**6560-50-P**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R03-OAR-2017-0730; FRL-9986-63-Region 3]**

# Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Attainment Plan for the Allegheny, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) revision, submitted by the Pennsylvania Department of Environmental Protection (PADEP) on behalf of the Allegheny County Health Department (ACHD), to EPA on October 3, 2017, for the purpose of providing for attainment of the 2010 sulfur dioxide ($SO_2$) primary national ambient air quality standard (NAAQS) in the Allegheny, Pennsylvania $SO_2$ nonattainment area (hereafter referred to as the "Allegheny Area" or "Area"). The major sources of $SO_2$ in the Allegheny Area are the Harsco Metals facility and the facilities which comprise the U.S. Steel (USS) Mon Valley Works: Clairton, Edgar Thomson and Irvin Plants. The Pennsylvania SIP submission is an attainment plan which includes the base year emissions inventory, an analysis of the reasonably available control technology (RACT) and reasonably available control measure (RACM) requirements, enforceable emission limitations and control measures, a reasonable further progress (RFP) plan, a modeling demonstration of $SO_2$ attainment, a nonattainment New Source Review (NNSR) permit program, and contingency measures for the Allegheny Area. As part of approving the attainment plan, EPA is also

proposing to approve new $SO_2$ emission limits and associated compliance parameters for USS Clairton, Edgar Thomson and Irvin Plants and the Harsco Metals facility into the Allegheny County portion of the Pennsylvania SIP. This action is being taken under the Clean Air Act (CAA).

**DATES:** Written comments must be received on or before **[insert date 30 days after date of publication in the Federal Register]**.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R03-OAR-2017-0730 at http://www.regulations.gov, or via email to spielberger.susan@epa.gov. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the "FOR FURTHER INFORMATION CONTACT" section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit http://www2.epa.gov/dockets/commenting-epa-dockets.

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**SUPPLEMENTARY INFORMATION:**

**Table of Contents**



## I. Background for EPA's Proposed Action

On June 2, 2010, the EPA Administrator signed a final rule establishing a new $SO_2$ primary NAAQS as a 1-hour standard of 75 parts per billion (ppb), based on a 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations. *See* 75 FR 35520 (June 22, 2010), 40 CFR 50.17. This action also revoked the existing 1971 annual standard and 24-hour standards, subject to certain conditions.[1] EPA established the NAAQS based on significant evidence and numerous health studies demonstrating that serious health effects are associated with short-term exposures to $SO_2$ emissions ranging from 5 minutes to 24 hours with an array of

[1] With certain exceptions, EPA's June 22, 2010 final action revoked the two 1971 primary 24-hour standard of 140 ppb and the annual standard of 30 ppb because they were determined not to add additional public health protection given a 1-hour standard at 75 ppb. *See* 75 FR 35520. However, the secondary 3-hour $SO_2$ standard was retained. Because Allegheny County has already been designated for the 2010 1-hour $SO_2$ NAAQS and was neither designated nonattainment nor subject to a SIP call for the 1971 primary standards, these standards have been revoked for this area. *See* 40 CFR 50.4(e).

adverse respiratory effects including narrowing of the airways which can cause difficulty breathing (bronchoconstriction) and increased asthma symptoms. For more information regarding the health impacts of $SO_2$, please refer to the June 22, 2010, final rulemaking. *See* 75 FR 35520. Following promulgation of a new or revised NAAQS, EPA is required by the CAA to designate areas throughout the United States as attaining or not attaining the NAAQS; this designation process is described in section 107(d)(1) of the CAA. On August 5, 2013, EPA promulgated initial air quality designations for 29 areas for the 2010 $SO_2$ NAAQS (78 FR 47191), which became effective on October 4, 2013, based on violating air quality monitoring data for calendar years 2009–2011, where there was sufficient data to support a nonattainment designation.[2]

Effective on October 4, 2013, the Allegheny Area was designated as nonattainment for the 2010 $SO_2$ NAAQS for an area that encompasses the primary $SO_2$ emitting sources of the Harsco Metals facility and the USS Mon Valley Works (Clairton, Edgar Thomson and Irvin Plants). The Allegheny Area is comprised of a portion of Allegheny County which includes the City of Clairton, City of Duquesne, City of McKeesport, Borough of Braddock, Borough of Dravosburg, Borough of East McKeesport, Borough of East Pittsburgh, Borough of Elizabeth, Borough of Glassport, Borough of Jefferson Hills, Borough of Liberty, Borough of Lincoln, Borough of North Braddock, Borough of Pleasant Hills, Borough of Port Vue, Borough of Versailles, Borough of Wall, Borough of West Elizabeth, Borough of West Mifflin, Elizabeth Township, Forward Township, and North Versailles Township in Pennsylvania. The October 4, 2013 final designation triggered a requirement for Pennsylvania to submit a SIP revision with an attainment

[2] EPA is continuing its designation efforts for the 2010 $SO_2$ NAAQS. Pursuant to a court-order issued on March 2, 2015, by the U.S. District Court for the Northern District of California, EPA must complete the remaining designations for the rest of the country on a schedule that contains three specific deadlines. *Sierra Club, et al. v. Environmental Protection Agency*, 13–cv–03953–SI (2015).

plan for how the Area would attain the 2010 $SO_2$ NAAQS as expeditiously as practicable, but no later than October 4, 2018, in accordance with CAA sections 172 and 191-192.

For a number of areas, including the Allegheny Area, EPA published a notice on March 18, 2016, that Pennsylvania and other pertinent states had failed to submit the required $SO_2$ attainment plan by this submittal deadline. *See* 81 FR 14736. This finding initiated a deadline under CAA section 179(a) for the potential imposition of new source review and highway funding sanctions. However, pursuant to Pennsylvania's submittal of October 3, 2017, and EPA's subsequent letter dated October 6, 2017 to Pennsylvania finding the submittal complete and noting the stopping of the sanctions' deadline, these sanctions under section 179(a) will not be imposed as a consequence of Pennsylvania's having missed the original deadline. Additionally, under CAA section 110(c), the finding triggers a requirement that EPA promulgate a federal implementation plan (FIP) within two years of the effective date of the finding unless, by that time, the state has made the necessary complete submittal and EPA has approved the submittal as meeting applicable requirements.

**II. Requirements for $SO_2$ Nonattainment Area Plans**

Attainment plans must meet the applicable requirements of the CAA, and specifically CAA sections 172, 191, and 192. The required components of an attainment plan submittal are listed in section 172(c) of Title 1, part D of the CAA. The EPA's regulations governing nonattainment SIPs are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively. Soon after Congress enacted the 1990 Amendments to the CAA, EPA issued comprehensive guidance on SIPs, in a document entitled the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published at 57 FR 13498 (April 16, 1992) (General Preamble). Among other things, the

General Preamble addressed $SO_2$ SIPs and fundamental principles for SIP control strategies. *Id.* at 13545-49, 13567-68. On April 23, 2014, EPA issued recommended guidance (hereafter 2014 $SO_2$ Nonattainment Guidance) for how state submissions could address the statutory requirements for $SO_2$ attainment plans.[3] In this guidance, EPA described the statutory requirements for an attainment plan, which includes: an accurate base year emissions inventory of current emissions for all sources of $SO_2$ within the nonattainment area (172(c)(3)); an attainment demonstration that includes a modeling analysis showing that the enforceable emissions limitations and other control measures taken by the state will provide for expeditious attainment of the NAAQS (172(c)); RFP (172(c)(2)); implementation of RACM, including RACT (172(c)(1)); NNSR requirements (172(c)(5)); and adequate contingency measures for the affected area (172(c)(9)). A synopsis of these requirements is also provided in the notice of proposed rulemaking on the Illinois $SO_2$ nonattainment plans, published on October 5, 2017 at 82 FR 46434.

In order for EPA to fully approve a SIP as meeting the requirements of CAA sections 110, 172 and 191-192 and EPA's regulations at 40 CFR part 51, the SIP for the affected area needs to demonstrate to EPA's satisfaction that each of the aforementioned requirements have been met. Under CAA sections 110(l) and 193, EPA may not approve a SIP that would interfere with any applicable requirement concerning NAAQS attainment and RFP, or any other applicable requirement, and no requirement in effect (or required to be adopted by an order, settlement, agreement, or plan in effect before November 15, 1990) in any area which is a nonattainment area for any air pollutant, may be modified in any manner unless it insures equivalent or greater

[3] *See* "Guidance for 1-Hour $SO_2$ Nonattainment Area SIP Submissions" (April 23, 2014), available at https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf.

emission reductions of such air pollutant.

## III. Attainment Demonstration and Longer Term Averaging

CAA section 172(c)(1) directs states with areas designated as nonattainment to demonstrate that the submitted plan provides for attainment of the NAAQS. 40 CFR part 51, subpart G further delineates the control strategy requirements that SIPs must meet, and EPA has long required that all SIPs and control strategies reflect four fundamental principles of quantification, enforceability, replicability, and accountability. General Preamble, at 13567-68. $SO_2$ attainment plans must consist of two components: (1) emission limits and other control measures that assure implementation of permanent, enforceable and necessary emission controls, and (2) a modeling analysis which meets the requirements of 40 CFR part 51, Appendix W which demonstrates that these emission limits and control measures provide for timely attainment of the primary $SO_2$ NAAQS as expeditiously as practicable, but by no later than the attainment date for the affected area. In all cases, the emission limits and control measures must be accompanied by appropriate methods and conditions to determine compliance with the respective emission limits and control measures and must be quantifiable (i.e., a specific amount of emission reduction can be ascribed to the measures), fully enforceable (specifying clear, unambiguous and measurable requirements for which compliance can be practicably determined), replicable (the procedures for determining compliance are sufficiently specific and non-subjective so that two independent entities applying the procedures would obtain the same result), and accountable (source specific limits must be permanent and must reflect the assumptions used in the SIP demonstrations). EPA's 2014 $SO_2$ Nonattainment Guidance recommends that the emission limits established for the attainment demonstration be expressed as short-term average limits (e.g., addressing emissions averaged over one or three hours), but also describes the option to utilize emission limits with longer

averaging times of up to 30 days so long as the state meets various suggested criteria. *See* 2014 $SO_2$ Nonattainment Guidance, pp. 22 to 39. The guidance recommends that—should states and sources utilize longer averaging times—the longer term average limit should be set at an adjusted level that reflects a stringency comparable to the 1-hour average limit at the critical emission value shown to provide for attainment that the plan otherwise would have set.

The 2014 $SO_2$ Nonattainment Guidance provides an extensive discussion of EPA's rationale for positing that appropriately set comparably stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 $SO_2$ NAAQS. In evaluating this option, EPA considered the nature of the standard, conducted detailed analyses of the impact of use of 30-day average limits on the prospects for attaining the standard, and carefully reviewed how best to achieve an appropriate balance among the various factors that warrant consideration in judging whether a state's plan provides for attainment. *Id*. at pp. 22 to 39. *See* also *id*. at Appendices B, C, and D.

As specified in 40 CFR 50.17(b), the 1-hour primary $SO_2$ NAAQS is met at an ambient air quality monitoring site when the 3-year average of the annual $99^{th}$ percentile of daily maximum 1-hour average concentrations is less than or equal to 75 ppb. In a year with 365 days of valid monitoring data, the $99^{th}$ percentile would be the fourth highest daily maximum 1-hour value. The 2010 $SO_2$ NAAQS, including this form of determining compliance with the standard, was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in *Nat'l Envt'l Dev. Ass'n's Clean Air Project v. EPA*, 686 F.3d 803 (D.C. Cir. 2012). Because the standard has this form, a single exceedance does not create a violation of the standard. Instead, at issue is whether a source operating in compliance with a properly set longer term average could cause

exceedances, and if so the resulting frequency and magnitude of such exceedances, and in particular whether EPA can have reasonable confidence that a properly set longer term average limit will provide that the average fourth highest daily maximum value will be at or below 75 ppb. A synopsis of how EPA judges whether such plans "provide for attainment," based on modeling of projected allowable emissions and in light of the NAAQS' form for determining attainment at monitoring sites follows.

For $SO_2$ plans based on 1-hour emission limits, the standard approach is to conduct modeling using fixed emission rates. The maximum emission rate that would be modeled to result in attainment (i.e., in an "average year"[4] shows three, not four days with maximum hourly levels exceeding 75 ppb) is labeled the "critical emission value." The modeling process for identifying this critical emissions value inherently considers the numerous variables that affect ambient concentrations of $SO_2$, such as meteorological data, background concentrations, and topography. In the standard approach, the state would then provide for attainment by setting a continuously applicable 1-hour emission limit at this critical emission value.

EPA recognizes that some sources have highly variable emissions, for example due to variations in fuel sulfur content and operating rate, that can make it extremely difficult, even with a well-designed control strategy, to ensure in practice that emissions for any given hour do not exceed the critical emission value. EPA also acknowledges the concern that longer term emission limits can allow short periods with emissions above the "critical emissions value," which, if coincident with meteorological conditions conducive to high $SO_2$ concentrations, could in turn create the

[4] An "average year" is used to mean a year with average air quality. While 40 CFR 50 Appendix T provides for averaging three years of 99$^{th}$ percentile daily maximum values (e.g., the fourth highest maximum daily concentration in a year with 365 days with valid data), this discussion and an example below uses a single "average year" in order to simplify the illustration of relevant principles.

possibility of a NAAQS exceedance occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the critical emission value. However, for several reasons, EPA believes that the approach recommended in its guidance document suitably addresses this concern. First, from a practical perspective, EPA expects the actual emission profile of a source subject to an appropriately set longer term average limit to be similar to the emission profile of a source subject to an analogous 1-hour average limit. EPA expects this similarity because it has recommended that the longer term average limit be set at a level that is comparably stringent to the otherwise applicable 1-hour limit (reflecting a downward adjustment from the critical emissions value) and that takes the source's emissions profile into account. As a result, EPA expects either form of emission limit to yield comparable air quality.

Second, from a more theoretical perspective, EPA has compared the likely air quality with a source having maximum allowable emissions under an appropriately set longer term limit, as compared to the likely air quality with the source having maximum allowable emissions under the comparable 1-hour limit. In this comparison, in the 1-hour average limit scenario, the source is presumed at all times to emit at the critical emission level, and in the longer term average limit scenario, the source is presumed occasionally to emit more than the critical emission value but on average, and presumably at most times, to emit well below the critical emission value. In an "average year," compliance with the 1-hour limit is expected to result in three exceedance days (i.e., three days with hourly values above 75 ppb) and a fourth day with a maximum hourly value at 75 ppb. By comparison, with the source complying with a longer term limit, it is possible that additional exceedances would occur that would not occur in the 1-hour limit scenario (if emissions exceed the critical emission value at times when meteorology is conducive to poor air

quality). However, this comparison must also factor in the likelihood that exceedances that would be expected in the 1-hour limit scenario would not occur in the longer term limit scenario. This result arises because the longer term limit requires lower emissions most of the time (because the limit is set well below the critical emission value), so a source complying with an appropriately set longer term limit is likely to have lower emissions at critical times than would be the case if the source were emitting as allowed with a 1-hour limit.

As a hypothetical example to illustrate these points, suppose a source that always emits 1000 pounds of $SO_2$ per hour, which results in air quality at the level of the NAAQS (i.e., results in a design value of 75 ppb). Suppose further that in an "average year," these emissions cause the 5 highest maximum daily average 1-hour concentrations to be 100 ppb, 90 ppb, 80 ppb, 75 ppb, and 70 ppb. Then suppose that the source becomes subject to a 30-day average emission limit of 700 pounds per hour. It is theoretically possible for a source meeting this limit to have emissions that occasionally exceed 1000 pounds per hour, but with a typical emissions profile, emissions would much more commonly be between 600 and 800 pounds per hour. In this simplified example, assume a zero background concentration, which allows one to assume a linear relationship between emissions and air quality. (A nonzero background concentration would make the mathematics more difficult but would give similar results.) Air quality will depend on what emissions happen on what critical hours, but suppose that emissions at the relevant times on these 5 days are 800 pounds/hour (lb/hr), 1100 pounds per hour, 500 pounds per hour, 900 pounds per hour, and 1200 pounds per hour, respectively. (This is a conservative example because the average of these emissions, 900 pounds per hour, is well over the 30-day average emission limit.) These emissions would result in daily maximum 1-hour concentrations of 80 ppb, 99 ppb, 40 ppb, 67.5 ppb, and 84 ppb. In this example, the fifth day would have an

exceedance that would not otherwise have occurred, but the third day would not have an exceedance that otherwise would have occurred, and the fourth day would have been below, rather than at, 75 ppb. In this example, the fourth highest maximum daily concentration under the 30-day average would be 67.5 ppb.

This simplified example illustrates the findings of a more complicated statistical analysis that EPA conducted using a range of scenarios using actual plant data. As described in Appendix B of EPA's 2014 $SO_2$ Nonattainment Guidance, EPA found that the requirement for lower average emissions is highly likely to yield better air quality than is required with a comparably stringent 1-hour limit. Based on analyses described in Appendix B of its 2014 $SO_2$ Nonattainment Guidance, EPA expects that an emission profile with maximum allowable emissions under an appropriately set comparably stringent 30-day average limit is likely to have the net effect of having a *lower* number of exceedances and better air quality than an emission profile with maximum allowable emissions under a 1-hour emission limit at the critical emission value. This result provides a compelling policy rationale for allowing the use of a longer averaging period, in appropriate circumstances where the facts indicate this result can be expected to occur.

The question then becomes whether this approach, which is likely to produce a lower number of overall exceedances even though it may produce some unexpected exceedances above the critical emission value, meets the requirement in section 110(a)(1) and 172(c)(1) for SIPs to "provide for attainment" of the NAAQS. For $SO_2$, as for other pollutants, it is generally impossible to design a nonattainment plan in the present that will guarantee that attainment will occur in the future. A variety of factors can cause a well-designed attainment plan to fail and unexpectedly not result in attainment, for example if meteorology occurs that is more conducive to poor air quality than

was anticipated in the plan. Therefore, in determining whether a plan meets the requirement to provide for attainment, EPA's task is commonly to judge not whether the plan provides absolute certainty that attainment will in fact occur, but rather whether the plan provides an adequate level of confidence of prospective NAAQS attainment. From this perspective, in evaluating use of a 30-day average limit, EPA must weigh the likely net effect on air quality. Such an evaluation must consider the risk that occasions with meteorology conducive to high concentrations will have elevated emissions leading to exceedances that would not otherwise have occurred, and must also weigh the likelihood that the requirement for lower emissions on average will result in days not having exceedances that would have been expected with emissions at the critical emissions value. Additional policy considerations, such as in this case the desirability of accommodating real world emissions variability without significant risk of violations, are also appropriate factors for the EPA to weigh in judging whether a plan provides a reasonable degree of confidence that the plan will lead to attainment. Based on these considerations, especially given the high likelihood that a continuously enforceable limit averaged over as long as 30 days, determined in accordance with EPA's guidance, will result in attainment, EPA believes as a general matter that such limits, if appropriately determined, can reasonably be considered to provide for attainment of the 2010 $SO_2$ NAAQS.

The 2014 $SO_2$ Nonattainment Guidance offers specific recommendations for determining an appropriate longer term average limit. The recommended method starts with determination of the 1-hour emission limit that would provide for attainment (i.e., the critical emission value), and applies an adjustment factor to determine the (lower) level of the longer term average emission limit that would be estimated to have a stringency comparable to the otherwise necessary 1-hour emission limit. This method uses a database of continuous emission data reflecting the type of

control that the source will be using to comply with the SIP emission limits, which (if compliance requires new controls) may require use of an emission database from another source. The recommended method involves using these data to compute a complete set of emission averages, computed according to the averaging time and averaging procedures of the prospective emission limitation. In this recommended method, the ratio of the 99$^{th}$ percentile among these long term averages to the 99$^{th}$ percentile of the 1-hour values represents an adjustment factor that may be multiplied by the candidate 1-hour emission limit to determine a longer term average emission limit that may be considered comparably stringent.[5] The 2014 $SO_2$ Nonattainment Guidance also addresses a variety of related topics, such as the potential utility of setting supplemental emission limits, such as mass-based limits, to reduce the likelihood and/or magnitude of elevated emission levels that might occur under the longer term emission rate limit.

Preferred air quality models for use in regulatory applications are described in Appendix A of EPA's *Guideline on Air Quality Models (40 CFR part 51, Appendix W).*[6] In 2005, EPA promulgated the American Meteorological Society/Environmental Protection Regulatory Model (AERMOD) as the Agency's preferred near-field dispersion modeling for a wide range of regulatory applications addressing stationary sources (for example in estimating $SO_2$ concentrations) in all types of terrain based on extensive developmental and performance evaluation. Supplemental guidance on modeling for purposes of demonstrating attainment of the $SO_2$ standard is provided in Appendix A to the April 23, 2014 $SO_2$ nonattainment area SIP guidance document referenced above. Appendix A provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations.

[5] For example, if the critical emission value is 1000 pounds of $SO_2$ per hour, and a suitable adjustment factor is determined to be 70 percent, the recommended longer term average limit would be 700 pounds per hour.
[6] The EPA published revisions to the *Guideline on Air Quality Models on January 17, 2017*.

Consistency with the recommendations in this guidance is generally necessary for the attainment demonstration to offer adequately reliable assurance that the plan provides for attainment.

As stated previously, attainment demonstrations for the 2010 1-hour primary $SO_2$ NAAQS must demonstrate future attainment and maintenance of the NAAQS in the entire area designated as nonattainment (*i.e.*, not just at the violating monitor) by using air quality dispersion modeling (*See* Appendix W to 40 CFR part 51) to show that the mix of sources and enforceable control measures and emission rates in an identified area will not lead to a violation of the $SO_2$ NAAQS. For a short-term (*i.e.*, 1-hour) standard, EPA believes that dispersion modeling, using allowable emissions and addressing stationary sources in the affected area (and in some cases those sources located outside the nonattainment area which may affect attainment in the area) is technically appropriate, efficient and effective in demonstrating attainment in nonattainment areas because it takes into consideration combinations of meteorological and emission source operating conditions that may contribute to peak ground-level concentrations of $SO_2$.

The meteorological data used in the analysis should generally be processed with the most recent version of AERMOD Meteorological Preprocessor (AERMET). Estimated concentrations should include ambient background concentrations, should follow the form of the standard, and should be calculated as described in section 2.6.1.2 of the August 23, 2010 clarification memo on "Applicability of Appendix W Modeling Guidance for the 1-hr $SO_2$ National Ambient Air Quality Standard" (U. S. EPA, 2010a).

**IV. Pennsylvania's Attainment Plan Submittal for the Allegheny Area**

In accordance with section 172(c) of the CAA, the Pennsylvania attainment plan for the Allegheny County Area includes: (1) An emissions inventory for $SO_2$ for the plan's base year

(2011); (2) an attainment demonstration including analyses that locate, identify, and quantify sources of emissions contributing to violations of the 2010 $SO_2$ NAAQS as well as a dispersion modeling analysis of an emissions control strategy for the primary $SO_2$ sources (USS Clairton, Edgar Thomson and Irvin Plants and Harsco Metals) showing attainment of the $SO_2$ NAAQS by the October 4, 2018 attainment date; (3) a determination that the control strategy for the primary $SO_2$ source within the nonattainment areas constitutes RACM/RACT; (4) requirements for RFP toward attaining the $SO_2$ NAAQS in the Area; (5) contingency measures; (6) the assertion that Pennsylvania's existing SIP-approved NNSR program meets the applicable requirements for $SO_2$; and (7) the request that emission limitations and compliance parameters for Clairton, Edgar Thomson and Irvin Plants and Harsco Metals be incorporated into the SIP.

## V. EPA's Analysis of Pennsylvania's Attainment Plan Submittal for the Allegheny Area

Consistent with CAA requirements (*see* section 172), an attainment demonstration for a $SO_2$ nonattainment area must include a showing that the area will attain the 2010 $SO_2$ NAAQS as expeditiously as practicable. The demonstration must also meet the requirements of 40 CFR 51.112 and 40 CFR part 51, Appendix W, and include inventory data, modeling results, and emissions reductions analyses on which the state has based its projected attainment. EPA is proposing that the attainment plan submitted by Pennsylvania is sufficient, and EPA is proposing to approve the plan to ensure ongoing attainment.

### A. Pollutants Addressed

Pennsylvania's $SO_2$ attainment plan evaluates $SO_2$ emissions for the Allegheny Area comprised of a portion of Allegheny County that is designated nonattainment for the 2010 $SO_2$ NAAQS. There are no precursors to consider for the $SO_2$ attainment plan. $SO_2$ is a pollutant that arises

from direct emissions, and therefore concentrations are highest relatively close to the sources and much lower at greater distances due to dispersion. Thus, $SO_2$ concentration patterns resemble those of other directly emitted pollutants like lead, and differ from those of photochemically-formed (secondary) pollutants such as ozone. Pennsylvania's attainment plan appropriately considered $SO_2$ emissions for the Allegheny Area.

**B. Emissions Inventory Requirements**

States are required under section 172(c)(3) of the CAA to develop comprehensive, accurate and current emissions inventories of all sources of the relevant pollutant or pollutants in the nonattainment area. These inventories provide detailed accounting of all emissions and emissions sources by precursor or pollutant. In addition, inventories are used in air quality modeling to demonstrate that attainment of the NAAQS is as expeditious as practicable. The 2014 $SO_2$ Nonattainment Guidance provides that the emissions inventory should be consistent with the Air Emissions Reporting Requirements (AERR) at Subpart A to 40 CFR part 51.[7]

For the base year inventory of actual emissions, a "comprehensive, accurate and current" inventory can be represented by a year that contributed to the three-year design value used for the original nonattainment designation. The 2014 $SO_2$ Nonattainment Guidance notes that the base year inventory should include all sources of $SO_2$ in the nonattainment area as well as any sources located outside the nonattainment area which may affect attainment in the area. Pennsylvania appropriately elected to use 2011 as the base year. Actual emissions from all the sources of $SO_2$ in the Allegheny Area were reviewed and compiled for the base year emissions inventory requirement. The primary $SO_2$-emitting point sources located within the Allegheny

[7] The AERR at Subpart A to 40 CFR part 51 cover overarching Federal reporting requirements for the states to submit emissions inventories for criteria pollutants to EPA's Emissions Inventory System. EPA uses these submittals, along with other data sources, to build the National Emissions Inventory.

Area are the USS Mon Valley Works - Clairton, Edgar Thomson and Irvin Plants with $SO_2$ emissions in 2011 of 1468 tons per year (tpy), 1279 tpy, and 419 tpy, respectively. The Harsco Metals facility which is located on the Edgar Thomson plant property is the next largest source with 7 tpy of $SO_2$ emissions in 2011. A more detailed discussion of the emissions inventory for the Allegheny Area and EPA's analysis of the Area can be found in Pennsylvania's October 3, 2017 submittal as well as the emissions inventory Technical Support Document (TSD), which can be found under Docket ID No. EPA-R03-OAR-2017-0730 and which is available online at www.regulations.gov.

Table 1 shows the level of emissions, expressed in tpy, in the Allegheny Area for the 2011 base year by emissions source category.

**Table 1. 2011 Base Year $SO_2$ Emissions Inventory for the Allegheny Area**

| Emission Source Category | $SO_2$ Emissions (tpy) |
|---|---|
| Point | 3249.20 |
| Area | 158.85 |
| Non-road | 1.17 |
| On-road | 8.11 |
| Total | 3417.33 |

EPA has evaluated Pennsylvania's 2011 base year emissions inventory for the Allegheny Area and has made the determination that this inventory was developed consistent with EPA's guidance. Therefore, pursuant to section 172(c)(3), EPA is proposing to approve Pennsylvania's 2011 base year emissions inventory for the Allegheny Area.

The attainment demonstration also provides for a projected attainment year inventory that includes estimated emissions for all emission sources of $SO_2$ which are determined to impact the nonattainment area for the year in which the Area is expected to attain the NAAQS.

Pennsylvania provided a 2018 projected emissions inventory for all known sources included in the 2011 base year inventory, and EPA finds Pennsylvania appropriately developed this inventory as discussed in the emissions inventory TSD. The projected 2018 emissions are shown in Table 2. Pennsylvania's submittal asserts that the $SO_2$ emissions are expected to decrease by approximately 618 tons, or 18%, by 2018 from the 2011 base year.[8] A detailed discussion of the projected emissions for the Allegheny Area and EPA's analysis of emissions can be found in Pennsylvania's October 3, 2017 submittal as well as in the emissions inventory TSD, which can be found under Docket ID No. EPA-R03-OAR-2017-0730 and online at www.regulations.gov.

**Table 2. 2018 Projected $SO_2$ Emission Inventory for the Allegheny Area**

| Emission Source Category | $SO_2$ Emissions (tpy) |
|---|---|
| Point | 2676.52 |
| Area | 119.18 |
| Non-road | 0.44 |
| On-road | 2.96 |
| Total | 2799.10 |

### C. Air Quality Modeling

The $SO_2$ attainment demonstration provides an air quality dispersion modeling analysis to demonstrate that control strategies chosen to reduce $SO_2$ source emissions will bring the Area into attainment by the statutory attainment date of October 4, 2018. The modeling analysis, which the state is to conduct in accordance with Appendix W to 40 CFR part 51 (EPA's Modeling Guidance), is used for the attainment demonstration to assess the control strategy for a nonattainment area and establish emission limits that will provide for attainment. In accordance

[8] Reductions in projected 2018 $SO_2$ emissions in the onroad, nonroad and nonpoint source categories can be attributed to lower sulfur content limits for gasoline and diesel fuels for the onroad and nonroad sector, and more stringent sulfur content limits on home heating oil and other distillate/residual fuel oils for the nonpoint sector which limits are included in the Pennsylvania SIP. Reductions in projected 2018 $SO_2$ emissions for point sources are a result of the limits discussed in the RACT/RACM section of this rulemaking.

with Appendix W, three years of prognostic meteorological data was used to simulate the dispersion of pollutant plumes from multiple point, area, or volume sources across the averaging times of interest. The modeling demonstration typically also relies on maximum allowable emissions from sources in the nonattainment area. Though the actual emissions are likely to be below the allowable emissions, sources have the ability to run at higher production rates or optimize controls such that emissions approach the allowable emissions limits. An attainment plan must provide for attainment under all allowable scenarios of operation for each source based on the maximum allowable emissions.

ACHD provided an analysis which was developed in accordance with EPA's Modeling Guidance and the 2014 $SO_2$ Nonattainment Guidance, and was prepared using the EPA dispersion modeling system, AERMOD. This modeling demonstration also utilized the Weather Research and Forecasting (WRF) model to generate prognostic meteorological data. EPA's Mesoscale Model Interface Program (MMIF) was used to extract the prognostic meteorological data which was processed using AERMET, a pre-processor to AERMOD, in accordance with 40 CFR Part 51. EPA notes that our most recent version of 40 CFR part 51 Appendix W allows for prognostic meteorological data to be used in AERMOD. The prognostic meteorological data was extracted and processed following the methodology outlined in EPA's updated Appendix W and other applicable guidance. In the particular circumstances in this Area, in which local topographical influences are likely to be channeling flows in a manner prone to yield different flows for different facilities in the Area, EPA believes that the prognostic meteorological data generated by ACHD are likely to provide a better characterization of winds in this Area than application of a single hourly wind speed and direction across the Area. EPA also conducted its own land use survey (using the methods of Auer), finding that about 70 percent (%) of the Area

within an area out to three kilometers from the main sources in the Area may be considered rural land use, which supports ACHD's use of rural dispersion coefficients in its modeling analysis. Further discussion of ACHD's development of these meteorological data and EPA's land use survey can be found in EPA's modeling TSD, which can be found under Docket ID No. EPA-R03-OAR-2017-0730.

ACHD characterized USS's Clairton Coke Works fugitive coke oven emissions using an alternative modeling technique, which shows significantly better model performance over the regulatory version of AERMOD. Given the high temperatures of these fugitive emissions, ACHD recognized that the plume rise and initial plume characteristics vary by hour reflecting hourly variations in meteorology in a manner that is not addressed in simple treatments of volume sources in AERMOD. Therefore, ACHD used an alternate method, using EPA's Buoyant Line and Point Source Model (BLP), to determine hourly values of these parameters. Since AERMOD does not provide for volume sources to have heat flux or otherwise to have plume rise, ACHD used hourly release heights reflecting the plume height for each hour's meteorology estimated by the BLP Plume Rise module. Similarly, ACHD used hourly values which characterize the initial width and height of the release based on hourly plume dimensions determined by BLP. Fugitive emissions were then included in AERMOD for each of the multiple volume sources used to represent the coke batteries in the Area by using volume sources with hourly release heights and initial dispersion coefficients determined in this manner, as contained in an hourly emission rate file. This alternative method is referred to as the BLP/AERMOD Hybrid approach.

As noted in ACHD's modeling protocol document (*See* Appendix A of Pennsylvania's October

3, 2017 submittal), the procedure for handling USS's coke oven fugitive emissions in the dispersion modeling analysis was initially developed and used for previous particulate matter smaller than 10 microns in diameter ($PM_{10}$) SIP work completed by ACHD and discussed in EPA Model Clearinghouse[9] Memos from 1991 through 1994 (91-III-12, 93-III-06, and 94-III-02). (*See* Modeling Protocol Addendum to Appendix A of Pennsylvania's October 3, 2017 submittal for more information on prior Model Clearinghouse memos). The original algorithms were developed for the ACHD $PM_{10}$ SIP workgroup in 1994 and are currently being used by ACHD with additional revisions to the BLP Plume Rise program. This method is considered an alternative model due to the inclusion of the BLP model within the AERMOD dispersion model system (starting with AERMOD version 15181) using the BUOYLINE source pathway keyword. ACHD began its SIP modeling development for the Area using AERMOD version 15181 then switched to version 1616r for its final modeling demonstration, which was the current regulatory version at the time of submittal. Use of an alternative model needs to be approved under section 3.2 of Appendix W – Guideline on Air Quality Models- with concurrence from EPA's Model Clearinghouse.

A demonstration in support of the use of the BLP/AERMOD Hybrid approach for source characterization of the coke oven fugitive emissions for $PM_{10}$ was undertaken by ACHD as part of its 2012 Annual Fine Particle Matter (particulate matter less than 2.5 microns in diameter, $PM_{2.5}$) attainment plan preparation. While the demonstration was used to support this approach with $PM_{10}$ (simulating dispersion of primary particulate matter), in AERMOD both $PM_{10}$ and

[9] EPA Model Clearinghouse is the central point of consultation and coordination within the EPA for reviewing the use of air quality models and analytical techniques for demonstrating compliance or attainment with the NAAQS in regulatory applications or implementation plans. All case-specific approvals of alternative models by an EPA Regional Office require consultation and concurrence by the Model Clearinghouse, per Section 3.2.2 of the *Guideline on Air Quality Models* (40 CFR Part 51 Appendix W).

$SO_2$ are treated as inert pollutants, therefore, they would have similar dispersion characteristics and are directly scalable and comparable. Thus, EPA finds that this approach is applicable for all primary pollutants including $SO_2$. ACHD prepared the analysis and submitted an alternative modeling request under section 3.2.2 (b)(2) and (d) of Appendix W to EPA Region 3's Regional Administrator on July 27, 2018. EPA staff have reviewed ACHD's analysis and found that the BLP/AERMOD Hybrid approach provides better model performance of the impacts from the coke oven fugitive emissions than the regulatory BUOYLINE source methodology in AERMOD. This result is consistent with the dispersion model performance analyses ACHD described in Appendix A-2 Modeling Protocol Addendum, G and I of Pennsylvania's October 3, 2017 submittal.

EPA's review and approval of ACHD's analysis supporting the use of the BLP/AERMOD Hybrid approach followed the EPA Model Clearinghouse concurrence process as prescribed in section 3.2 of Appendix W. Following receipt of ACHD's analysis on July 27, 2018, EPA Region 3 recommended approval of this alternative modeling approach to the EPA Model Clearinghouse on August 7, 2018. The EPA Model Clearinghouse concurred with Region 3's recommended approval on August 10, 2018. EPA Region 3 then approved the use of this alternative model by letter from its Regional Administrator to ACHD dated August 16, 2018. EPA is providing notice in this rulemaking proposal that an alternative modeling approach using the BLP/AERMOD Hybrid approach to simulate the fugitive coke oven battery emissions was used for ACHD's $SO_2$ attainment plan and that its use was approved by EPA. ACHD's request to use this alternative modeling approach, EPA Region 3's analysis of ACHD's request, and the EPA Model Clearinghouse concurrence is included in the docket for this rulemaking action and can be found under Docket ID No. EPA-R03-OAR-2017-0730 and online at

www.regulations.gov. EPA is taking public comment on proposing to approve the SIP based on the approved use of ACHD's alternative modeling approach.

The primary $SO_2$ sources included in the SIP modeling demonstration are the Harsco Metals facility and the three USS Mon Valley Works facilities – Clairton, Edgar Thomson and Irvin Plants. The modeling properly characterized source limits, local meteorological data, background concentrations, and provided an adequate model receptor grid to capture maximum modeled concentrations. Using the EPA conversion factor for the $SO_2$ NAAQS, the final modeled design value for the Allegheny Area (196.17 microgram per meter cubed, $\mu g/m^3$), is less than 75 ppb.[10] EPA has reviewed the modeling that Pennsylvania submitted to support the attainment demonstration for the Allegheny Area and has determined that the modeling is consistent with CAA requirements, Appendix W, and EPA's guidance for $SO_2$ attainment demonstration modeling as discussed above. Therefore, EPA is proposing to determine that the analysis demonstrates that the source limits used in the modeling demonstration show attainment with the 1-hour $SO_2$ NAAQS. EPA's analysis of the modeling is discussed in more detail in EPA's modeling TSD, which can be found under Docket ID No. EPA-R03-OAR-2017-0730 and online at www.regulations.gov for this rulemaking. EPA proposes to conclude that the modeling provided in the attainment plan shows that the Allegheny Area will attain the 2010 1-hour primary $SO_2$ NAAQS by the attainment date.

### D. RACM/RACT

CAA section 172(c)(1) requires that each attainment plan provide for the implementation of all

[10] The $SO_2$ NAAQS level is expressed in ppb, but AERMOD gives results in micro grams per cubic meter ($\mu g/m^3$). The conversion factor for $SO_2$ (at the standard conditions applied in the ambient SO2 reference method) is 1 ppb = approximately 2.619 $\mu g/m^3$. *See* Pennsylvania's $SO_2$ Round 3 Designations proposed TSD at https://www.epa.gov/sites/production/files/2017-08/documents/35_pa_so2_rd3-final.pdf.

reasonably available control measures (i.e., RACM) as expeditiously as practicable and shall provide for attainment of the NAAQS. EPA interprets RACM, including RACT, under section 172, as measures that a state determines to be both reasonably available and contribute to attainment as expeditiously as practicable "for existing sources in the area." In addition, CAA section 172(c)(6) requires plans to include enforceable emission limitations and control measures as may be necessary or appropriate to provide for attainment by the attainment date.

Pennsylvania's October 3, 2017 submittal discusses facility-specific control measures, namely $SO_2$ emission limits for Harsco Metals and for the USS Mon Valley Works facilities - Clairton, Edgar Thomson and Irvin Plants, that were developed through the air dispersion modeling submitted by ACHD. The modeling analysis is discussed in section IV.C. Air Quality Modeling of this proposed rulemaking and in the Modeling TSD. ACHD asserts that the combination of controls and the resulting emission limits at the three USS facilities and Harsco Metals is sufficient for the Allegheny Area to meet the $SO_2$ NAAQS and serve as RACT/RACM.

Controls at the Clairton and Edgar Thomson plants represent the majority of $SO_2$ reductions within the Allegheny Area. As noted by ACHD, the Clairton Plant is the largest coke plant in North America. The Clairton Plant operates 10 coke batteries and produces approximately 13,000 tons of coke per day along with approximately 225 million cubic feet of coke oven gas (COG). The COG is used as fuel at all of the Mon Valley Works facilities. At the Clairton Plant, ACHD explained in its attainment plan that upgrades to the 100 and 600 Vacuum Carbonate Units (VCUs) will reduce the content of hydrogen sulfide ($H_2S$) in the downriver COG utilized at all Mon Valley Works plants. The 100 VCU upgrade was completed in 2016 and the 600 VCU upgrade will add redundant controls for the downriver COG line. Full

operation of both upgraded units will be completed on or before October 4, 2018 as required by permit. Source monitoring to demonstrate continuous efficient operation of the Clairton VCU system is also required to be complete by October 4, 2018. In addition, a tail gas recycling project at the Shell Claus off-gas Treatment (SCOT) plant within the Clairton plant will reroute sulfur-rich gases back into the by-products facility at Clairton during planned and unplanned outages and will be completed on or before October 4, 2018 as required by permit.

In its modeling analysis, ACHD determined critical emission values (CEV) with an hourly average for $SO_2$ sources. However, based on the variability in sulfur content of the COG, ACHD determined that several sources warrant a limit with a longer-term averaging period. As discussed previously, EPA believes that establishment of emission rate limits with averaging periods longer than one hour may reasonably be found to provide for attainment if specified criteria recommended in EPA's 2014 $SO_2$ Nonattainment Guidance are met.

The objective of ACHD's analysis of the variability of COG sulfur content is to determine the adjustment factor that can be multiplied times the modeled CEVs to compute longer term limits that will require a comparable degree of control as would be required by 1-hour limits at the CEVs. EPA's 2014 $SO_2$ Nonattainment Guidance states that "…air agencies may determine that an area could attain through a control strategy that will not significantly change the emission distribution (as may be true, for example, for a strategy involving a switch to lower sulfur coal with similar sulfur content variability or for a strategy involving enhancement of existing control equipment). Where the control strategy does not significantly change the distribution, the source's current emission distribution may be the best indicator of the source's post-control emission distribution." In this case, the upgrades to the VCU unit at the USS Clairton plant

reduce the $H_2S$ content in the COG but are unlikely to cause significant changes in the distribution of emissions, except to the extent that installation of redundant sulfur capture systems is likely to reduce the frequency and magnitudes of emission spikes from the facilities burning this COG. ACHD used the most recent three years of operating data (2014-2016) available at the time of its analysis to analyze the variability in $H_2S$ content in the COG for the four primary COG process streams used to deliver fuel to the USS Mon Valley Works plants (Unit 1, Unit 2, A Line and B Line). All COG is produced and desulfurized at the Clairton plant and then distributed via pipeline to the other two plants. USS upgraded its COG sulfur removal systems in April 2016, therefore ACHD separately analyzed the 8 months of data post-control to compare whether the distribution of hydrogen sulfide ($H_2S$) content would be similar before and after controls. After extrapolating the post-control data, the distribution of $H_2S$ content is similar to the distribution before controls thus, ACHD concluded that the use of the full 3 years of data is representative of overall variability and, that these upgrades are not expected to have a significant effect on variability or on the degree of adjustment to yield a comparably stringent longer term average limit. Analyzing variability of fuel quality is not a direct means of analyzing the variability of emissions (which also factors in the variability of the quantity of fuel burned). On the other hand, the facilities at issue here have relatively stable operations, and a complete analysis would also factor in the degree to which the installation of redundant control systems reduces emission spikes and thereby reduces variability. For these reasons, EPA believes that ACHD's analysis should provide a reasonable approximation of the prospective variability of emissions following implementation of the controls in the attainment plan and a reasonable approximation of the degree of adjustment needed to determine the longer term limits that are comparably stringent to the 1-hour limits that would otherwise be established.

In accordance with the methods EPA recommended in Appendix C to its 2014 $SO_2$ Nonattainment Guidance, adjustment factors were determined from the variability in sulfur content in each line and were applied to the modeled CEV for the processes using that COG to determine an appropriate emission limit with a 30-day averaging period that is of comparable stringency to the 1-hour CEV. The 30-day average $SO_2$ emission limit adjustment factor is 0.717 for emission units burning COG from Unit 1 Line, 0.797 for units burning COG from Unit 2 Line, 0.848 for units burning COG from A Line, and 0.834 for units burning COG from B Line. As recommended in 2014 $SO_2$ Nonattainment Guidance, ACHD determined that for sources with a 30-day averaging period a supplementary 24-hour limit not to be exceeded for 3 consecutive days should be applied in order to limit the frequency and magnitude of occurrences of elevated emissions. Adjustment factors for 24-hour $SO_2$ emission limits were calculated for each line and applied to the modeled CEV to determine the emission limit with a 24-hour averaging period. The 24-hour average $SO_2$ emission limit adjustment factors for emission units burning COG are 0.914 for Unit 1 Line COG, 0.898 for Unit 2 Line COG, 0.927 for A Line COG, and 0.944 for B Line COG.

Table 3 shows the modeled CEV, the 30-day and 24-hour average adjustment factors and the resulting comparable 30-day and 24-hour average $SO_2$ emission rate, calculated by applying the adjustment factor to the critical emissions value, for units affected by COG sulfur reduction projects and units partially affected by the COG controls in combination with other fuels at the Clairton plant. Table 3 also shows new $SO_2$ limits for units taking reductions to their allowable limits at the Clairton plant.

**Table 3. $SO_2$ Emission Limits for USS Clairton Plant**

| Process | CEV (lbs/hr) | Adjust-ment Factor (for 30-day Limit) | New Emission Limit (lbs/hr) | Averaging Period | Adjustment Factor (for 24-hour Limit) | Supple-mental 24-hour Limit (lbs/hr) |
|---|---|---|---|---|---|---|
| Boiler 1 | 142.01 (aggregate basis)[11] | 0.834 | 118.44 | 30-day | 0.944 | 134.06 |
| Boiler 2 | | | | | | |
| Boiler R1 | | | | | | |
| Boiler R2 | | | | | | |
| Boiler T1 | | | | | | |
| Boiler T2 | | | | | | |
| Battery 1 Underfiring | 14.52 | 0.717 | 10.41 | 30-day | 0.914 | 13.27 |
| Battery 2 Underfiring | 12.76 | 0.717 | 9.15 | 30-day | 0.914 | 11.66 |
| Battery 3 Underfiring | 14.74 | 0.717 | 10.57 | 30-day | 0.914 | 13.47 |
| Battery 13 Underfiring | 17.48 | 0.797 | 13.93 | 30-day | 0.898 | 15.70 |
| Battery 14 Underfiring | 17.60 | 0.797 | 14.03 | 30-day | 0.898 | 15.80 |
| Battery 15 Underfiring | 23.43 | 0.797 | 18.67 | 30-day | 0.898 | 21.04 |
| Battery 19 Underfiring | 36.85 | 0.797 | 229.37 | 30-day | 0.898 | 33.09 |
| Battery 20 Underfiring | 33.88 | 0.797 | 27.00 | 30-day | 0.898 | 30.42 |
| B Battery Underfiring | 29.82 | 0.717 | 21.38 | 30-day | 0.914 | 27.26 |
| C Battery Underfiring | 44.67 | 0.717 | 32.03 | 30-day | 0.914 | 40.83 |
| SCOT Incinerator | 24 | -- | 24 | 1-hour | -- | -- |
| PEC Baghouse 1-3 | 7.10 | -- | 7.10 | 1-hour | -- | -- |
| PEC Baghouse 13-15 | 7.46 | -- | 7.46 | 1-hour | -- | -- |
| PEC Baghouse 19-20 | 7.78 | -- | 7.78 | 1-hour | -- | -- |
| PEC Baghouse B | 7.50 | -- | 7.50 | 1-hour | -- | |
| PEC Baghouse C | 8.65 | -- | 8.65 | 1-hour | -- | |
| Quench Tower 1 | 0.75 | -- | 0.75 | 1-hour | -- | -- |
| Quench Tower B | 4.09 | -- | 4.09 | 1-hour | -- | -- |
| Quench Tower C | 5.00 | -- | 5.00 | 1-hour | -- | -- |
| Quench Tower 5A | 7.56 | -- | 7.56 | 1-hour | -- | -- |
| Quench Tower 7A | 7.21 | -- | 7.21 | 1-hour | -- | -- |
| Batteries 1-3 Hot Car | 10.64 | -- | 10.64 | 1-hour | -- | -- |
| Batteries 13-15 Hot | 11.21 | -- | 11.21 | 1-hour | -- | -- |

[11] ACHD ran 16 different modeling scenarios for the various boiler stacks at the Clairton plant and used the worst case boiler impacts in its final analysis. Additional information can be found in ACHD's SIP submittal's Appendix I included in the docket for this rulemaking and is available online at www.regulations.gov.

| | | | | | | |
|---|---|---|---|---|---|---|
| Car | | | | | | |
| Batteries 19-20 Hot Car | 13.73 | -- | 13.73 | 1-hour | -- | -- |
| C Battery Hot Car | 5.82 | -- | 5.82 | 1-hour | -- | -- |

EPA's guidance advises that, to help assure attainment near sources with longer term limits, states should assure that occasions with hourly emissions above the CEV are limited in frequency and magnitude. The supplemental limits that ACHD has adopted, providing 24-hour average limits to supplement the 30-day average limits, serve this purpose. To evaluate these limits, ACHD analyzed $SO_2$ emissions from one source at the Clairton facility (Battery 20 underfiring) at maximum flow rate and compared hourly emission values to the 30-day, 24-hour and CEV limits. ACHD's analysis indicates that, for this unit, over a two month span the 30-day limit and 24-hour limits were not exceeded while the CEV was exceeded four times. Actual flow rate for the months analyzed was 70% of the maximum flowrate in which the CEV would have been exceeded twice by less than 2 lb/hr in the time period. In addition, ACHD evaluated the hours which were above the CEV at either flowrate and the Liberty monitor values ranged from 0-13 ppb at those times and meteorology was typical for the months. EPA does not have the emissions data to make quantitative estimates of the expected frequency or magnitude of emissions exceeding the CEVs, but EPA believes, particularly with the application of the 24-hour supplemental limits, that these occasions are likely to be modest in frequency and magnitude. Further details regarding ACHD's longer term limits and variability analysis can be found in Appendix D of Pennsylvania's October 3, 2017 submittal which can be found under Docket ID No. EPA-R03-OAR-2017-0730 and online at www.regulations.gov.

For these sources with limits based on longer averaging periods, $H_2S$ content will be measured by a continuous source monitoring device and flow meter equipment that measures the actual

hourly flow of gas. $SO_2$ emissions will then be calculated by assuming complete conversion of the combusted $H_2S$. The $SO_2$ values will be calculated hourly, averaged over a 24-hour basis (calendar day) and then averaged over a rolling 30-day basis. All sources utilizing a 30-day rolling average also have an additional shorter term 24-hour limit which may not be exceeded more than three consecutive days. A more detailed discussion of ACHD's statistical analysis that was used to develop the proposed 30-day average limits and supplemental 24-hour limits for the Allegheny Area can be found in Appendix D of Pennsylvania's October 3, 2017 submittal found under Docket ID No. EPA-R03-OAR-2017-0730. Additionally, EPA's 2014 $SO_2$ Nonattainment Guidance and section I. of this proposed rulemaking provide an extensive discussion of EPA's rationale for concluding that emission limits based on averaging times as long as 30 days that are appropriately set, reflecting comparable stringency to a suitable 1-hour limit, especially when accompanied by supplemental limits that help minimize the frequency and magnitude of spikes in emissions, can be found to provide for attainment of the 2010 $SO_2$ NAAQS. In evaluating these longer term averaging times, EPA proposes to find that the emission limits with these longer term averaging times were appropriately set in accordance with EPA's 2014 $SO_2$ Nonattainment Guidance and are sufficient for the Allegheny Area to attain the 2010 $SO_2$ NAAQS.

The USS Edgar Thomson plant is an iron and steel making facility which mainly produces steel slabs. At the USS Edgar Thomson facility, a new stack and a combined flue system is planned for Riley Boilers 1, 2 and 3. All boilers will exhaust to the new stack which is below good engineering practice (GEP) stack height. Specifically, the height of this stack, 85 meters, is lower than the formula GEP height based on the dimensions of nearby buildings, 97 meters. Actual emissions will be reduced as a result of the boilers using the lower $H_2S$ content COG

from the USS Clairton plant in combination with other fuels, and thus emissions for the boilers will be reduced on an aggregate basis. New emission limits for the boilers at the Edgar Thomson plant are listed in Table 4 along with other sources with reduced $SO_2$ allowable limits; all of these limits are established on a 1-hour basis.[12]

**Table 4. $SO_2$ Emission Limits for USS Edgar Thomson Plant**

| Process | New* Emission Limit (lbs/hr) |
|---|---|
| **Combustion Units** | |
| Boiler 1 | 556.91 (aggregate basis) |
| Boiler 2 | |
| Boiler3 | |
| Blast Furnace 1 Stoves | 98.50 |
| Blast Furnace 3 Stoves | 90.00 |
| **Non-Combustion Units** | |
| Blast Furnace 1 Casthouse (Roof + Fume) | 2.01 |
| Blast Furnace 3 Casthouse (Roof + Fume) | 1.69 |
| BOP Process (Roof) | 6.64 |
| Continuous Casting (Roof) | 5.25 |
| Casthouse Baghouse | 45.10 |

*New emission limit is equivalent to modeled CEV for Edgar Thomson sources.

The USS Irvin plant is a secondary steel processing plant which receives steel slabs and performs one of several finishing processes on the steel slabs. Reductions in $SO_2$ emissions at the USS Irvin plant are mainly a result of the COG controls reducing the sulfur content in the COG. The 80-inch Hot Strip Mill receives COG via the A Line from the Clairton plant while all other units at the Irvin plant receive COG via the B Line. Emission limits for units at the USS Irvin plant

[12] Subsequent to ACHD's submittal of its attainment plan for the Area, ACHD informed EPA that the new stack at the Edgar Thompson plant might have different parameters than the "new stack" parameters included in the attainment plan's attainment demonstration modeling. The stack is part of the modeled control strategy discussed in sections C and D of this rulemaking. However, ACHD has confirmed to EPA (by email) that subsequent modeling with the new stack parameters (e.g. location, height, temperature, velocity) at the Edgar Thomson plant is consistent with the submitted modeling demonstration showing $SO_2$ attainment by the attainment date with the same $SO_2$ emission limitations in the modeling submitted with ACHD's attainment plan for the Area. A copy of this email dated December 8, 2017 with technical documentation supporting ACHD's conclusion is included in the docket for this rulemaking and is available online at www.regulations.gov.

are listed in Table 5.

**Table 5. $SO_2$ Emission Limits for U.S. Steel Irvin Plant**

| Process | CEV (lbs/hr) | Adjustment Factor (for 30-day Limit) | New Emission Limit (lbs/hr) | Averaging Period | Adjustment Factor (for 24-hour Limit) | Supple-mental 24-hour Limit (lbshr) |
|---|---|---|---|---|---|---|
| Boiler #1 | 9.45 | 0.834 | 7.88 | 30 day | 0.944 | 8.92 |
| Boiler #2 | 10.02 | 0.834 | 8.36 | 30 day | 0.944 | 9.46 |
| Boiler #3-4 (aggregate) | 9.85 | 0.834 | 8.21 | 30 day | 0.944 | 9.30 |
| 80" Hot Strip Reheat (aggregate) | 128.10 | 0.848 | 108.63 | 30 day | 0.927 | 118.75 |
| HPH Annealing Furnaces (aggregate) | 14.39 | 0.834 | 12 | 30 day | 0.944 | 13.58 |
| Open Coil Annealing (aggregate) | 13.79 | 0.834 | 11.5 | 30 day | 0.944 | 13.02 |
| Continuous Annealing | 9.68 | 0.834 | 8.07 | 30 day | 0.944 | 9.14 |
| #1 Galvanizing Line | 0.04 | -- | 0.04 | 1-hour | -- | -- |
| #2 Galvanizing Line | 0.01 | -- | 0.01 | 1-hour | -- | -- |

In addition, Harsco Metals (also known as Braddock Recovery Inc) is located on the property of the USS Edgar Thomson plant. Harsco uses a rotary kiln fired with COG which is supplied by USS Clairton plant. As a result of the lower sulfur content in the USS-produced COG, Harsco has become subject to a lower $SO_2$ limit of 1.8 lbs/hr as a 1-hour average for the rotary kiln.

Emission limits at all four facilities (USS Clairton, Edgar Thomson and Irvin Plants and Harsco Metals) were established through enforceable installation permits (*See* Appendices K of Pennsylvania's October 3, 2017 SIP submittal). The collective emission limits and related compliance parameters (i.e., testing, monitoring, record keeping and reporting) have been

proposed for incorporation into the SIP as part of the attainment plan in accordance with CAA section 172. The emission limits for each of the $SO_2$-emitting USS Mon Valley facilities are listed in Tables 3, 4 and 5. The compliance parameters include continuous process monitoring of $H_2S$ content and flow rate of the COG at Clairton facility and the four lines which feed the Edgar Thompson and Irvin facilities; record-keeping, reporting, and stack testing requirements at all facilities. ACHD affirms that the implementation of new emission limits and corresponding compliance parameters at the three USS Mon Valley Works facilities and Harsco Metals will enable the Allegheny Area to attain and maintain the $SO_2$ NAAQS. The AERMOD modeling analysis shows, as discussed in detail in the Modeling TSD, that the emission limits listed in Tables 3, 4 and 5 and the limit for Harsco Metals (modeling the 1-hour limits where applicable and modeling the 1-hour equivalents where longer term average limits apply) are sufficient for the Allegheny Area to attain the 1-hour $SO_2$ NAAQS.

EPA's guidance for longer term average limits is that plans based on such limits can be considered to provide for attainment where appropriate as long as the longer term limit is comparably stringent to the 1-hour limit that would otherwise be set and EPA can have reasonable confidence that occasions of emissions above the critical 1-hour emission rate will be limited in frequency and magnitude. ACHD has provided for comparable stringency by computing adjustment factors in accordance with the method that EPA recommended in Appendix C of its guidance and adopting longer term average limits (where applicable) that are adjusted accordingly. Also in accordance with EPA's recommendations, ACHD has established supplemental limits that will help assure that occasions of emissions above the critical 1-hour emission rate will be limited in frequency and magnitude. Therefore, EPA believes that ACHD has met EPA's recommended criteria for longer term average limits to be part of a plan that

provides suitable assurances that the area will attain the standard.

ACHD also evaluated potential RACT at other sources in the Allegheny Area including Koppers Inc. – Clairton Plant, Clairton Slag – West Elizabeth Plant, Eastman Chemical Resins Inc. – Jefferson Plant and Kelly Run Sanitation – Forward Township. All sources have less than 5 tpy of allowable $SO_2$ emissions. ACHD determined that no additional controls would be technically or economically feasible for the purposes of $SO_2$ RACT at these small sources. ACHD also noted that Guardian Industries permanently shut down in 2015; therefore, no RACT analysis was performed for Guardian Industries. In addition, ACHD examined several RACM options for area, nonroad and mobile sources of $SO_2$ in the Area and determined no additional controls are needed to provide for attainment in the Area, since ACHD's modeling indicates that its plan will provide for attainment without reduction of any portion of background concentrations attributable to these sources.

EPA is proposing to approve ACHD's determination that the $SO_2$ control strategies at the USS Mon Valley Works facilities – Clairton, Edgar Thomson and Irvin plants and Harsco Metals constitute RACM/RACT for each source in the Allegheny Area based on the modeling analysis previously described and ACHD's evaluation of technically and economically feasible controls.

Pennsylvania has requested that portions of the installation permits for the USS Mon Valley Works facilities – Clairton, Edgar Thomson and Irvin plants and Harsco Metals be approved into the Allegheny County portion of the Pennsylvania SIP. Upon approval, the emission limits listed in the installation permits and corresponding compliance parameters found in the installation permits for Clairton, Edgar Thomson, Irvin and Harsco Metals will become permanent and

enforceable SIP measures to meet the requirements of the CAA. After considering ACHD's submitted information, EPA, therefore, concludes Pennsylvania's October 3, 2017, SIP submittal for the Area meets the RACM/RACT and emission limitation and other control measure requirements of section 172(c) of the CAA.

### E. RFP Plan

Section 172(c)(2) of the CAA requires an attainment plan to include a demonstration that shows reasonable further progress (i.e., RFP) for meeting air quality standards will be achieved through generally linear incremental improvement in air quality. Section 171(1) of the CAA defines RFP as "such annual incremental reductions in emissions of the relevant air pollutant as are required by this part (part D) or may reasonably be required by EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable attainment date." As stated originally in the 1994 $SO_2$ Guidelines Document[13] and repeated in the 2014 $SO_2$ Nonattainment Guidance, EPA continues to believe that this definition is most appropriate for pollutants that are emitted from numerous and diverse sources, where the relationship between particular sources and ambient air quality are not directly quantified. In such cases, emissions reductions may be required from various types and locations of sources. The relationship between $SO_2$ and sources is much more defined, and usually there is a single step between pre-control nonattainment and post-control attainment. Therefore, EPA interpreted RFP for $SO_2$ as adherence to an ambitious compliance schedule in both the 1994 $SO_2$ Guideline Document and the 2014 $SO_2$ Nonattainment Guidance. The control measures for attainment of the 2010 $SO_2$ NAAQS included in Pennsylvania's submittal were modeled by ACHD to achieve attainment of the

[13] $SO_2$ Guideline Document, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, EPA–452/R–94–008, February 1994. Located at: http://www.epa.gov/ttn/oarpg/t1pgm.html.

NAAQS. The ACHD permits which require these control measures to be effective on or before October 4, 2018 (including specific emission limits and compliance parameters) show the resulting emission reductions to be achieved as expeditiously as practicable for the Area. As a result, based on air quality modeling, ACHD projected these control measures will yield a sufficient reduction in $SO_2$ emissions from the major sources in the Allegheny Area to show attainment of the $SO_2$ NAAQS for the Allegheny Area. EPA has found ACHD's attainment modeling for the Area to be in accordance with CAA requirements. EPA finds the control measures proposed will be implemented as expeditiously as practicable by October 4, 2018 according to the terms of the permits for the affected facilities. Therefore, EPA has determined that Pennsylvania's $SO_2$ attainment plan for the Allegheny Area fulfills the RFP requirements for the Allegheny Area. EPA proposes to approve Pennsylvania's attainment plan with respect to the RFP requirements.

### F. Contingency Measures

In accordance with section 172(c)(9) of the CAA, contingency measures are required as additional measures to be implemented in the event that an area fails to meet the RFP requirements or fails to attain the standard by its attainment date. These measures must be fully adopted rules or control measures that can be implemented quickly and without additional EPA or state action if the area fails to meet RFP requirements or fails to meet its attainment date, and should contain trigger mechanisms and an implementation schedule. However, $SO_2$ presents special considerations. As stated in the final 2010 $SO_2$ NAAQS promulgation on June 22, 2010 (75 FR 35520) and in the 2014 $SO_2$ Nonattainment Guidance, EPA concluded that because of the quantifiable relationship between $SO_2$ sources and control measures, it is appropriate that state agencies develop a comprehensive program to identify sources of violations of the $SO_2$ NAAQS

and undertake an aggressive follow-up for compliance and enforcement.

The contingency measures in Pennsylvania's October 3, 2017 submittal are designed to keep the Allegheny Area from triggering an exceedance or violation of the $SO_2$ NAAQS. In the attainment plan, ACHD states that if an ambient air quality monitor measures enough exceedances in a consecutive three-year period that would cause a design value to exceed the 75 ppb standard, ACHD would conduct a thorough analysis in order to identify the sources of the violation and bring the area back into compliance with the NAAQS. ACHD states that the root cause analysis will begin immediately upon verification of a violation, will include analysis of source and meteorological conditions contributing to the violation, and will take no longer than 10 days to complete. In its plan, sources identified by ACHD as most likely contributing to the violation will have 10 days from notification to submit a written system audit report which details the operating parameters of all $SO_2$ emission sources for the four 5-day periods up to and including the dates which the monitor registered exceedances of the $SO_2$ NAAQS. According to the attainment plan, sources must recommend $SO_2$ control strategies for each affected unit in the audit report. Once ACHD receives the audit report(s), a 30-day evaluation period will begin in which ACHD will investigate the audit findings and recommended control strategies. The 30-day evaluation period will be followed by a 30-day consultation period with the sources. Additional control measures will be implemented as expeditiously as possible to bring the Area back into compliance. If a permit modification is necessary, ACHD has the statutory authority under ACHD Rules and Regulations, Article XXI - Air Pollution Control to amend and issue a final permit. Any new emission limits would also be submitted to EPA as a SIP revision. In addition, ACHD has the regulatory authority to take any action it deems necessary or proper for the effective enforcement of rules and regulations; such actions include the issuance of orders

(i.e., enforcement orders and orders to take corrective action to address air pollution or the danger of air pollution from a source) and the assessment of civil penalties. ACHD's regulations for enforcement, ACHD Article XXI, Part I, sections 2109.01-2109.06 and 2109.10, provide ACHD authority to enforce its regulations, permits and orders. Pursuant to these regulations, ACHD has authority, *inter alia*, to inspect facilities, seek penalties for violations, enter enforcement orders, and revoke permits. These regulations are included in the Pennsylvania SIP. *See* 67 FR 68935 (November 14, 2002).

EPA finds that ACHD has a comprehensive program included in the Pennsylvania SIP to identify sources of violations of the $SO_2$ NAAQS and to undertake an aggressive follow up for compliance and enforcement. Therefore, EPA proposes that the contingency measures submitted by Pennsylvania follow the 2014 $SO_2$ Nonattainment Guidance and meet the section 172(c)(9) requirements.

### G. New Source Review[14]

Section 172(c)(5) of the CAA requires that an attainment plan require permits for the construction and operation of new or modified major stationary sources in a nonattainment area. In Allegheny County, NNSR procedures and conditions for which new major stationary sources or major modifications may obtain a preconstruction permit are stipulated in the ACHD Rules

[14] The CAA new source review (NSR) program is composed of three separate programs: Prevention of significant deterioration (PSD), NNSR, and Minor NSR. PSD is established in part C of title I of the CAA and applies in areas that meet the NAAQS—"attainment areas"—as well as areas where there is insufficient information to determine if the area meets the NAAQS—"unclassifiable areas." The NNSR program is established in part D of title I of the CAA and applies in areas that are not in attainment of the NAAQS—"nonattainment areas." The Minor NSR program addresses construction or modification activities that do not qualify as ''major'' and applies regardless of the designation of the area in which a source is located. Together, these programs are referred to as the NSR programs. Section 173 of the CAA lays out the NNSR program for preconstruction review of new major sources or major modifications to existing sources, as required by CAA section 172(c)(5). The programmatic elements for NNSR include, among other things, compliance with the lowest achievable emissions rate and the requirement to obtain emissions offsets.

and Regulations, Article XXI, Air Pollution Control, §2102.06, "Major Sources Locating in or Impacting a Nonattainment Area" which was previously approved into the Pennsylvania SIP, with the most recent revision effective March 30, 2015 (80 FR 16570). ACHD Rules and Regulations, Article XXI, Air Pollution Control, §2102.06 also incorporates by reference applicable provisions of PADEP's NNSR regulations codified at 25 Pa. Code Chapter 127, Subchapter E. PADEP's NNSR regulations in 25 Pa. Code Chapter 127, Subchapter E were previously approved into the Pennsylvania SIP, with the most recent revision updating the regulations to meet EPA's 2002 NSR reform regulations effective on May 14, 2012 (77 FR 28261). A discussion of the specific PADEP provisions incorporated by reference into ACHD Article XXI can be found in Pennsylvania's October 3, 2017 submittal found under Docket ID No. EPA-R03-OAR-2017-0730. These rules provide for appropriate NNSR permitting as required by CAA sections 172(c)(5) and 173 and 40 CFR 51.165 for $SO_2$ sources undergoing construction or major modification in the Allegheny Area without need for modification of the approved rules. Therefore, EPA concludes that Allegheny County's SIP-approved NNSR program meets the requirements of section 172(c)(5) for this Area.

## VI. EPA's Proposed Action

EPA is proposing to approve Pennsylvania's attainment plan SIP revision for the Allegheny Area, as submitted through ACHD and PADEP to EPA on October 3, 2017, for the purpose of demonstrating attainment of the 2010 1-hour $SO_2$ NAAQS. Specifically, EPA is proposing to approve the base year emissions inventory, a modeling demonstration of $SO_2$ attainment, an analysis of RACM/RACT, a RFP plan, and contingency measures for the Allegheny Area and is proposing that the Pennsylvania SIP revision has met the requirements for NNSR for the 2010 1-hour $SO_2$ NAAQS. Additionally, EPA is proposing to approve into the Pennsylvania SIP

specific $SO_2$ emission limits and compliance parameters in permits established for the $SO_2$ sources impacting the Allegheny Area.

EPA has determined that Pennsylvania's $SO_2$ attainment plan for the 2010 1-hour $SO_2$ NAAQS for the Allegheny Area meets the applicable requirements of the CAA and EPA's 2014 $SO_2$ Nonattainment Guidance. Thus, EPA is proposing to approve Pennsylvania's attainment plan for the Allegheny Area as submitted on October 3, 2017. EPA's analysis for this proposed action is discussed in Section V of this proposed rulemaking. EPA is soliciting public comments on the issues discussed in this document. These comments will be considered before taking final action. Final approval of this SIP submittal will remove EPA's duty to implement a FIP for this Area.

## VII. Incorporation by Reference

In this document, EPA is proposing to include in a final EPA rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is proposing to incorporate by reference portions of the installation permits issued by ACHD with USS facilities at Clairton, Edgar Thomson and Irvin and with Harsco Metals. This includes emission limits and associated compliance parameters, recording-keeping and reporting. EPA has made, and will continue to make, these materials generally available through http://www.regulations.gov and at the EPA Region III Office (please contact the person identified in the "For Further Information Contact" section of this proposed rulemaking for more information).

## VIII. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR

52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed rule, concerning the $SO_2$ attainment plan for the Allegheny Area in Pennsylvania, does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

**List of Subjects in 40 CFR Part 52**

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

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

Dated: November 1, 2018.

Cosmo Servidio,
Regional Administrator,
Region III.

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