.

The final published notice includes a preamble and

text of the rules as filed by the agency. Economic Impact Statements are not published.

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the final rules should be addressed to the agency that promulgated the rules. Refer to Item #5 to contact the person charged with the rulemaking. The codified version of these rules will be published in the Arizona Administrative Code.

NOTICE OF FINAL RULEMAKING

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

[R16-242]

PREAMBLE

- 1. Article, Part, or Section Affected (as applicable) Rulemaking Action
2. Citations to the agency's statutory rulemaking authority to include both the authorizing statute (general) and the implementing statute (specific):
3. The effective date for the rules:
4. Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the final rulemaking package:
5. The agency's contact person who can answer questions about the rulemaking:
6. An agency's justification and reason why a rule should be made, amended, repealed, or renumbered, to include an explanation about the rulemaking:



method. These amendments will ensure the public has notice of how they may participate in the ASRS rulemaking process, including what a person’s options may be if the person disputes a rule. Ultimately, this will establish a more certain and robust rulemaking process for the ASRS, lending itself to the equitable promulgation of more effective rules, which, in turn, will result in the more effective administration of the ASRS.

- 7. **A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**
No study was reviewed
- 8. **A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:**
Not applicable
- 9. **A summary of the economic, small business, and consumer impact:**
There is little to no economic, small business, or consumer impact, other than the minimal cost to the ASRS to prepare the rule package. The rules will have minimal economic impact, if any, because the rulemaking simply clarifies statutory requirements that already exist. The Arizona Administrative Procedures Act allows people to petition the agency regarding the agency’s rules. The rules in Article 6, simply clarify how people may submit particular petitions and further participate in the agency’s rulemaking process. These amendments will clarify the rulemaking process for the public and such clarification will increase the understandability of the rules. Thus, the economic impact is minimized.
- 10. **A description of any changes between the proposed rulemaking, including supplemental notices, and the final rulemaking:**
With the exception of minor grammatical corrections, there were no changes between the proposed rulemaking and the final rulemaking.
- 11. **An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:**
The ASRS received no written comments regarding the rulemaking. No one attended the oral proceeding on August 25, 2016.
- 12. **All agencies shall list any other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:**
None
 - a. **Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:**
The rules do not require a permit.
 - b. **Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:**
Federal law applies to retirement programs, but no federal law specifically applies to this rulemaking.
 - c. **Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:**
No analysis was submitted.
- 13. **A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rule:**
No materials are incorporated by reference.
- 14. **Whether the rule was previously made, amended, or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:**
Not applicable
- 15. **The full text of the rules follows:**

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

ARTICLE 6. PUBLIC PARTICIPATION IN RULEMAKING

Section	
R2-8-602.	Reviewing Agency Rulemaking Record and Directory of Substantive Policy Statements
R2-8-603.	Petition for Rulemaking
R2-8-604.	Review of a Rule, Agency Practice, or Substantive Policy Statement
R2-8-605.	Objection to Rule Based Upon Economic, Small Business, and Consumer Impact



- R2-8-606. Oral Proceedings
- R2-8-607. Petition for Delayed Effective Date

ARTICLE 6. PUBLIC PARTICIPATION IN RULEMAKING

R2-8-602. Reviewing Agency Rulemaking Record and Directory of Substantive Policy Statements

Except on a state holiday, ~~an individual a person~~ may review a rulemaking record or the directory of substantive policy statements at the Phoenix office of the ASRS, Monday through Friday, from 8:00 a.m. until 5:00 p.m.

R2-8-603. Petition for Rulemaking

- A. ~~An individual~~ A person submitting a petition to the ASRS to make or amend a rule under A.R.S. § 41-1033 shall include the following in the petition:
 1. The name and current address of the ~~an individual person~~ submitting the petition;
 2. An identification of the rule to be made or amended;
 3. The suggested language of the rule;
 4. The reason why a new rule should be made or a current rule should be amended with supporting information, including:
 - a. An identification of the persons who would be affected by the rule and how the persons would be affected; and
 - b. If applicable, statistical data with references to attached exhibits;
 5. The signature of the ~~individual person~~ submitting the petition; and
 6. The date the ~~individual person~~ signs the petition.
- B. The ASRS shall send a written notice of the ASRS’s decision regarding the Petition for Rulemaking to the ~~individual person~~ within ~~30-60~~ days of receipt of the petition.

R2-8-604. Review of a Rule, Agency Practice, or Substantive Policy Statement

- A. ~~An individual~~ A person submitting a petition to the ASRS under A.R.S. § 41-1033 requesting that the ASRS review an agency practice or substantive policy statement that the ~~individual person~~ alleges constitutes a rule shall include the following in the petition:
 1. The name and current address of the ~~individual person~~ submitting the petition,
 2. The reason the ~~individual person~~ alleges that the agency practice or substantive policy statement constitutes a rule,
 3. The signature of the ~~individual person~~ submitting the petition, and
 4. The date the ~~individual person~~ signs the petition.
- B. The ~~individual person~~ who submits a petition under subsection (A) shall attach a copy of the substantive policy statement or a description of the agency practice to the petition.
- C. The ASRS shall send a written notice of the ASRS’s decision regarding the petition to the ~~individual person~~ within ~~30-60~~ days of receipt of the petition.

R2-8-605. Objection to Rule Based Upon Economic, Small Business and Consumer Impact

- A. ~~An individual~~ A person submitting an objection to a rule based upon the economic, small business and consumer impact under A.R.S. § 41-1056.01 shall include the following in the objection:
 1. The name and current address of the ~~individual person~~ submitting the objection;
 2. Identification of the rule;
 3. Either evidence that the actual economic, small business and consumer impact:
 - a. Significantly exceeded the impact estimated in the economic, small business and consumer impact statement submitted during the making of the rule with supporting information attached as exhibits; or
 - b. Was not estimated in the economic, small business and consumer impact statement submitted during the making of the rule and that actual impact imposes a significant burden on persons subject to the rule with supporting information attached as exhibits; or
 - c. Reflects that the ASRS did not select the alternative that imposes the least burden and costs to persons regulated by the rule, including paperwork and other compliance costs, necessary to achieve the underlying regulatory objective.
 4. The signature of the ~~individual person~~ submitting the objection; and
 5. The date the ~~individual person~~ signs the objection.
- B. The ASRS shall respond to the objection as specified in A.R.S. § 41-1056.01(C).

R2-8-606. Oral Proceedings

- A. ~~An individual~~ A person requesting an oral proceeding under A.R.S. § 41-1023(C) shall submit a written request to the ASRS that includes:
 1. The name and current address of the ~~individual person~~ making the request;
 2. If applicable, the name of the public or private organization, partnership, corporation or association, or the name of the governmental entity the ~~individual person~~ represents; and
 3. Reference to the proposed rule including, if known, the date and issue of the Arizona Administrative Register in which the Notice of Proposed Rulemaking was published.
- B. The ASRS shall record an oral proceeding by either electronic or stenographic means and any CDs, cassette tapes, transcripts, lists, speaker slips, and written comments received shall become part of the official record.
- C. A presiding officer shall perform the following acts on behalf of the ASRS when conducting an oral proceeding as pre-



scribed under A.R.S. § 41-1023:

1. Provide a method for ~~individuals~~ a person who ~~attend~~ attends the oral proceeding to voluntarily note ~~their~~ the person's attendance;
 2. Provide a ~~speaker slip~~ Request to Present Oral Comment form that includes space for:
 - a. ~~An individual's~~ The name of the person submitting the Request to Present Oral Comment form,
 - b. ~~The person entity~~ the individual person represents, if applicable, and
 - c. ~~The rule on which~~ the individual person wishes to comment ~~on or about~~ which the person has a question ~~about,~~ and;
 - d. ~~The approximate length of time~~ the individual wishes to speak;
 3. Open the proceeding by identifying the rules to be considered, the location, date, time, purpose of the proceeding, and the agenda;
 4. Explain the background and general content of the proposed rulemaking;
 5. Provide for public comment as specified in A.R.S. § 41-1023(D); and
 6. Close the oral proceeding by announcing the location where written public comments are to be sent and specifying the close of record date and time.
- D. A presiding officer may limit comments to a reasonable time period, as determined by the presiding officer. Oral comments may be limited to prevent undue repetition.

R2-8-607. Petition for Delayed Effective Date

- A. ~~An individual~~ A person who wishes to delay the effective date of a rule under A.R.S. § 41-1032 shall file a petition with the ASRS prior to the proposed rule's close of record date ~~identified in the Notice of Proposed Rulemaking~~. The petition shall contain the:
1. Name and current address of the ~~individual person~~ submitting the petition;
 2. Identification of the proposed rule;
 3. Need for the delay, specifying the undue hardship or other adverse impact that may result if the request for a delayed effective date is not granted;
 4. Reason why the public interest will not be harmed by the delayed effective date;
 5. Signature of the ~~individual person~~ submitting the petition; and
 6. Date the ~~individual person~~ signs the petition.
- B. The ASRS shall send a written notice of the ASRS's decision to the ~~individual person~~ within 30 days of receipt of the Petition for b Delayed Effective Date.

NOTICE OF FINAL RULEMAKING

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

[R16-243]

PREAMBLE

- | | |
|---|---------------------------------|
| 1. <u>Article, Part, or Section Affected (as applicable)</u> | <u>Rulemaking Action</u> |
| R2-8-704 | Amend |
| R2-8-706 | Amend |
2. **Citations to the agency's statutory rulemaking authority to include both the authorizing statute (general) and the implementing statute (specific):**
 Authorizing statute: A.R.S. § 38-714(E)(4)
 Implementing statutes: A.R.S. §§ 38-711, 38-738, 38-783
 3. **The effective date for the rules:**
 January 1, 2017
 - a. **If the agency selected a date earlier than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the earlier date and state the reason or reasons the agency selected the earlier effective date as provided in A.R.S. § 41-1032(A)(1) through (5):**
 Not applicable
 - b. **If the agency selected a date later than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the later date and state the reason or reasons the agency selected the later effective date as provided in A.R.S. § 41-1032(B):**
 Not applicable
 4. **Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the final rulemaking package:**
 Notice of Rulemaking Docket Opening: 22 A.A.R. 1064, May 6, 2016



Notice of Proposed Rulemaking: 22 A.A.R. 2079, August 12, 2016

5. The agency's contact person who can answer questions about the rulemaking:

Name: Jessica A.R. Thomas, Rules Writer
Address: State Retirement System
3300 N. Central Ave., Suite 1400
Phoenix, AZ 85012-0250
Telephone: (602) 240-2039
E-mail: JessicaT@azasrs.gov

6. An agency's justification and reason why a rule should be made, amended, repealed, or renumbered, to include an explanation about the rulemaking:

The ASRS needs to amend approximately two rules in Article 7. The rules need to reflect that Contributions Not Withheld (CNW) payments are not due to the ASRS when the employer remits an Alternate Contribution Rate (ACR) payment pursuant to A.R.S. § 38-766 or when contributions are made to another Arizona retirement system. This amendment will prevent the employer from overpaying contributions during the same time period and will clarify that members are not entitled to receive service credit for the same hours worked in more than one state retirement system. The rules also need to reflect that the employer representative is not required to initial each statement of understanding on the Verification of Contributions Not Withheld form; and that gross salary and hours worked are reported by pay period within each fiscal year.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

No study was reviewed.

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. A summary of the economic, small business, and consumer impact:

The ASRS promulgates rules that allow the agency to provide for the proper administration of the state retirement trust fund. ASRS rules affect ASRS members and ASRS employers regarding how they contribute to, and receive benefits from, the ASRS. The ASRS effectively administrates how public-sector employers and employees participate in the ASRS. As such, the ASRS does not issue permits or licenses, or charge fees, and its rules have little to no economic impact on private-sector businesses, with the exception of some employer partner charter schools, which have voluntarily contracted to join the ASRS. Thus, there is little to no economic, small business, or consumer impact, other than the minimal cost to the ASRS to prepare the rule package. The rules will have minimal economic impact, if any, because they merely clarify contributing requirements that are already contained in statute, thereby reducing the regulatory burden and the economic impact.

10. A description of any changes between the proposed rulemaking, including supplemental notices, and the final rulemaking:

There were no changes between the proposed rulemaking and the final rulemaking.

11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:

The ASRS received no written comments regarding the rulemaking. No one attended the oral proceeding on September 14, 2016.

12. All agencies shall list any other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

None

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

The rules do not require a permit.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

Federal law applies to retirement programs, but no federal law specifically applies to this rulemaking.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

No analysis was submitted.

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rule:

No materials are incorporated by reference.



14. Whether the rule was previously made, amended, or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:

Not applicable

15. The full text of the rules follows:

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

ARTICLE 7. CONTRIBUTIONS NOT WITHHELD

Section

R2-8-704. Member's Discovery of Error

R2-8-706. Determination of Contributions Not Withheld

ARTICLE 7. CONTRIBUTIONS NOT WITHHELD

R2-8-704. Member's Discovery of Error

~~A.~~ If a member believes that an ~~ASRS employer~~ Employer has not withheld contributions for the member for a period of eligible service, the member shall:

~~1.A.~~ Provide the ~~ASRS employer~~ Employer with documentation of the member's claim and request that the ~~ASRS employer~~ Employer provide a letter that includes the information in the Verification of Contributions Not Withheld form or complete a Verification of Contributions Not Withheld form that includes:

~~a.1.~~ The member's full name;

~~b.2.~~ Other names used by the member;

~~e.3.~~ The member's Social Security number;

~~d.4.~~ Whether the position was covered under the ~~ASRS employer's~~ Employer's 218 agreement prior to July 24, 2014;

~~e.5.~~ The position title the member held at the time the contributions should have been withheld;

~~f.6.~~ The eligibility of the member at the time the contributions should have been withheld;

~~g.7.~~ The following statements of understanding and agreements ~~to be initialed-certified~~ by the authorized ~~employer representative filling out the form~~ Employer representative's signature indicating:

~~i.a.~~ I understand it is my responsibility to verify the accuracy of the information I am providing on this form. I understand any individual who knowingly makes a false statement, or who falsifies or permits to be falsified any record of the ASRS with an intent to defraud the ASRS, is guilty of a Class 6 felony pursuant to A.R.S. § 38-793; and

~~ii.b.~~ I understand that, based on the information provided on this form, the ASRS may determine that contributions are owed on behalf of the member listed on this form, and the ~~ASRS employer~~ Employer may incur a substantial financial obligation; I understand that I may receive an invoice for the member contributions I owe.

~~h.8.~~ The following information ~~months worked, the hours per week worked, and the compensation earned by the member,~~ by fiscal year;:

~~a.~~ All pay period end dates;

~~b.~~ The hours per week worked within each pay period; and

~~c.~~ The compensation earned by the member within each pay period.

~~i.9.~~ The name of the ~~ASRS employer~~ Employer;

~~j.10.~~ The printed name and signature of the authorized ~~employer~~ Employer representative;

~~k.11.~~ The daytime telephone number of the authorized ~~employer~~ Employer representative;

~~l.12.~~ The title of the authorized ~~employer~~ Employer representative; and

~~m.13.~~ The date the authorized ~~employer~~ Employer representative signed the form;

~~2.B.~~ Provide the ASRS with the completed Verification of Contributions Not Withheld form; and

~~3.C.~~ If the ~~ASRS employer~~ Employer refuses to fill out the Verification of Contributions Not Withheld form, or if the member disputes the information the ~~ASRS employer~~ Employer completes on the form, the member shall provide the ASRS with the documentation the member believes supports the allegation that contributions should have been withheld, that includes proof:

~~a.1.~~ That the employee was covered under the ~~ASRS employer's~~ Employer's 218 agreement prior to July 24, 2014,

~~b.2.~~ Of the number of hours worked,

~~e.3.~~ Of the length of time the member was employed by the ~~ASRS employer~~ Employer, and

~~d.4.~~ Of the compensation paid to the member by the ~~ASRS employer~~ Employer.

R2-8-706. Determination of Contributions Not Withheld

A. Upon receipt of the information listed in R2-8-703, R2-8-704, or R2-8-705, the ASRS shall review the information to determine whether or not member contributions should have been withheld by the ~~ASRS employer~~ Employer, the length of time those contributions should have been withheld, and the amount of contributions that should have been withheld.



Fax: (480) 784-4962
E-mail: daune@azboc.gov
Web site: www.azboc.gov

6. An agency's justification and reason why a rule should be made, amended, repealed, or renumbered, to include an explanation about the rulemaking:

The Board currently contracts with Professional Credential Services, Inc. (PCS) to administer and grade the Board's licensing examinations. PCS offers written cosmetology licensing examinations in English, Spanish, Korean, and Vietnamese. This rulemaking allows the written licensing examination to be offered in Arizona in all available languages. The rulemaking also relates, in part, to a 5YRR approved by the Council on August 2, 2016.

An exemption from EO2016-03 was provided for this rulemaking by Christina Corieri, Policy Advisor for Health and Human Services in the Governor's office, in an email dated May 16, 2016.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

The Board did not review or rely on a study in its evaluation of or justification for the rule in this rulemaking.

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. A summary of the economic, small business, and consumer impact:

This rulemaking may make it easier for individuals who are more fluent in Spanish, Korean, or Vietnamese than English to pass the written licensing examination and obtain a license. This will have a positive economic benefit for these individuals. The Board incurred the cost of doing this rulemaking.

10. A description of any changes between the proposed rulemaking, including supplemental notices, and the final rulemaking:

Only minor, non-substantive changes were made between the proposed and final rules.

11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to comments:

The Board received no written comments about the rulemaking. No one attended the oral proceeding on September 12, 2016.

12. All agencies shall list any other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

None

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

The rule does not require a permit.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

There is no federal law directly applicable to examination of cosmetology applicants.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

No analysis was submitted.

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rule:

None

14. Whether the rule was previously made, amended, or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:

The rule was not previously made, amended, or repealed as an emergency rule.

15. The full text of the rules follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 10. BOARD OF COSMETOLOGY



ARTICLE 1. GENERAL PROVISIONS

Section

R4-10-108. Pre-screening Review; Licensing Examinations Examination

ARTICLE 1. GENERAL PROVISIONS

R4-10-108. Pre-screening Review; Licensing Examinations Examination

- A. ~~The A student planning to apply to the Board for licensure may, but is not required to, request that the Board may complete a pre-screening review of examination qualifications, if requested, whether the student is qualified to take the licensing examination, before the student graduates from a school, but the Board shall not approve the examination application until the The student may request the pre-screening review before the student graduates from a school licensed by the Board but the student shall not be issued an examination date until the student has completed a minimum of:~~
 1. 1450 hours of cosmetology training,
 2. 500 hours of aesthetics or nail technician training,
 3. 550 hours of cosmetology instructor training,
 4. 400 hours for aesthetics instructor training, or
 5. 250 hours of nail technician instructor training.
- B. ~~After the Board completes the pre-screening review and determines the student has completed the number of hours specified in subsection (A), an applicant may receive the Board or national professional organization with which the Board contracts to administer the licensing examination shall issue an examination date; to the student, but the applicant is However, the Board shall not allowed in allow the student to take the examination site until the applicant student applies for licensure and provides a certification of graduation to the Board.~~
- C. ~~If the applicant a student who has been issued an examination date fails to apply for licensure and provide a certification of graduation by the date set for the examination date or the applicant does not fails to appear at the examination site at the scheduled examination time, the applicant forfeits the examination fee is forfeited.~~
- D. ~~A request for a pre-screening review is not a substitute for an official agency acceptance or issuance of a license an application for licensure and does not guarantee the Board will issue a license.~~
- C. ~~If the applicant does not request an examination pre-screening review, the Board shall not consider an examination application until the applicant has received the hours required for graduation and has graduated from a school licensed by the Board.~~
- ~~D.E.~~ ~~All examinations shall be held in the Board's examination center at the Board's office unless another location is designated by the Board in its written notice to the applicant. The Board or national professional organization with which the Board contracts to administer the licensing examination shall provide written notice to an applicant of the date, time, and location for the examination.~~
- E. ~~The Board shall notify applicants in writing of the time and place assigned for the examination.~~
- F. ~~An applicant shall provide photographic identification upon entering the examination center site. Acceptable forms of identification include United States issued The following U.S.-issued forms of identification are acceptable: passport, driver license, bank identification card, military identification, or other government-issued identification card. Identification shall contain a photograph of the applicant.~~
- G. ~~An The licensing examination shall consist of both a written and practical sections section, and the practical sections An applicant shall include perform a live demonstrations demonstration on a model as follows: during the practical section of the licensing examination. During the live demonstration, the applicant shall:~~
 1. ~~An applicant shall perform a cosmetology or nail technology demonstration on a mannequin, Provide the model required for the demonstration. If the applicant provides a live model for the demonstration, the live model shall not be a current or former student of aesthetics, cosmetology, or nail technology or a current or former licensee;~~
 2. ~~An applicant shall perform a demonstration for an aesthetics examination on a person, and Provide all equipment, supplies, tools, or instruments required for the demonstration; and~~
 3. ~~An applicant shall perform demonstrations for an instructor examination on a person for an aesthetics class or a mannequin for a cosmetology or nail technology class. Comply with all infection control and safety standards specified in R4-10-112, including those regarding blood spills. If an applicant fails to follow proper blood-spill procedures during the demonstration, the examination administrator shall dismiss the applicant from the examination and cause the examination fee to be forfeited.~~
- H. ~~An applicant shall comply with all infection control and safety standards required by R4 10 112 during the examination.~~
- ~~I.H.~~ ~~An If an applicant who cannot fails to appear for an a licensing examination as scheduled, shall forfeit the applicant forfeits the examination fee. An If an applicant who arrives at an examination site after a the scheduled examination begins, the examination administrator shall not be allowed to test at the scheduled time allow the applicant to take the examination. If an An applicant arrives after the examination begins or fails to appear for a scheduled examination, the Board shall may reschedule the a missed examination upon payment of by paying another examination fee.~~
- I. ~~The An applicant is allowed a one time cancellation of the may cancel a scheduled examination test date if the applicant eaneels once by providing notice of cancellation at least 48 hours before the examination start time. The Board does not require another examination fee for rescheduling to reschedule a canceled examination.~~
- J. ~~An applicant shall supply equipment, supplies, tools or instruments, and a model as required.~~
- K. ~~An applicant shall not use a current or former student in an aesthetics, cosmetology, or nail technology school as a model in the live demonstration of aesthetics or instructor examinations.~~



- ~~L.J.~~ Examination Neither the Board nor the examination administrator shall make examination materials ~~are not~~ available for inspection or copying by any person, ~~nor shall any~~ A person shall not attempt to obtain or provide examination materials.
- ~~M.K.~~ The An applicant shall not bring and the examination administrator shall not allow written material or recording media ~~in to~~ either the written or practical ~~sections section~~ of the licensing examination for aestheticians, cosmetologists, or nail technicians. The examination administrator may exclude ~~other items~~ from the written or practical ~~sections section~~ of the licensing examination any items the examination administrator believes that may impede the fair administration or security of the examination. ~~An~~ The examination administrator shall dismiss from the examination an applicant who seeks to impede the fair administration of ~~an exam~~ the examination, or copies or asks for information from another applicant ~~shall be dismissed from the examination and shall forfeit and cause the examination fee to be forfeited. An applicant who has a blood spill that is not treated following proper blood spill procedures in R4-10-112 shall be dismissed from the examination and shall forfeit the examination fee.~~
- ~~N.L.~~ If an applicant passes the examination but does not apply for an original license fails to complete the licensure process within one year after the date of the examination, the Board shall void the examination scores.
- ~~O.M.~~ If application is made for licensure by reciprocity, the Board may shall accept a score on a written or practical examination from another jurisdiction if the examination:
 1. Is the same national examination ~~as that~~ administered in Arizona,
 2. The score obtained by the applicant is at least the same as the passing score ~~that was~~ required by the Board at the time the applicant took the examination in the other jurisdiction, and
 3. The applicant provides the Board with documentation from the other jurisdiction verifying the passing score and that the score was received within one year ~~of before~~ the application for licensure by reciprocity.
- ~~P.N.~~ The Board or national professional organization with which the Board contracts to administer the licensing examination shall conduct:
 1. ~~all examinations~~ The practical section of the licensing examination in English and ~~applicants an applicant~~ shall submit answers in English;
 2. The written section of the licensing examination in English and other languages specified by the national professional organization. An applicant may choose to take the written section of the licensing examination in any of the offered languages.

NOTICE OF FINAL RULEMAKING

TITLE 9. HEALTH SERVICES

**CHAPTER 28. ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM (AHCCCS)
ARIZONA LONG-TERM CARE SYSTEM**

[R16-245]

PREAMBLE

- 1. Article, Part, or Section Affected (as applicable)** **Rulemaking Action**
R9-28-702 Amend
- 2. Citations to the agency’s statutory rulemaking authority to include both the authorizing statute (general) and the implementing statute (specific):**
Authorizing statute: A.R.S. §§ 36-2903.01, 36-2903, 36-2932
Implementing statute: A.R.S. §§ 36-2999.52, 36-2999.54
- 3. The effective date of the rule:**
January 3, 2017
- 4. Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the final rulemaking package:**
Notice of Rulemaking Docket Opening: 22 A.A.R. 2057, August 5, 2016
Notice of Proposed Rulemaking: 22 A.A.R. 2015, August 5, 2016
- 5. The agency’s contact person who can answer questions about the rulemaking:**
Name: Gina Relkin
Address: AHCCCS
701 E. Jefferson St.
Phoenix, AZ 85034
Telephone: (602) 417-4232
Fax: (602) 253-9115
E-mail: AHCCCSrules@azahcccs.gov
Web site: www.azahcccs.gov



6. An agency’s justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

This final rulemaking will amend the current rule to increase the amount of the nursing facility provider assessment charged for health care items and services provided by nursing facilities authorized by State Law ARS§36-2999.51 et seq. The statutory scheme requires the AHCCCS Administration to administer a provider assessment (also referred to as a quality assessment) on health care items and services provided by nursing facilities and to make supplemental payments to nursing facilities for covered Medicaid expenditures. As a result of the final rulemaking which will increase the dollar amount of the nursing facility assessment in R9-28-702, additional supplemental funding will be available to nursing facilities for covered Medicaid expenditures, thus supporting accessibility of critical health care services to vulnerable populations and enhancing the ability of nursing facilities to provide higher quality yet cost effective care to frail Arizona residents.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

A study was not referenced or relied upon when revising the regulations.

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. A summary of the economic, small business, and consumer impact:

The Administration anticipates a minimal to moderate economic impact to individual qualifying nursing facilities. Under the statute, the amount of the assessment cannot exceed three and one-half percent of the net patient service revenue. The estimated increase in the total assessment for the fiscal year ending September 30, 2017 is \$8.1M. Ninety nine percent of the funds will be used as the non-federal share of supplemental payments to qualifying nursing facilities through the Medicaid program administered by AHCCCS. Because those funds will be matched with federal funds, the estimated increase in the total supplemental payments funded by this assessment for the fiscal year ending September 30, 2017 is \$16.1M.

10. A description of any changes between the proposed rulemaking, to include supplemental notices, and the final rulemaking:

No changes were made between the proposed rulemaking and the final rulemaking.

11. An agency’s summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:

Item #	Rule Cite Line #	Comment From and Date rec’d.	Comment	Analysis/ Recommendation
1.		Kathleen Collins-Pagels 09/06/16 Executive Director of the AZHCA	I just wanted to take this opportunity to thank the AHCCCS administration for this rule revision. The Arizona Health Care Association would like to offer its unqualified support for this change, we believe that it will contribute to the financial well-being of the Long Term Care Community throughout the state of Arizona and we believe it will contribute to quality outcomes. We appreciate the leadership of Shelli Silver and Victoria Burns and all of the AHCCCS administrative team in making this possible.	AHCCCS thanks Ms. Collins-Pagels for the support.

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

Not applicable

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

42 Code of Federal Regulations section 433.68(e)(1) and (2) is applicable to the subject of this rulemaking. The rule is not more stringent than federal law.



c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

No analysis was submitted.

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

Not applicable

14. Whether the rule was previously made, amended or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:

Not applicable

15. The full text of the rules follows:

TITLE 9. HEALTH SERVICES

**CHAPTER 28. ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM (AHCCCS)
ARIZONA LONG-TERM CARE SYSTEM**

ARTICLE 7. STANDARDS FOR PAYMENTS

Section

R9-28-702. Nursing Facility Assessment

ARTICLE 7. STANDARDS FOR PAYMENTS

R9-28-702. Nursing Facility Assessment

A. For purposes of R9-28-702 and R9-28-703, in addition to the definitions under A.R.S. § 36-2999.51, the following terms have the following meaning unless the context specifically requires another meaning:

“820 transaction” means the standard health care premium payments transaction required by 45 CFR 162.1702.

“Assessment year” means the 12 month period beginning October 1st each year.

“Medicaid patient days” means patient days reported on the Nursing Care Institution Uniform Accounting Report (UAR) as attributable to AHCCCS and its contractors as the primary payor.

“Medicare days” means resident days where the Medicare program, a Medicare advantage or special needs plan, or the Medicare hospice program is the primary payor.

“Medicare patient days” means patient days reported on the Nursing Care Institution UAR as Skilled Medicare Patient Days or Part C/Advantage/Medicare Replacement Days.

“Nursing Care Institution UAR” means the Nursing Care Institution Uniform Accounting Report described by R9-11-204.

B. Subject to Centers for Medicare and Medicaid Services (CMS) approval, effective October 1, 2012, nursing facilities shall be subject to a provider assessment payable on a quarterly basis.

C. All nursing facilities licensed in the state of Arizona shall be subject to the provider assessment except for:

1. A continuing care retirement community,
2. A facility with 58 or fewer beds, according to the Arizona Department of Health Services, Division of Licensing Services, Provider & Facility Database,
3. A facility designated by the Arizona Department of Health Services as an Intermediate Care Facility for the Intellectually Disabled,
4. A tribally owned or operated facility located on a reservation, or
5. Arizona Veteran's Homes.

D. The Administration shall calculate the prospective nursing facility provider assessment for qualifying nursing facilities as follows:

1. In September of each year, the Administration shall obtain from the Arizona Department of Health Services the most recently published Nursing Care Institution UAR and the information required in subsection (C)(2). At the request of the Administration, a nursing facility shall provide the Administration with any additional information necessary to determine the assessment.
2. The Administration shall use the information obtained under subsection (D)(1) to determine:
 - a. Each nursing facility's total annual Medicaid patient days,
 - b. Each nursing facility's total annual Medicare patient days,
 - c. Each nursing facility's total annual patient days,
 - d. The aggregate net patient service revenue of all assessed providers, and
 - e. The slope described under 42 CFR 433.68(e)(2).



3. For each nursing facility, other than a nursing facility exempted in subsection (C) or described in subsection (D)(4), the provider assessment is calculated by multiplying the nursing facility's total annual patient days, other than Medicare patient days, by ~~\$10.50~~15.63.
4. For a nursing facility, other than a nursing facility exempted in subsection (C), with ~~the~~ a number of total annual Medicaid patient days greater than or equal to the number required to achieve a slope of at least 1 applying the uniformity tax waiver test described in 42 CFR 433.68(e)(2), the provider assessment is calculated by multiplying the nursing facility's total annual patient days, other than Medicare patient days, by ~~\$1.40~~1.80.
5. For each assessment year the slope described under 42 CFR 433.68(e)(2) shall be recalculated.
6. The total annual assessment calculated under subsections (D)(3), (D)(4) and (D)(5), shall not exceed 3.5 percent of the aggregate net patient service revenue of all assessed providers as reported on the Nursing Care Institution UAR obtained under subsection (D)(1).
7. All calculations and determinations necessary for the provider assessment shall be based on information possessed by the Administration on or before November 1 of the assessment year.
8. The Administration shall forward the provider assessments for all assessed facilities to the Arizona Department of Revenue on or before December 1 of the assessment year.
9. In the event a nursing facility closes during the assessment year, the nursing facility shall cease to be responsible for the portion of the assessment applied to the dates the nursing facility is not operating.
10. In the event a nursing facility begins operation during the assessment year, that facility will have no responsibility for the assessment until such time as the facility has submitted to the Arizona Department of Health Services the report required by R9-11-204(A) covering a full year of operation.
11. In the event a nursing facility has a change of ownership such that the facility remains open and the ownership of the facility changes, the assessment liability transfers with the change in ownership.

NOTICES OF RULEMAKING DOCKET OPENING

This section of the *Arizona Administrative Register* contains Notices of Rulemaking Docket Opening.

A docket opening is the first part of the administrative rulemaking process. It is an “announcement” that the agency intends to work on its rules.

When an agency opens a rulemaking docket to consider rulemaking, the Administrative Procedure Act (APA) requires the publication of the Notice of Rulemaking Docket Opening.

Under the APA effective January 1, 1995, agencies must submit a Notice of Rulemaking Docket Opening before beginning the formal rulemaking process. Many times an agency may file the Notice of Rulemaking Docket Opening with the Notice of Proposed Rulemaking.

The Office of the Secretary of State is the filing office and publisher of these notices. Questions about the interpretation of this information should be directed to the agency contact person listed in item #4 of this notice.

NOTICE OF RULEMAKING DOCKET OPENING

DEPARTMENT OF ENVIRONMENTAL QUALITY AIR POLLUTION CONTROL

[R16-246]

- 1. Title and its heading:** 18, Environmental Quality
Chapter and its heading: 2, Department of Environmental Quality - Air Pollution Control
Article and its heading: 13, State Implementation Plan Rules for Specific Locations
7, Existing Stationary Source Performance Standards
Section numbers: R18-2-B1301, R18-2-B1301.01, R18-2-B1302, R18-2-C1301 (Reserved), R18-2-C1302, R18-2-715, R18-2-715.01, Appendix 14, Appendix 15 (*As part of the rulemaking, any other sections may be added, amended, or deleted as necessary.*)

- 2. The subject matter of the proposed rules:**
The Arizona Department of Environmental Quality (ADEQ) is considering amendments to R18-2-715 and R18-2-715.01, adding a new Article (Article 13), and adopting new rules and appendices within the new Article 13 to establish emission limits and air pollution control requirements for two primary copper smelters located in Hayden and Miami, Arizona. A previous version of Article 13, which contained the rules for the state’s terminated diesel conversion grant program, expired under A.R.S. § 41-1056(J) on April 30, 2013.

On June 22, 2010, the U.S. Environmental Protection Agency (EPA) revised the 1-hour average and annual average National Ambient Air Quality Standards (NAAQS) for Sulfur Dioxide. 75 FR 35520. On August 5, 2013, EPA published new designations for the Hayden and Miami nonattainment areas, effective October 4, 2013. 78 FR 47191. Rule R18-2-B1302 and Appendix 14 will become part of the State Implementation Plan (SIP) for the Hayden Sulfur Dioxide Nonattainment Area. Rule R18-2-C1302 will become part of the SIP for the Miami Sulfur Dioxide Nonattainment Area. The amendments to existing rules R18-2-715 and R18-2-715.01 incorporate necessary changes based on the new rules, R18-2-B1302 and R18-2-C1302.

On January 12, 2009, EPA revised the NAAQS for Lead. 73 FR 66964. On September 3, 2014, EPA designated the Hayden area as nonattainment for the Lead NAAQS, effective October 3, 2014. 79 FR 52205. Rules R18-2-B1301, R18-2-B1301.01, Appendix 14, and Appendix 15 will become part of the SIP for the Hayden Lead Nonattainment Area.

- 3. A citation to all published notices relating to the proceeding:**
Notice of Proposed Rulemaking: 22 A.A.R. 3279, November 25, 2016 (*in this issue*).

- 4. The name and address of agency personnel with whom persons may communicate regarding the rule:**
For the rules applicable to the Hayden Lead Nonattainment Area:

Name: Natalie Muilenberg
Address: Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-1089
Fax: (602) 771-2299
Email: nm3@azdeq.gov



For the Article 7 amendments and rules applicable to the Hayden and Miami Sulfur Dioxide Nonattainment Areas:

Name: Lisa Tomczak
Address: Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 771-4450
Fax: (602) 771-2299
Email: lt5@azdeq.gov

5. The time during which the agency will accept written comments and the time and place where oral comments may be made:

The public comment period for this rulemaking is: December 5, 2016 – January 9, 2017.

The public hearing for the rules will be conducted on:

January 9, 2017 at 2:00 p.m.
At the Arizona Department of Environmental Quality
Room 3175
1110 W. Washington St.
Phoenix, AZ 85007

More information can be found in the Notice of Proposed Rulemaking.

6. A timetable for agency decisions or other action on the proceeding:

See the Notice of Proposed Rulemaking that starts on page 3279 of this issue.



GOVERNOR EXECUTIVE ORDERS

The Administrative Procedure Act (APA) requires the full-text publication of Governor Executive Orders.

With the exception of egregious errors, content (including spelling, grammar, and punctuation) of these orders has been reproduced as submitted.

In addition, the Register shall include each statement filed by the Governor in granting a commutation, pardon or reprieve, or stay or suspension of execution where a sentence of death is imposed.

EXECUTIVE ORDER 2016-03

Internal Review of Administrative Rules; Moratorium to Promote Job Creation and Customer-Service-Oriented Agencies

Editor's Note: This Executive Order is being reproduced in each issue of the Administrative Register until its expiration on December 31, 2016, as a notice to the public regarding state agencies' rulemaking activities.

[M16-29]

WHEREAS, Arizona is poised to lead the nation in job growth;

WHEREAS, burdensome regulations inhibit job growth and economic development;

WHEREAS, small businesses and startups are especially hurt by regulations;

WHEREAS, each agency of the State of Arizona should promote customer-service-oriented principles for the people that it serves;

WHEREAS, each State agency should undertake a critical and comprehensive review of its administrative rules and take action to reduce the regulatory burden, administrative delay, and legal uncertainty associated with government regulation;

WHEREAS, overly burdensome, antiquated, contradictory, redundant, and nonessential regulations should be repealed;

WHEREAS, Article 5, Section 4 of the Arizona Constitution and Title 41, Chapter 1, Article 1 of the Arizona Revised Statutes vests the executive power of the State of Arizona in the Governor;

NOW, THEREFORE, I, Douglas A. Ducey, by virtue of the authority vested in me by the Constitution and laws of the State of Arizona hereby declare the following:

- 1. A State agency subject to this Order, shall not conduct any rulemaking except as permitted by this Order.
2. A State agency subject to this Order, shall not conduct any rulemaking, whether informal or formal, without the prior written approval of the Office of the Governor. In seeking approval, a State agency shall address one or more of the following as justification for the rulemaking:
a. To fulfill an objective related to job creation, economic development, or economic expansion in this State.
b. To reduce or ameliorate a regulatory burden while achieving the same regulatory objective.
c. To prevent a significant threat to the public health, peace, or safety.
d. To avoid violating a court order or federal law that would result in sanctions by a court or the federal government against an agency for failure to conduct the rulemaking action.
e. To comply with a federal statutory or regulatory requirement if such compliance is related to a condition for the receipt of federal funds or participation in any federal program.
f. To comply with a state statutory requirement.
g. To fulfill an obligation related to fees or any other action necessary to implement the State budget that is certified by the Governor's Office of Strategic Planning and Budgeting.
h. To promulgate a rule or other item that is exempt from Title 41, Chapter 6, Arizona Revised Statutes, pursuant to section 41-1005, Arizona Revised Statutes.
i. To address matters pertaining to the control, mitigation, or eradication of waste, fraud, or abuse within an agency or wasteful, fraudulent, or abusive activities perpetrated against an agency.
j. To eliminates rules that are antiquated, redundant or otherwise no longer necessary for the operation of state government.
3. For the purposes of this Order, the term "State agencies," includes without limitation, all executive departments, agencies, offices, and all state boards and commissions, except for: (a) any State agency that is headed by a single elected State official, (b) the Corporation Commission and (c) any board or commission established by ballot measure during or after the November 1998 general election. Those State agencies, boards and commissions excluded



from this Order are strongly encouraged to voluntarily comply with this Order in the context of their own rulemaking processes.

4. This Order does not confer any legal rights upon any persons and shall not be used as a basis for legal challenges to rules, approvals, permits, licenses or other actions or to any inaction of a State agency. For the purposes of this Order, “person,” “rule,” and “rulemaking” have the same meanings prescribed in Arizona Revised Statutes Section 41-1001.
5. This Executive Order expires on December 31, 2016.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona.

Douglas A. Ducey
GOVERNOR

DONE at the Capitol in Phoenix on this Eighth day of February in the Year Two Thousand and Fifteen and of the Independence of the United States of America the Two Hundred and Thirty-Fourth.

ATTEST:

Michele Reagan
Secretary of State

REGISTER INDEXES

The *Register* is published by volume in a calendar year (See “Information” in the front of each issue for a more detailed explanation).

Abbreviations for rulemaking activity in this Index include:

PROPOSED RULEMAKING

PN = Proposed new Section
PM = Proposed amended Section
PR = Proposed repealed Section
P# = Proposed renumbered Section

SUPPLEMENTAL PROPOSED RULEMAKING

SPN = Supplemental proposed new Section
SPM = Supplemental proposed amended Section
SPR = Supplemental proposed repealed Section
SP# = Supplemental proposed renumbered Section

FINAL RULEMAKING

FN = Final new Section
FM = Final amended Section
FR = Final repealed Section
F# = Final renumbered Section

SUMMARY RULEMAKING**PROPOSED SUMMARY**

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PSMR = Proposed Summary repealed Section
PSM# = Proposed Summary renumbered Section

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FSMM = Final Summary amended Section
FSMR = Final Summary repealed Section
FSM# = Final Summary renumbered Section

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PEM = Proposed Expedited amended Section
PER = Proposed Expedited repealed Section
PE# = Proposed Expedited renumbered Section

SUPPLEMENTAL EXPEDITED

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SPEM = Supplemental Proposed Expedited amended Section
SPER = Supplemental Proposed Expedited repealed Section
SPE# = Supplemental Proposed Expedited renumbered Section

FINAL EXPEDITED

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PXR = Proposed Exempt repealed Section
PX# = Proposed Exempt renumbered Section

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SPX# = Supplemental Proposed Exempt renumbered Section

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FX# = Final Exempt renumbered Section

EMERGENCY RULEMAKING

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E# = Emergency renumbered Section
EEXP = Emergency expired

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RC = Recodified

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RJ = Rejected by the Attorney General

TERMINATION OF RULES

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TM = Terminated proposed amended Section
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T# = Terminated proposed renumbered Section

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See also “emergency expired” under emergency rulemaking

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2016 RULES EFFECTIVE DATES CALENDAR

A.R.S. § 41-1032(A), as amended by Laws 2002, Ch. 334, § 8 (effective August 22, 2002), states that a rule generally becomes effective 60 days after the day it is filed with the Secretary of State's Office. The following table lists filing dates and effective dates for rules that follow this provision. Please also check the rulemaking Preamble for effective dates.

January		February		March		April		May		June	
Date Filed	Effective Date										
1/1	3/1	2/1	4/1	3/1	4/30	4/1	5/31	5/1	6/30	6/1	7/31
1/2	3/2	2/2	4/2	3/2	5/1	4/2	6/1	5/2	7/1	6/2	8/1
1/3	3/3	2/3	4/3	3/3	5/2	4/3	6/2	5/3	7/2	6/3	8/2
1/4	3/4	2/4	4/4	3/4	5/3	4/4	6/3	5/4	7/3	6/4	8/3
1/5	3/5	2/5	4/5	3/5	5/4	4/5	6/4	5/5	7/4	6/5	8/4
1/6	3/6	2/6	4/6	3/6	5/5	4/6	6/5	5/6	7/5	6/6	8/5
1/7	3/7	2/7	4/7	3/7	5/6	4/7	6/6	5/7	7/6	6/7	8/6
1/8	3/8	2/8	4/8	3/8	5/7	4/8	6/7	5/8	7/7	6/8	8/7
1/9	3/9	2/9	4/9	3/9	5/8	4/9	6/8	5/9	7/8	6/9	8/8
1/10	3/10	2/10	4/10	3/10	5/9	4/10	6/9	5/10	7/9	6/10	8/9
1/11	3/11	2/11	4/11	3/11	5/10	4/11	6/10	5/11	7/10	6/11	8/10
1/12	3/12	2/12	4/12	3/12	5/11	4/12	6/11	5/12	7/11	6/12	8/11
1/13	3/13	2/13	4/13	3/13	5/12	4/13	6/12	5/13	7/12	6/13	8/12
1/14	3/14	2/14	4/14	3/14	5/13	4/14	6/13	5/14	7/13	6/14	8/13
1/15	3/15	2/15	4/15	3/15	5/14	4/15	6/14	5/15	7/14	6/15	8/14
1/16	3/16	2/16	4/16	3/16	5/15	4/16	6/15	5/16	7/15	6/16	8/15
1/17	3/17	2/17	4/17	3/17	5/16	4/17	6/16	5/17	7/16	6/17	8/16
1/18	3/18	2/18	4/18	3/18	5/17	4/18	6/17	5/18	7/17	6/18	8/17
1/19	3/19	2/19	4/19	3/19	5/18	4/19	6/18	5/19	7/18	6/19	8/18
1/20	3/20	2/20	4/20	3/20	5/19	4/20	6/19	5/20	7/19	6/20	8/19
1/21	3/21	2/21	4/21	3/21	5/20	4/21	6/20	5/21	7/20	6/21	8/20
1/22	3/22	2/22	4/22	3/22	5/21	4/22	6/21	5/22	7/21	6/22	8/21
1/23	3/23	2/23	4/23	3/23	5/22	4/23	6/22	5/23	7/22	6/23	8/22
1/24	3/24	2/24	4/24	3/24	5/23	4/24	6/23	5/24	7/23	6/24	8/23
1/25	3/25	2/25	4/25	3/25	5/24	4/25	6/24	5/25	7/24	6/25	8/24
1/26	3/26	2/26	4/26	3/26	5/25	4/26	6/25	5/26	7/25	6/26	8/25
1/27	3/27	2/27	4/27	3/27	5/26	4/27	6/26	5/27	7/26	6/27	8/26
1/28	3/28	2/28	4/28	3/28	5/27	4/28	6/27	5/28	7/27	6/28	8/27
1/29	3/29	2/29	4/29	3/29	5/28	4/29	6/28	5/29	7/28	6/29	8/28
1/30	3/30			3/30	5/29	4/30	6/29	5/30	7/29	6/30	8/29
1/31	3/31			3/31	5/30			5/31	7/30		



July		August		September		October		November		December	
Date Filed	Effective Date										
7/1	8/30	8/1	9/30	9/1	10/31	10/1	11/30	11/1	12/31	12/1	1/30/17
7/2	8/31	8/2	10/1	9/2	11/1	10/2	12/1	11/2	1/1/17	12/2	1/31/17
7/3	9/1	8/3	10/2	9/3	11/2	10/3	12/2	11/3	1/2/17	12/3	2/1/17
7/4	9/2	8/4	10/3	9/4	11/3	10/4	12/3	11/4	1/3/17	12/4	2/2/17
7/5	9/3	8/5	10/4	9/5	11/4	10/5	12/4	11/5	1/4/17	12/5	2/3/17
7/6	9/4	8/6	10/5	9/6	11/5	10/6	12/5	11/6	1/5/17	12/6	2/4/17
7/7	9/5	8/7	10/6	9/7	11/6	10/7	12/6	11/7	1/6/17	12/7	2/5/17
7/8	9/6	8/8	10/7	9/8	11/7	10/8	12/7	11/8	1/7/17	12/8	2/6/17
7/9	9/7	8/9	10/8	9/9	11/8	10/9	12/8	11/9	1/8/17	12/9	2/7/17
7/10	9/8	8/10	10/9	9/10	11/9	10/10	12/9	11/10	1/9/17	12/10	2/8/17
7/11	9/9	8/11	10/10	9/11	11/10	10/11	12/10	11/11	1/10/17	12/11	2/9/17
7/12	9/10	8/12	10/11	9/12	11/11	10/12	12/11	11/12	1/11/17	12/12	2/10/17
7/13	9/11	8/13	10/12	9/13	11/12	10/13	12/12	11/13	1/12/17	12/13	2/11/17
7/14	9/12	8/14	10/13	9/14	11/13	10/14	12/13	11/14	1/13/17	12/14	2/12/17
7/15	9/13	8/15	10/14	9/15	11/14	10/15	12/14	11/15	1/14/17	12/15	2/13/17
7/16	9/14	8/16	10/15	9/16	11/15	10/16	12/15	11/16	1/15/17	12/16	2/14/17
7/17	9/15	8/17	10/16	9/17	11/16	10/17	12/16	11/17	1/16/17	12/17	2/15/17
7/18	9/16	8/18	10/17	9/18	11/17	10/18	12/17	11/18	1/17/17	12/18	2/16/17
7/19	9/17	8/19	10/18	9/19	11/18	10/19	12/18	11/19	1/18/17	12/19	2/17/17
7/20	9/18	8/20	10/19	9/20	11/19	10/20	12/19	11/20	1/19/17	12/20	2/18/17
7/21	9/19	8/21	10/20	9/21	11/20	10/21	12/20	11/21	1/20/17	12/21	2/19/17
7/22	9/20	8/22	10/21	9/22	11/21	10/22	12/21	11/22	1/21/17	12/22	2/20/17
7/23	9/21	8/23	10/22	9/23	11/22	10/23	12/22	11/23	1/22/17	12/23	2/21/17
7/24	9/22	8/24	10/23	9/24	11/23	10/24	12/23	11/24	1/23/17	12/24	2/22/17
7/25	9/23	8/25	10/24	9/25	11/24	10/25	12/24	11/25	1/24/17	12/25	2/23/17
7/26	9/24	8/26	10/25	9/26	11/25	10/26	12/25	11/26	1/25/17	12/26	2/24/17
7/27	9/25	8/27	10/26	9/27	11/26	10/27	12/26	11/27	1/26/17	12/27	2/25/17
7/28	9/26	8/28	10/27	9/28	11/27	10/28	12/27	11/28	1/27/17	12/28	2/26/17
7/29	9/27	8/29	10/28	9/29	11/28	10/29	12/28	11/29	1/28/17	12/29	2/27/17
7/30	9/28	8/30	10/29	9/30	11/29	10/30	12/29	11/30	1/29/17	12/30	2/28/17
7/31	9/29	8/31	10/30			10/31	12/30			12/31	3/1/17



REGISTER PUBLISHING DEADLINES

The Secretary of State's Office publishes the Register weekly. There is a three-week turnaround period between a deadline date and the publication date of the Register. The weekly deadline dates and issue dates are shown below. Council meetings and Register deadlines do not correlate. Also listed are the earliest dates on which an oral proceeding can be held on proposed rulemakings or proposed delegation agreements following publication of the notice in the Register.

Table with 3 columns: Deadline Date (paper only) Friday, 5:00 p.m., Register Publication Date, and Oral Proceeding may be scheduled on or after. Rows list dates from June 10, 2016 to December 30, 2016.



GOVERNOR’S REGULATORY REVIEW COUNCIL DEADLINES

The following deadlines apply to all Five-Year-Review Reports and any adopted rule submitted to the Governor’s Regulatory Review Council. Council meetings and Register deadlines do not correlate. We publish these deadlines as a courtesy.

All rules and Five-Year Review Reports are due in the Council office by noon of the deadline date. The Council’s office is located at 100 N. 15th Ave., Suite 402, Phoenix, AZ 85007. For more information, call (602) 542-2058 or visit www.grrc.state.az.us.

GOVERNOR’S REGULATORY REVIEW COUNCIL DEADLINES FOR 2016

DEADLINE TO BE PLACED ON COUNCIL AGENDA	FINAL MATERIALS DUE FROM AGENCIES	DATE OF COUNCIL STUDY SESSION	DATE OF COUNCIL MEETING
November 17, 2015	December 18, 2015	December 29, 2015	January 5, 2016
December 21, 2015	January 15, 2016	January 26, 2016	February 2, 2016
January 19, 2016 (Tuesday)	February 12, 2016	February 23, 2016	March 1, 2016
February 16, 2016 (Tuesday)	March 18, 2016	March 29, 2016	April 5, 2016
March 21, 2016	April 15, 2016	April 26, 2016	May 5, 2016
April 18, 2016	May 20, 2016	June 1, 2016 (Wednesday)	June 7, 2016
May 23, 2016	June 17, 2016	June 28, 2016	July 6, 2016 (Wednesday)
June 20, 2016	July 15, 2016	July 26, 2016	August 2, 2016
July 18, 2016	August 19, 2016	August 30, 2016	September 7, 2016 (Wednesday)
August 22, 2016	September 16, 2016	September 27, 2016	October 4, 2016
September 19, 2016	October 14, 2016	October 25, 2016	November 1, 2016
October 17, 2016	November 18, 2016	November 29, 2016	December 6, 2016
November 21, 2016	December 16, 2016	December 28, 2016 (Wednesday)	January 4, 2017 (Wednesday)

*Materials must be submitted by **noon** on dates listed as a deadline for placement on a particular agenda. Placement on a particular agenda is not guaranteed.