



PROPOSED

State Implementation Plan Revision

Miami SO₂ Nonattainment Area
Demonstrating Compliance with
Clean Air Act Sections 110(l) and 193
for the
2010 SO₂ National Ambient
Air Quality Standards

Air Quality Division
November 13, 2019

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Completeness Criteria (40 C.F.R. Part 51, Appendix V, § 2.0)

Appendix V § 2.1 - Administrative Materials

(a) A formal signed, stamped, and dated letter of submittal from the Governor or his designee, requesting EPA approval of the plan or revision thereof (hereafter “the plan”). If electing to submit a paper submission with a copy in electronic version, the submittal letter must verify that the electronic copy provided is an exact duplicate of the paper submission.

See the cover letter for this SIP submission [TBD] and attached delegation of authority from Misael Cabrera, Director of ADEQ, to Daniel C _____, Director of the ADEQ Air Quality Division, authorizing Daniel C _____ to perform any act the ADEQ Director is authorized to perform under the state air quality statutes, including the submission of SIPs to EPA.

(b) Evidence that the State has adopted the plan in the State code or body of regulations; or issued the permit, order, consent agreement (hereafter “document”) in final form. That evidence shall include the date of adoption or final issuance as well as the effective date of the plan, if different from the adoption/issuance date.

As described in greater detail in section 1, this SIP submission consists of revisions to ADEQ’s New Source Review (NSR) program for major sources designed to cure the deficiencies identified in EPA’s Limited Approval/Limited Disapproval of the 2012 Arizona NSR SIP Revision.

The Notice of Final Rulemaking (NFRM) for the NSR revisions, published in the Arizona Administrative code on February 10, 2017, is attached in Appendix B. Under ARS § 49- 1013(A)(9), included in Appendix D, the AAR is the official Arizona publication for final rules.

In addition, Appendix D includes (1) the certificate of approval of the NFRM by the Governor’s Regulatory Review Council (GRRC) and (2) a receipt from the Arizona Secretary of State showing that the approved NFRM was filed on January 20, 2017. Under ARS §§ 41-1052(A) and 41-1031(A) (included in Appendix D), approval by GRRC and filing with the Secretary of State are the final steps in the adoption of an Arizona rule. Under ARS § 41-1032(A), also attached in Appendix D, the final rules became final sixty (60) days after they were filed and time-stamped, or on March 21, 2017, according to the NFRM.

(c) Evidence that the State has the necessary legal authority under State law to adopt and implement the plan.

ADEQ is authorized to issue and administer NSR rules and to submit the rules for approval in the SIP under Arizona Revised Statutes sections 49-104, 49-106, 49-404, 49-406 and 49-425, which are attached as Appendix E.

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(d) A copy of the actual regulation, or document submitted for approval and incorporation by reference into the plan, including indication of the changes made (such as redline/strikethrough) to the existing approved plan, where applicable. The submission shall include a copy of the official State regulation/document, signed, stamped, and dated by the appropriate State official indicating that it is fully enforceable by the State. The effective date of any regulation/document contained in the submission shall, whenever possible, be indicated in the regulation/document itself; otherwise the State should include a letter signed, stamped, and dated by the appropriate State official indicating the effective date. If the regulation/document provided by the State for approval and incorporation by reference into the plan is a copy of an existing publication, the State submission should, whenever possible, include a copy of the publication cover page and table of contents.

The regulations submitted for approval and incorporation by reference into the SIP are attached as Appendix A. The rulemaking for the 2017 amendments to the regulations, which shows the changes made to the rules approved into the existing plan, is attached as Appendix B.

(e) Evidence that the State followed all of the procedural requirements of the State's laws and constitution in conducting and completing the adoption/issuance of the plan.

[TBD]

(f) Evidence that public notice was given of the proposed change consistent with procedures approved by EPA, including the date of publication of such notice.

[TBD]

(g) Certification that public hearing(s) were held in accordance with the information provided in the public notice and the State's laws and constitution, if applicable and consistent with the public hearing requirements in 40 CFR 51.102.

[TBD]

(h) Compilation of public comments and the State's response thereto.

[TBD]

Appendix V § 2.1 - Technical Support

(a) Identification of all regulated pollutants affected by the plan.

This supplement pertains to sulfur dioxide (SO₂).

(b) Identification of the locations of affected sources including the EPA attainment/nonattainment designation of the locations and the status of the attainment plan for the affected areas(s).

This supplement applies to the Freeport McMoRan Miami Smelter located in Globe, Arizona.

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(c) Quantification of the changes in plan allowable emissions from the affected sources; estimates of changes in current actual emissions from affected sources or, where appropriate, quantification of changes in actual emissions from affected sources through calculations of the differences between certain baseline levels and allowable emissions anticipated as a result of the revision.

Not applicable.

(d) The State's demonstration that the national ambient air quality standards, prevention of significant deterioration increments, reasonable further progress demonstration, and visibility, as applicable, are protected if the plan is approved and implemented. For all requests to redesignate an area to attainment for a national primary ambient air quality standard, under section 107 of the Act, a revision must be submitted to provide for the maintenance of the national primary ambient air quality standards for at least 10 years as required by section 175A of the Act.

Not applicable.

(e) Modeling information required to support the proposed revision, including input data, output data, models used, justification of model selections, ambient monitoring data used, meteorological data used, justification for use of offsite data (where used), modes of models used, assumptions, and other information relevant to the determination of adequacy of the modeling analysis.

Not applicable.

(f) Evidence, where necessary, that emission limitations are based on continuous emission reduction technology.

Not applicable.

(g) Evidence that the plan contains emission limitations, work practice standards and recordkeeping/reporting requirements, where necessary, to ensure emission levels.

Not applicable.

(h) Compliance/enforcement strategies, including how compliance will be determined in practice.

Not applicable.

(i) Special economic and technological justifications required by any applicable EPA policies, or an explanation of why such justifications are not necessary.

Not applicable.

1 Purpose

The Arizona Department of Environmental Quality (ADEQ) submitted an attainment plan and associated rules for the Miami SO₂ Nonattainment Area to the U.S. Environmental Protection Agency (EPA) in March and April 2017, respectively. Arizona Administrative Code (A.A.C.) R18-2-C1302 provides emissions limitations, monitoring, recordkeeping, and reporting requirements for the Freeport-McMoRan Miami Inc. (FMMI) Miami Smelter to ensure attainment of the 2010 Sulfur Dioxide (SO₂) National Ambient Air Quality Standards (NAAQS). The Miami SO₂ attainment plan for the 2010 SO₂ NAAQS contains the rules, attainment demonstration, and addresses contingency measures, and additional Clean Air Act (CAA) requirements for nonattainment areas. EPA approved R18-2-C1302 in November 2018¹ and the SIP revision in March 2019².

R18-2-C1302 is intended to replace the EPA-approved SIP rules addressing the 1971 SO₂ NAAQS for the Miami area.³ The rules for the 1971 standard are in Article 7 of the A.A.C., specifically R18-2-715, R18-2-715.01, and R18-2-715.02. To ensure continued implementation of these rules until they were subsumed by new EPA-approved SIP rules associated with the 2010 SO₂ NAAQS, ADEQ included transitional provisions in R18-2-715, R18-2-715.01, and R18-2-715.02 to clarify that the relevant 1971 SIP rules would continue in effect until the new 2010 SIP rules (i.e., R18-2-C1302) became effective for the FMMI Miami Smelter.

As noted above EPA approved both rules applicable to the FMMI Miami Smelter and the Miami SO₂ attainment plan. It has also approved the transitional provision in R18-2-715.02; however, it has not acted on the transitional provisions in R18-2-715 and R18-2-715.01. This has created an inconsistency between the EPA-approved SIP rules and ADEQ's rules, also referred to as a "SIP gap." In this instance, the SIP gap means that the FMMI Miami Smelter must comply with the SIP rules for both the 1971 and 2010 NAAQS. The result is that the FMMI Miami Smelter is subject to burdensome and duplicative regulatory requirements for the 1971 SO₂ NAAQS that no longer serve a purpose. To eliminate the SIP gap, ADEQ is requesting withdrawal of R18-2-715(F)(2) and R18-2-715(H) from the Arizona Applicable SIP. These subsections apply only to the FMMI Miami Smelter and withdrawing them from the SIP will eliminate the facility's obligation to comply with the 1971 SO₂ NAAQS emissions limits for the FMMI Miami Smelter in addition to monitoring and compliance requirements associated with those specific limits.

Section 110(l) of the CAA provides that EPA shall not approve a SIP revision if it interferes with attainment, reasonable further progress, or other CAA requirements.

"Each revision to an implementation plan submitted by a State under this Act shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171), or any other applicable requirement of this Act."

In addition, CAA § 193 prohibits the modification of a control, or a control requirement, in effect or required to be adopted before November 15, 1990 in any nonattainment area unless such a modification ensures equivalent or greater emission reductions.

¹ 83 FR 56736 (Nov. 14, 2018).

² 84 FR 8813 (Mar. 12, 2019).

³ EPA, *Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions*, at 46 (Apr. 23, 2014).

“Each regulation, standard, rule, notice, order and guidance promulgated or issued by the Administrator under this Act, as in effect before the date of the enactment of the Clean Air Act Amendments of 1990 shall remain in effect according to its terms, except to the extent otherwise provided under this Act, inconsistent with any provision of this Act, or revised by the Administrator. No control requirement in effect, or required to be adopted by an order, settlement agreement, or plan in effect before the date of the enactment of the Clean Air Act Amendments of 1990 in any area which is a nonattainment area for any air pollutant may be modified after such enactment in any manner unless the modification insures equivalent or greater emission reductions of such air pollutant.”

This SIP revision submitted by ADEQ demonstrates that the new SO₂ rules (i.e., R18-2-C1302) applicable to the FMMI Miami Smelter and EPA-approved SIP provisions for the Miami 2010 SO₂ NAA provide a greater level of emission reductions than the SIP rules associated with the 1971 SO₂ NAAQS (i.e. R18-2-715, R18-2-715.01, and R18-2-715.02). As a result, substituting the SIP rules associated with the 1971 SO₂ NAAQS with the new SO₂ rules and EPA-approved SIP provisions for the 2010 SO₂ NAAQS ensures equivalent or greater emissions reductions (in accordance with CAA § 193) and will not interfere with any requirement concerning attainment and reasonable further progress, or any other applicable CAA requirement (in accordance with CAA § 110(l)). A detailed analysis follows.

2 Background

In 2006 EPA initiated a review of the air quality criteria for oxides of sulfur and the 1971 SO₂ primary NAAQS⁴. Taking into consideration available literature, technical information, and scientific recommendations, EPA proposed that the 24-hour and annual 1971 SO₂ NAAQS were not adequate to protect public health with a satisfactory margin of safety against respiratory problems associated with short-term SO₂ exposures.⁵ On June 22, 2010 EPA promulgated the new 2010 SO₂ NAAQS that is more stringent than the 1971 standard. The 2010 SO₂ NAAQS established a new short-term primary SO₂ standard with a 1-hour (daily maximum) averaging time and a form defined as the 3-year average of the 99th percentile of the yearly distribution of 1-hour daily maximum SO₂ concentrations, and a level of 75 ppb.⁶

In the 2010 SO₂ NAAQS final rule, EPA determined that the 1971 24-hour and annual primary SO₂ standard will remain in effect for at least one year following the effective date of the initial area designations before being revoked under 40 CFR 50.4(e). Therefore, SO₂ areas with EPA-approved attainment and maintenance SIPs for the 1971 SO₂ NAAQS are enforceable under that standard until they are subsumed by any new EPA approved SIPs for the 2010 SO₂ NAAQS.⁷ This would ensure that both the new nonattainment NSR requirements and the general conformity requirements for a revised standard are in place so that there will be no gap in the public health protections provided by these two programs.

⁴ 71 FR 28023 (May 15, 2006).

⁵ 74 FR 64810 (Dec. 8, 2009).

⁶ 75 FR 35520 (June 22, 2010).

⁷ EPA, *Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions*, at 46 (Apr. 23, 2014).

3 Regulatory History of the Miami SO₂ Nonattainment Area

The Miami SO₂ NAA was initially designated under the 1971 SO₂ NAAQS in March 1978 and encompassed all of Gila County.⁸ On April 10, 1979 the boundaries were revised and the total nonattainment area was reduced to nine townships in and around Miami, Arizona and six adjacent townships were designated as unclassified.⁹ ADEQ submitted the *Miami Sulfur Dioxide Nonattainment Area State Implementation and Maintenance Plan* for the 1971 SO₂ NAAQS to EPA in June 2002. On January 24, 2007 EPA approved the state's submittal in a direct final action and re-designated the area to attainment for the 1971 SO₂ standard.¹⁰

After promulgation of the 2010 SO₂ NAAQS, ADEQ developed a boundary recommendation per CAA requirements. ADEQ recommended classifying the existing SO₂ Miami planning area as nonattainment under the new NAAQS. The Governor's Office submitted the recommendation to EPA on April 25, 2011. EPA agreed with Arizona's recommendation, and the Miami area was designated as nonattainment for the 2010 SO₂ NAAQS, effective October 4, 2013.¹¹ The current boundaries of the nonattainment and unclassified areas are codified at 40 CFR § 81.303.

4 Compliance with CAA section 110(l) and 193

CAA Section 110(l) states that EPA will not approve a SIP revision if it interferes with attainment, reasonable further progress, or other CAA requirements. In addition, CAA section 193 prohibits the modification of any SIP-approved control requirement in effect before November 15, 1990 in a nonattainment area, unless the modification ensures equivalent or greater emission reductions of the relevant pollutant(s). The control strategies in the 2017 Miami SO₂ attainment plan are intended to subsume those contained in the *Miami Sulfur Dioxide Nonattainment Area State Implementation and Maintenance Plan* submitted to EPA in June 2002.¹² The 2017 attainment plan includes an analysis of the control strategies showing that implementation of the new control technology will reduce SO₂ emissions in order to comply with the new rule and ensure attainment of the 2010 SO₂ NAAQS. The following demonstration shows that withdrawing R18-2-715(F)(2) and R18-2-715(H) from the Arizona Applicable SIP will comply with CAA sections 110(l) and 193.

The primary control measures for the nonattainment area are the rules that limit emissions of SO₂ from smelting operations at the FMMI Miami Smelter. A.A.C. R18-2-715, R18-2-715.01, and R18-2-715.02 contain the emissions limits and other requirements for the FMMI Miami Smelter to ensure attainment of the 1971 SO₂ NAAQS. After the SO₂ NAAQS was revised in 2010 ADEQ developed R18-2-C1302 (applicable only to the FMMI Miami Smelter) to ensure attainment of the more stringent revised SO₂ NAAQS as well as to comply with other necessary CAA requirements, such as monitoring, record-keeping and reporting.

ADEQ submitted revisions to R18-2-715, R18-2-715.01, and R18-2-715.02 concurrently with R18-2-C1302 for the FMMI Miami Smelter. These revisions clarify references to other sections within each of these

⁸ 43 FR 8968 (Mar. 3, 1978).

⁹ 44 FR 21261 (Apr. 10, 1979).

¹⁰ 71 FR 3061 (Jan. 24, 2007).

¹¹ 78 FR 47191 (Aug. 5, 2013).

¹² See EPA, *Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions*, at 46 (Apr. 23, 2014).

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rules and provide a “sunset” provision to expire the 1971 SO₂ NAAQS regulations upon the effective date of the new regulations. EPA approved portions of R18-2-715 in 1983¹³ and the entirety of R18-2-715.01 and R18-2-715.02 in 2004¹⁴. In 2014 EPA approved revisions to paragraphs (F), (G), and (H) in R18-2-715.¹⁵ Paragraphs (F) and (H) of R18-2-715 contain the SO₂ emission limits for the FMMI Miami Smelter.

The emissions limits in R18-2-C1302 (implementing the 2010 SO₂ NAAQS) are more stringent than those in R18-2-715. The 30-day rolling average emission limit of 142.45 lb/hr in R18-2-C1302, which covers both stack and fugitive emissions, is more stringent than the annual average limit of 2,420 lb/hr for combined stack and fugitive emissions in R18-2-715(H). The new limit in R18-2-C1302 is more stringent than annual average emission limit of 604 lb/hr and three-hour limits of 712 - 8,678 lb/hr for stack emissions in R18-2-715(F)(2). See Table 1 below for a comparison between the rules for the 1971 standard and the 2010 SO₂ NAAQS. The more stringent limit will result in greater emissions reductions than R18-2-715. According to EPA guidance a State may remove a measure from the SIP and substitute it with another measure that achieves equivalent or greater emissions reductions and “as long as the status quo in air quality is preserved, noninterference is demonstrated.”¹⁶ If emissions reductions removed from the SIP are replaced with new control measures that achieve equivalent or greater emissions reductions, the SIP revision will not interfere with the area’s ability to continue to attain or maintain the affected NAAQS or other CAA requirements.¹⁷ Therefore, given that EPA has already approved R18-2-C1302 as part of the SIP, withdrawal of R18-2-715(F)(2) and R18-2-715(H) from the SIP will comply with CAA sections 110(l) and 193.

Table-1 Rule Comparison Table

NAAQS	Rule Citation	Combined Stack & Fugitive Emissions	Stack (only) Emissions
2010 SO ₂	R18-2-C1302	142.45 lbs/hr (30-day rolling avg.)	--
1971 SO ₂	R18-2-715(H)	2420 lbs/hr (annual avg.)	604 lbs/hr (annual avg.)
	R18-2-715(F)(2)	--	712 – 8678 lbs/hr (3hr limit)

In addition to the more stringent emissions limit, R18-2-C1302 contains requirements for monitoring, recordkeeping, and reporting of emissions as well as monitor system compliance. The rule also contains a provision for FMMI to develop and submit to EPA an Operations and Maintenance (O&M) Plan that contains requirements for monitoring, calibration, and maintenance that further supports the enforceability of R18-2-C1302.

¹³ 48 FR 1717 (Jan. 14, 1983).

¹⁴ 69 FR 63321 (Nov. 1, 2004).

¹⁵ 79 FR 56655 (Sep. 23, 2014).

¹⁶ EPA, *Demonstrating Noninterference under Section 110(l) of the Clean Air Act when Revising a State Implementation Plan*, at 6 (June 8, 2005).

¹⁷ *Id.* at 8 (June 8, 2005).

5 Conclusion

Under section 110(l) of the CAA, EPA will not approve a SIP revision if it interferes with attainment, reasonable further progress, or other CAA requirements. Under section 193 of the CAA, a modification of any SIP-approved control requirement in effect before November 15, 1990, requires that the modification ensure equivalent or greater emission reductions of the relevant pollutant(s). EPA has stated that if emissions reductions removed from the SIP are replaced with new control measures that achieve equivalent or greater emissions reductions, then the SIP revision will not interfere with the area's ability to continue to attain or maintain the affected NAAQS or other CAA requirements. Because the 2010 SO₂ SIP for the Miami Nonattainment Area and A.A.C. R18-2-C1302 have been approved by EPA, the planning and control requirements (i.e. A.A.C. R18-2-715(F)(2) and R18-2-715(H)) associated with the prior 24-hour and annual primary 1971 SO₂ NAAQS can be subsumed by the planning and control requirements (i.e. A.A.C R18-2-C1302) associated with the 2010 SO₂ NAAQS. Accordingly, the withdrawal of R18-2-715(F)(2) and R18-2-715(H) from the Arizona Applicable SIP will comply with CAA sections 110(l) and 193 as the emission limits in R18-2-C1302 (implementing the 2010 SO₂ NAAQS) are more stringent than those contained in R18-2-715 and will result in greater emissions reductions.