

**PROPOSED: MISSOURI STATE IMPLEMENTATION PLAN REVISION –
NONATTAINMENT AREA PLAN FOR THE 2010 1-HOUR SULFUR DIOXIDE
NATIONAL AMBIENT AIR QUALITY STANDARD –
JEFFERSON COUNTY SULFUR DIOXIDE NONATTAINMENT AREA**

The Missouri Department of Natural Resources' Air Pollution Control Program is proposing to revise the Missouri State Implementation Plan (SIP).

The main purpose of this SIP revision is to address Clean Air Act Amendments of 1990 (CAAA) section 172(c) and section 191(a) plan requirements as applicable to the Jefferson County 2010 1-Hour Sulfur Dioxide (SO₂) Nonattainment Area (NAA). The plan's main control strategy is the permanent shutdown of operations at the Doe Run Herculaneum primary lead smelter in December 2013, as required by federal consent decree. The plan also relies on new SO₂ emission limits for the Rush Island, Labadie and Meramec Energy Centers, which will be enforceable through a 2015 Consent Agreement between the Missouri Department of Natural Resources and Ameren Missouri. The 2015 Consent Agreement also includes provisions for Ameren Missouri to install and operate ambient SO₂ monitors and meteorological stations around its Rush Island plant.

This SIP revision also addresses CAAA required elements, including a reasonably available control measures (RACM) analysis, a reasonably available control technology (RACT) analysis, reasonable further progress (RFP) requirements and contingency requirements. Multiple air dispersion modeling scenarios were evaluated in the determination that the area will demonstrate compliance with the 2010 1-Hour SO₂ National Ambient Air Quality Standard no later than October 4, 2018.

The complete plan has not been reprinted in the briefing document due to its volume. The entire plan is available for review at the Missouri Department of Natural Resources' Air Pollution Control Program, 1659 East Elm Street, Jefferson City, Missouri 65101, (573) 751-4817. It is also available online at <http://dnr.mo.gov/env/apcp/stateplanrevisions.htm>

The following pages are included in the briefing document for reference:

- EXECUTIVE SUMMARY
- CONTROL STRATEGY
- CONCLUSION

If the commission adopts this plan, it will be the department's intention to submit it to the U.S. Environmental Protection Agency for inclusion in the Missouri State Implementation Plan.

EXECUTIVE SUMMARY

On June 22, 2010, the U.S. Environmental Protection Agency (EPA) established a new 1-hour sulfur dioxide (SO₂) primary National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb), based on the three-year average of the annual 99th percentile of 1-hour daily maximum concentrations (75 FR 35520; June 22, 2010). This new SO₂ standard replaces the previous 24-hour and annual primary SO₂ NAAQS promulgated in 1971 (36 FR 8187; April 30, 1971). Once EPA establishes or revises a NAAQS, EPA must designate as “nonattainment” those areas that violate or contribute to violations of the NAAQS pursuant to section 107(d) of the federal Clean Air Act Amendments of 1990 (CAAA).

On August 5, 2013, the EPA designated a portion of Jefferson County, Missouri as nonattainment for the 2010 SO₂ primary NAAQS, effective October 4, 2013, based on air quality data from 2007-2009 that indicated a violation of the NAAQS for the area containing the Doe Run Herculaneum primary lead smelter among other sources (78 FR 47191; August 5, 2013). This final rule is codified in 40 CFR §81.326 *Missouri*.

Per section 191(a) of the CAAA, Missouri is required to submit to the EPA a nonattainment area (NAA) State Implementation Plan (SIP) revision for SO₂ that demonstrates the NAA will reach attainment of the 2010 SO₂ primary NAAQS as expeditiously as practicable, but no later than five years from the date of the nonattainment designation.

The main purpose of this SIP revision is to address CAAA section 172(c) plan requirements as applicable to this nonattainment area. This SIP revision demonstrates attainment for the Jefferson County SO₂ Nonattainment Area using air dispersion modeling that includes the continuation and modification of existing control strategies as well as new emission limits and other requirements. Examples of required controls include the permanent shutdown of operations at the Doe Run primary lead smelter in Herculaneum (December 2013) and strengthened stack emission limitations for three Ameren Missouri Energy Center facilities.

The emission limits identified for this SIP revision will initially be permanent and enforceable through a 2015 Consent Agreement between the Missouri Department of Natural Resources (department) and Ameren Missouri.

This SIP revision also addresses CAAA required elements, including a reasonably available control measures (RACM) analysis, a reasonably available control technology (RACT) analysis, reasonable further progress (RFP) requirements and contingency requirements. Multiple modeling scenarios were evaluated in the determination that the area will demonstrate NAAQS compliance.

6. CONTROL STRATEGY

The NAA SIP should provide for attainment of the standard based on SO₂ emission reductions from control measures that are permanent and enforceable [section 110(a)(2)(A) of the CAAA]. Air agencies should consider all RACM/RACT. Section 172(c)(I) of the CAAA provides that such plan shall provide for the implementation of all RACM as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of RACT) and shall provide for attainment of the primary NAAQS that can be implemented in light of the attainment needs for the affected area. In addition to the modeled control strategy of this NAA plan, the EPA has promulgated other regulatory requirements that it expects will yield substantial reductions in SO₂ emissions that will also contribute to timely attainment of the 2010 SO₂ NAAQS. While beneficial, the specific timing and SO₂ impacts of these other federal regulatory requirements are difficult to quantify and are not modeled or relied upon as part of this NAA plan.

Pursuant to section 172(c) of the CAAA, control measures must be permanent and federally enforceable to be used in a SIP to demonstrate attainment. Federal enforceability is demonstrated via a federally-approved SIP which may include a SIP-approved rule, construction permit and/or legally binding agreement such as a consent judgment or AOC. As previously mentioned, required control measures include the completion (in December 2013) of the main control strategy since permanent shutdown of operations at the Doe Run Herculaneum primary lead smelter. Other required control measures include strengthened stack emission limitations for three Ameren Missouri Energy Center facilities [section 6.1] with a compliance date of January 1, 2017, as well as new SO₂ monitoring network requirements for the Ameren Missouri - Rush Island Energy Center, as detailed in the 2015 Consent Agreement [Appendix J].

6.1. CONSENT AGREEMENT MEASURES

The new control measures needed for this proposed SIP revision to demonstrate attainment for the 2010 SO₂ NAAQS in the Jefferson County nonattainment area are made enforceable by the 2015 Consent Agreement [Appendix J].

The 2015 Consent Agreement includes required strengthened emission limits for three Ameren Missouri Energy Centers, an associated implementation schedule, as well as monitoring network requirements for the Ameren Missouri - Rush Island Energy Center.

As laid out in the EPA's SO₂ NAA guidance¹, longer averaging times (up to 30 days) may be applied to new emission limitations. Staff followed the methods outlined in the guidance to establish longer averaging time limits for the three Ameren Missouri Energy Centers. Staff used recent hourly recorded emissions (CEMS) to determine variability on the desired averaging time basis and applied the resulting ratio to the modeled compliant value to arrive at the final longer averaging time emission limit. Required SO₂ emission limits [Table 5] and requirements for

¹ EPA Guidance for 1-hour SO₂ Nonattainment Area SIP Submissions, released April 23, 2014. <http://www.epa.gov/oaqps001/sulfurdioxide/pdfs/20140423guidance.pdf>

reevaluating these limits based on additional ambient monitoring for attainment are both included in the 2015 Consent Agreement.

Table 1 – Ameren Missouri Energy Center Emission Limits

Source	Source ID	Emission Limit per Source Facility Wide Limit (Pounds SO₂ per Hour)	Averaging Time
Ameren Missouri — Labadie Energy Center	071003	40,837	24 hour block average
Ameren Missouri — Meramec Energy Center	1890010	7,371	24 hour block average
Ameren Missouri — Rush Island Energy Center	0990016	13,600	24 hour block average

10. CONCLUSION

The department hereby asserts that the State has met its CAAA section 191(a) obligation to submit a plan for the Jefferson County SO₂ Nonattainment Area SIP under the 2010 SO₂ NAAQS via this SIP submittal. Furthermore, this document demonstrates attainment of the 2010 SO₂ NAAQS through air dispersion modeling of an effective control strategy as well as complying with requirements of section 172(c) in regard to this standard for the Jefferson County SO₂ Nonattainment Area.