



6560-50-P

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R03-OAR-2017-0578; FRL-9985-26-Region 3]**

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

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

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving a state implementation plan (SIP) revision, submitted by the Commonwealth of Pennsylvania through the Pennsylvania Department of Environmental Protection (PADEP), to EPA on September 29, 2017, for the purpose of demonstrating attainment of the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (NAAQS) in the Warren County, Pennsylvania SO<sub>2</sub> nonattainment area (hereafter referred to as the “Warren Area” or “Area”). The Warren Area is comprised of a portion of Warren County (Conewango Township, Glade Township, Pleasant Township, and the City of Warren) in Pennsylvania surrounding the United Refining Company (hereafter referred to as “United Refining”). The 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 other control measures, a reasonable further progress (RFP) plan, a modeling demonstration of SO<sub>2</sub> attainment, contingency measures, and a nonattainment new source review (NNSR)

program for the Warren Area. As part of approving the attainment plan, EPA is also approving into the Pennsylvania SIP new SO<sub>2</sub> emission limits and associated compliance parameters for United Refining. EPA is approving Pennsylvania's attainment plan and concludes that the Warren Area will attain the 2010 1-hour primary SO<sub>2</sub> NAAQS by the applicable attainment date and that the plan meets all applicable requirements under the Clean Air Act (CAA).

**DATES:** This final rule is effective on **[insert date 30 days after date of publication in the Federal Register]**.

**ADDRESSES:** EPA has established a docket for this action under Docket ID Number EPA-R03-OAR-2017-0578. All documents in the docket are listed on the <https://www.regulations.gov> website. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available through <https://www.regulations.gov>, or please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section for additional availability information.

**FOR FURTHER INFORMATION CONTACT:** Megan Goold, (215) 814-2027, or by e-mail at [goold.megan@epa.gov](mailto:goold.megan@epa.gov).

**SUPPLEMENTARY INFORMATION:**

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## **I. Background and Purpose**

On June 2, 2010, the EPA Administrator signed a final rule establishing a new SO<sub>2</sub> 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), codified at 40 CFR 50.17. This action also revoked the existing 1971 primary annual and 24-hour standards, subject to certain conditions.<sup>1</sup> 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<sub>2</sub> emissions ranging from 5 minutes to 24 hours with an array of 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<sub>2</sub>, 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)-(2) of the CAA. On August 5, 2013, EPA promulgated initial air quality designations for 29 areas for the 2010 SO<sub>2</sub> 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 were sufficient data to

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<sup>1</sup> 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<sub>2</sub> standard was retained. Currently, the 24-hour and annual standards are only revoked for certain of those areas the EPA has already designated for the 2010 1-hour SO<sub>2</sub> NAAQS. *See* 40 CFR 50.4(e).

support a nonattainment designation.<sup>2</sup>

Effective on October 4, 2013, the Warren Area was designated as nonattainment for the 2010 SO<sub>2</sub> NAAQS for an area that encompasses the primary SO<sub>2</sub> emitting source, United Refining, and the nearby SO<sub>2</sub> monitor (Air Quality Site ID: 42-123-0004). The final designation triggered a requirement for Pennsylvania to submit a SIP revision with an attainment plan for how the Area would attain the 2010 SO<sub>2</sub> NAAQS as expeditiously as practicable, but no later than October 4, 2018, in accordance with CAA section 192(a).

For a number of areas, including the Warren Area, EPA published a notice on March 18, 2016, that Pennsylvania and other pertinent states had failed to submit the required SO<sub>2</sub> 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 September 29, 2017, and EPA's subsequent letter dated October 5, 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 having missed the SIP submission deadline. Additionally, under CAA section 110(c), the March 18, 2016 finding triggered 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

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<sup>2</sup> EPA is continuing its designation efforts for the 2010 SO<sub>2</sub> NAAQS. Pursuant to a court-order entered 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).

submittal as meeting applicable requirements. This FIP obligation will not apply once this SIP approval action is finalized.

Attainment plans for SO<sub>2</sub> must meet the applicable requirements of the CAA, and specifically CAA sections 110, 172, 191, and 192. The required components of an attainment plan submittal are listed in section 172(c) of Title I, part D of the CAA, and in EPA's implementing regulations at 40 CFR part 51. On April 23, 2014, EPA issued recommended guidance (hereafter 2014 SO<sub>2</sub> Nonattainment Guidance) for how state submissions could address the statutory requirements for SO<sub>2</sub> attainment plans.<sup>3</sup> In this guidance, EPA described the statutory requirements for an attainment plan, which include: an accurate base year emissions inventory of current emissions for all sources of SO<sub>2</sub> 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)); demonstration of 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)).

On March 22, 2018 (83 FR 12516), EPA published a notice of proposed rulemaking (NPRM) for the Commonwealth of Pennsylvania proposing approval of the Warren area attainment plan. In accordance with section 172(c) of the CAA, the Pennsylvania attainment plan for the Warren Area includes: (1) an emissions inventory for SO<sub>2</sub> for the plan's base year (2011); and (2) an attainment demonstration. The attainment demonstration includes the following: Analyses that

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<sup>3</sup> See "Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions" (April 23, 2014), available at [https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance\\_nonattainment\\_sip.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf).

locate, identify, and quantify sources of emissions contributing to violations of the 2010 SO<sub>2</sub> NAAQS; a determination that the control strategy for the primary SO<sub>2</sub> source within the nonattainment areas constitutes RACM/RACT; a dispersion modeling analysis of an emissions control strategy for the primary SO<sub>2</sub> source (United Refining), which also accounts for smaller sources within the Area in the background concentration, showing attainment of the SO<sub>2</sub> NAAQS by the October 4, 2018 attainment date; requirements for RFP toward attaining the SO<sub>2</sub> NAAQS in the Area; contingency measures; the assertion that Pennsylvania's existing SIP-approved NNSR program meets the applicable requirements for SO<sub>2</sub>; and the request that emission limitations and compliance parameters for United Refining be incorporated into the SIP. Comments on EPA's proposed rulemaking were due on or before April 23, 2018.

EPA received 28 anonymous comments that were not germane to this rulemaking action and will not be addressed here. EPA received specific comments on this rulemaking action on nine topics. All comments are available in the docket for this final rulemaking action. EPA's summary of the comments and EPA's responses are provided below. For a comprehensive discussion of Pennsylvania's SIP submittal and EPA's analysis and rationale for approval of the State's submittal and attainment demonstration for this area, please refer to EPA's March 22, 2017 NPRM. The remainder of this action contains EPA's response to public comments and provides EPA's final approval of Pennsylvania's attainment plan for the Warren Area.

## **II. Response to Comments**

A summary of the comments received and EPA's responses are provided in this Section of this rulemaking action. The Sierra Club submitted a comment letter dated April 23, 2018, which

contained five substantive comments summarized in comments one through five. Comments labeled six through nine were received from anonymous commenters and a citizen of Warren County, Pennsylvania. Where comments contained similar topics, they were grouped accordingly. To review the full set of comments received, refer to the Docket for this rulemaking action.

*Comment 1:* The commenter asserts that the emission limits for United Refining would allow emissions above levels reflected in both the 2018 projected emissions inventory and the 2011 baseline emissions inventory. The commenter states that the Attainment Plan for the Warren Area should not be approved because it fails to provide an air quality modeling analysis that demonstrates that the emission limits in the plan will suffice to provide for timely attainment of the 2010 SO<sub>2</sub> NAAQS, including “necessary enforceable limits” sufficient to ensure that the standard is attained and maintained. The commenter states that the emission limits that EPA proposes to approve would allow emissions higher than those that occurred in 2011 when the monitored design value for Warren County was 112 ppb.

*Response 1:* EPA disagrees that the Warren Area Attainment Plan should not be approved because the emission limits and air quality modeling analysis would not ensure that the 2010 SO<sub>2</sub> NAAQS is attained and maintained. As described in EPA’s NPRM, the hourly emission limits developed for United Refining have been modeled to show attainment with the 2010 SO<sub>2</sub> NAAQS. As described in appendix W to 40 CFR part 51 (hereafter appendix W) and the EPA’s 2014 SO<sub>2</sub> Nonattainment Guidance, the attainment plan should demonstrate through the use of air quality dispersion modeling, using allowable hourly emissions, that the area will attain the standard by its attainment date. The modeling analysis, which EPA found reasonable and in

accordance with EPA guidance as discussed in the NPRM in detail, provides for attainment considering the worst-case scenario of both the meteorology and the maximum allowable emissions. The modeling demonstration provided by Pennsylvania followed the recommendations outlined in appendix W and the 2014 SO<sub>2</sub> Nonattainment Guidance.

In addition, under CAA Section 172(c)(3) and as described in EPA's NPRM, states are required to submit a comprehensive, accurate, current accounting of actual emissions from all sources (point, nonpoint, nonroad, and onroad) of the relevant pollutant or pollutants in the nonattainment area. In this case, the base year inventory is representative of actual emissions for 2011, and the 2018 projected inventory is a projection based off 2011 base year emissions and business projections. As the commenter correctly noted, the emission limits for United Refining (which are hourly limits expressed in pounds per hour (lbs/hr)) can be converted to an annual value, which equates to approximately 1,274 tons per year (tpy), assuming 8,760 hours of operation. This value is considered the maximum allowable emissions on an annual time frame. As the commenter correctly asserts, the maximum allowable annual emissions for 2018 are greater than the 2011 base year emissions (992 tpy) and the emissions in the 2018 projected inventory (510 tpy); however, the modeled hourly emission limits at United Refining are more stringent than the hourly emission limits that were in place in the 2011 base year. In 2011, a facility-wide SO<sub>2</sub> emissions cap of 902.6 lbs/hr was in place at United Refining, as well as unit-specific hourly SO<sub>2</sub> emission limits as specified in the PADEP's SO<sub>2</sub> Plan Approval for United Refining.<sup>4</sup> In the Warren Attainment Plan, PADEP has adopted new, more stringent unit-specific hourly emission limits that add up to approximately 291 lbs/hr (approximately one third

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<sup>4</sup> See PADEP's SO<sub>2</sub> Plan Approval for United Refining, 2001. Available at [https://www.epa.gov/sites/production/files/2017-06/documents/united\\_refining.pdf](https://www.epa.gov/sites/production/files/2017-06/documents/united_refining.pdf)

of the previous hourly facility-wide limit). The hourly emission limit for United Refining is in accordance with EPA's recommendation that emission limits for attaining the 1-hour 2010 SO<sub>2</sub> NAAQS should limit emissions for each hour (and not on an annual basis).

While the calculated annual maximum 2018 emissions using the hourly limit exceed the 2011 inventory on an annual basis and exceed the projected 2018 emissions inventory, our approval of the Warren Area attainment plan, and the modeling demonstration, is based on modeling using hourly limits (not annual values) in accordance with CAA requirements and EPA guidance. Furthermore, as explained in the NPRM and the Modeling Technical Support Document (TSD), which can be found under Docket ID No. EPA-R03-OAR-2017-0578 and at [www.regulations.gov](http://www.regulations.gov), Pennsylvania's modeling demonstration was conducted in accordance with CAA requirements and thus, is approvable under CAA Section 172. The attainment modeling demonstrates that the newly adopted hourly emission limit for United Refining provides for protection of the 1-hour SO<sub>2</sub> NAAQS.

It is important to note that attainment modeling demonstrations are based on the worst-case emission scenarios, and therefore, demonstrate that if United Refining emitted at their newly established hourly emission limit 8,760 hours per year, they would still reach attainment. Even though the Warren Area design value in 2011 was 94 ppb,<sup>5</sup> and the allowable annual emissions in 2018 are greater than the 2011 base year emissions, that does not mean a violation of the NAAQS will occur in 2018 (as the commenter erroneously asserts). In 2011, United Refining was allowed to emit up to 906.2 lbs/hr, and while they obviously did not do this every hour of

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<sup>5</sup> EPA data shows the 99<sup>th</sup> percentile daily maximum in 2011 for the Warren Area was 94 ppb, and the 2011 3-year design value was 105 ppb. EPA does not know how the commenter calculated a 112 ppb design value for 2011 for the Warren Area. <https://www.epa.gov/air-trends/air-quality-design-values#report>

the year (since their 2011 annual emissions were 992 tons which is less than the allowable 3,951 tons),<sup>6</sup> they could have emitted that much during a short time frame which would have contributed to a design value greater than 75 ppb (as design values are based on a 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations). The commenter asserts that the design value was 112 ppb in 2011 in Warren County, which the commenter also assumes is directly correlated to the annual SO<sub>2</sub> emissions; neither the design value nor this assumption is accurate. It is incorrect to assume that there is a direct relationship between whether a total annual allowable emissions inventory is higher than base year and projected year actual emissions inventories and whether an area will attain the 1-hour NAAQS based on modeling of allowable hourly emission limits. In fact, in assessing whether an emission limit will provide for attainment of the 1-hour NAAQS, the total annual allowable emissions under the limit is not a factor in the modeling analysis, as it is irrelevant to determining whether the 3-year average of the 99<sup>th</sup> percentile of daily maximum 1-hour average concentrations will meet the NAAQS. Ambient concentrations calculated at hourly intervals are correlated with hourly emissions and not annual emissions; and the hourly emission limits set for United Refining in the Consent Order and Agreement (COA) were modeled to show attainment of the SO<sub>2</sub> NAAQS.

In addition, as noted in EPA's NPRM and as required in the COA, United Refining switched from high sulfur content (2.8 percent ( % ) sulfur) fuel oil to lower sulfur content fuel oil (0.5 % ) in 11 combustion units and heaters, which decreased SO<sub>2</sub> emissions. As specified in the COA, United Refining increased its use of a flue gas desulfurization additive (De-Sox) for the fluid catalytic cracking (FCC) unit, which also decreased SO<sub>2</sub> emissions. These enforceable control

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<sup>6</sup> Annual allowable emissions for United Refining assuming 906.2 lbs/hr operating 8760 hours per year.

measures and the enforceable emission limits, along with compliance parameters, are specified in the COA with United Refining which Pennsylvania requested us to incorporate into the SIP. The SO<sub>2</sub> limits in the COA and in United Refining's permit support the modeling demonstration which shows the Warren Area attaining the 2010 SO<sub>2</sub> NAAQS. That is, regardless of how the annual total allowable emissions under Pennsylvania's SIP (assuming 8,760 hours per year of operation at that limit) compare to Pennsylvania's estimate of 2011 and 2018 emissions for this facility, the SIP is requiring control measures that will reduce emissions, and Pennsylvania has demonstrated that the emission limitations that produce these emission reductions will improve air quality sufficiently to attain the standard.

*Comment 2:* The commenter claims that EPA has relied on a modeled attainment analysis that barely attains the standard, and does so with the use of an incorrect background concentration, which was calculated contrary to EPA's Modeling Guidance. The commenter asserts that relying on the average value from a single month of data is not representative of background. The commenter asserts that even if the monthly data were representative, the 99<sup>th</sup> percentile daily maximum value should have been used as the background concentration (as opposed to the average value). The commenter states that using the 99<sup>th</sup> percentile daily maximum value of 6 ppb rather than the average value of 2.19 ppb background used by PADEP, results in a modeled design value of 78.5 ppb.

*Response 2:* EPA disagrees with the commenter's arguments, and has determined that the 2.19 ppb background level used by PADEP appropriately represents background concentrations in the Area. As explained in the NPRM and Modeling TSD, Pennsylvania's proposed background concentration used in its modeling demonstration is reasonable and reflective of true background

concentrations in the Warren Area. EPA found in the NPRM and in the Modeling TSD, that the background concentration used in the air-dispersion modeling analysis for the Warren, Pennsylvania 1-hour SO<sub>2</sub> nonattainment area was reasonable and was determined in accordance with EPA's Appendix W – Guideline on Air Quality Models. EPA believes section 8.3.2 (c) of appendix W provides flexibility in determining the model background concentration and allows for methods other than using a monitor design value as long as the method is fully described and vetted with the reviewing authorities and is judged to provide an appropriate assessment of background concentrations. In this case, the availability of monitored values during a time period of little to no operation of the United Refinery provided a unique opportunity to develop a background concentration. Since the nonattainment area has only one primary SO<sub>2</sub> source it was reasonable to assume monitor concentrations within the nonattainment area during this time period would be indicative of the Area's background concentration. This background concentration was compared to other regional values for areas with similar source distributions and shown to be comparable in magnitude. While this approach is not specifically included in EPA's list of possible examples in appendix W, it was fully vetted by the proper reviewing authority as required by appendix W. The development of this background concentration is more fully described in section 4.7 of United Refinery's February 2017 modeling protocol (see Appendix C-3 of Pennsylvania's SIP documentation) and it has been vetted and approved by EPA in this rulemaking action.

In addition, the commenter's assertion that the 99<sup>th</sup> percentile value of the monitored daily maximum concentrations during the United Refinery's turnaround period should be used as background as opposed to the average value is not supported by any data or reasoning. There are

no stipulations in appendix W that require background concentrations to be based on the 99<sup>th</sup> percentile of concentrations. Background concentrations must represent the ambient concentrations without the source in question. As discussed in Appendix C-3 of Pennsylvania's submittal, during the turnaround period, the United Refinery was mostly off, however, certain maintenance activities occurred which produced SO<sub>2</sub> emissions. By taking the average of the daily maximum values, impacts from SO<sub>2</sub> emissions generated by the maintenance activities (as detailed in Appendix C-3 of Pennsylvania's submittal) would have been minimized and values would be more reflective of true background concentrations in the area. As specified in Appendix C-3 of Pennsylvania's submittal, use of other statistical calculations such as the 99<sup>th</sup> percentile would include the discrete periods where turnaround activity SO<sub>2</sub> emissions were impacting the Warren-Overlook ambient monitor. EPA continues to find Pennsylvania's use of average concentrations (instead of the 99<sup>th</sup> percentile) reasonable because it is within permissible discretion of appendix W, not prohibited by 2014 SO<sub>2</sub> Nonattainment Guidance or appendix W, and because the 99<sup>th</sup> percentile was affected by some minor operations of the United Refinery that occurred during the shutdown.

EPA has provided additional information supporting our initial determination that the background value utilized in the Warren attainment demonstration is reasonable in a supplemental TSD, which can be found under Docket ID No. EPA-R03-OAR-2017-0578 and at [www.regulations.gov](http://www.regulations.gov). The supporting information provides an updated comparison of the background concentration used in the Warren modeling analysis to regional SO<sub>2</sub> monitored values which shows that the background concentration of 2.19 ppb used by Pennsylvania is similar to monitored values in a nearby similar location to the Area which supports the data used

by Pennsylvania for background. The TSD also includes a discussion of the overall downward SO<sub>2</sub> emission trends across the United States, resulting from declining consumption of coal as a fuel source by electricity generating plants that are the primary sources of background SO<sub>2</sub> emissions, lending more support to the assertion that background concentrations are falling and 2.19 ppb is a reasonable background for the Warren Area. In addition to emission trends, the SO<sub>2</sub> ambient concentration trend in the Northeast (which includes Pennsylvania and New York) mirrors the national trend showing an 84% reduction in ambient SO<sub>2</sub> concentrations from 2000-2017.<sup>7</sup>

EPA thus continues to find it reasonable for Pennsylvania to use a background concentration that is based on monitored data from a period when the refinery was shut down because the data used does not include emissions from the primary source (as specified in appendix W), the data are similar to data from nearby areas and based on SO<sub>2</sub> emission trends we do not expect background concentrations to go up in the future. In addition, 2017 monitored SO<sub>2</sub> concentrations do not show the Warren Area to be violating the 1-hour SO<sub>2</sub> NAAQS.

*Comment 3:* The commenter claims that the contingency measures specified in the Warren Attainment Plan are inadequate because they are not specific, do not take effect automatically, and count back-to-back days of exceedances as a single day. Per the commenter, the NAAQS is designed to prevent repeated days of high ambient SO<sub>2</sub> concentrations and back-to-back days of exceedances would “potentially allow exceedances of the 99th-percentile evaluative criteria for the NAAQS to be met long before any even theoretical remedial effects of the contingency

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<sup>7</sup><https://www.epa.gov/air-trends/sulfur-dioxide-trends#so2>. Nationally, a 79% decrease in ambient monitor concentrations of SO<sub>2</sub> has been observed from 2000-2017.

measure could accrue at all.” The commenter states the “measure” is nothing more than requiring United Refining to issue a report including unknown proposed operation changes. The commenter states this lack of specificity is plainly inconsistent with CAA requirements.

*Response 3:* EPA disagrees with the commenter that the contingency measures are inadequate. Section 172(c)(9) of the CAA defines contingency measures as such measures in a SIP that are to be implemented in the event that an area fails to make RFP, or fails to attain the NAAQS, by the applicable attainment date. Contingency measures are to become effective without further action by the State or EPA, where the area has failed to (1) achieve RFP or, (2) attain the NAAQS by the statutory attainment date for the affected area. These control measures are to consist of other available control measures that are not included in the control strategy for the attainment plan SIP for the affected area.

However, EPA has also explained that SO<sub>2</sub> presents special considerations.<sup>8</sup> First, for some of the other criteria pollutants, the analytical tools for quantifying the relationship between reductions in precursor emissions and resulting air quality improvements remains subject to significant uncertainties, in contrast with procedures for directly-emitted pollutants such as SO<sub>2</sub>. Second, emission estimates and attainment analyses for other criteria pollutants can be strongly influenced by overly optimistic assumptions about control efficiency and rates of compliance for many small sources. This is not the case for SO<sub>2</sub>.

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<sup>8</sup> See SO<sub>2</sub> 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. See also EPA’s 2014 SO<sub>2</sub> Nonattainment Guidance. See General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 at 57 FR 13498 (April 16, 1992).

In contrast, the control efficiencies for SO<sub>2</sub> control measures are well understood and are far less prone to uncertainty. Since SO<sub>2</sub> control measures are by definition based on what is directly and quantifiably necessary to attain the SO<sub>2</sub> NAAQS, it would be unlikely for an area to implement the necessary emission controls yet fail to attain the NAAQS. Therefore, for SO<sub>2</sub> programs, EPA has explained that “contingency measures” can mean that the air agency has a comprehensive program to identify sources of violations of the SO<sub>2</sub> NAAQS and to undertake an “aggressive” follow-up for compliance and enforcement, including expedited procedures for establishing enforceable consent agreements pending the adoption of the revised SIP. EPA believes that this approach continues to be valid for the implementation of contingency measures to address the 2010 SO<sub>2</sub> NAAQS, and consequently concludes that Pennsylvania’s comprehensive enforcement program, as discussed below, satisfies the contingency measure requirement. This approach to contingency measures for SO<sub>2</sub> does not preclude an air agency from requiring additional measures that are enforceable and appropriate for a particular source category if the State determines such supplementary measures are appropriate. As EPA has stated in our reasonable interpretation of contingency measures for areas coming into attainment with the 2010 SO<sub>2</sub> NAAQS, in order for EPA to be able to approve the SIP, the supplementary contingency measures would need to be a fully adopted provision in the SIP that becomes effective where the area has failed to meet RFP or fails to attain the standard by the statutory attainment date. The supplementary contingency measures proposed for the Warren Area are in the COA we are incorporating into the Pennsylvania SIP and thus will be fully approved provisions within the SIP.

As noted in EPA’s NPRM, EPA’s 2014 SO<sub>2</sub> Nonattainment Guidance describes special features

of SO<sub>2</sub> planning that influence the suitability of alternative means of addressing the requirement in section 172(c)(9) for contingency measures including a comprehensive enforcement program. Pennsylvania has a comprehensive enforcement program as specified in Section 4(27) of the Pennsylvania Air Pollution Control Act (APCA), 35 P.S. section 4004(27). Under this program, PADEP is authorized to take any action it deems necessary or proper for the effective enforcement of the Act and the rules and regulations promulgated under the Act. Such actions include the issuance of orders (for example, 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. Sections 9.1 and 10.1 of the APCA, 35 P.S. sections 4009.1 and 4010.1, also expressly authorize PADEP to issue orders to aid in the enforcement of the APCA and to assess civil penalties.

Any person in violation of the APCA, rules and regulations, any order of PADEP, or plan approval or operating permit conditions would also be subject to criminal fines upon conviction under Section 9, 35 P.S. section 4009. Section 7.1 of the APCA, 35 P.S. section 4007.1, prohibits PADEP from issuing plan approvals and operating permits for any applicant, permittee, or a general partner, parent or subsidiary corporation of the applicant or the permittee that is placed on PADEP's Compliance Docket until the violations are corrected to the satisfaction of PADEP.

EPA concludes that Pennsylvania's enforcement program by itself suffices to satisfy the contingency measure requirements. Therefore, notwithstanding Sierra Club's concerns about the specificity and triggering of the supplementary measures identified in the United Refining COA, EPA believes that Pennsylvania's enforcement program, which is enhanced by the

supplementary provisions in the United Refining COA, suffice to meet Section 172(c)(9) requirements as interpreted in the 1992 General Preamble and the 2014 SO<sub>2</sub> Nonattainment Guidance.

*Comment 4:* The commenter asserts that EPA's proposed rulemaking includes an improper reference to the Indiana Area in Part III. Section A.

*Response 4:* EPA agrees with the commenter that the term Indiana Area was inadvertently included in Part III. Section A. of the NPRM. The language should have read, "Pennsylvania's attainment plan appropriately considered SO<sub>2</sub> emissions for the Warren Area."

*Comment 5:* The commenter asserts that PADEP erroneously calculated emissions of road and non-road sources of 1.380 and 0.337 tons, respectively. They assert that the National Emissions Inventory suggests those same emissions categories were closer to 4.28 and 0.781 tons, respectively. The commenter states that while the Warren Nonattainment Area does not comprise the entirety of Warren County, it does include the vast majority of the county, including the more developed portions, rendering the extremely large emissions discrepancies to be quite concerning.

*Response 5:* EPA disagrees with the commenter. The methodologies used to determine the onroad and nonroad emissions were reviewed and deemed reasonable by EPA. The nonroad emissions are calculated for the nonattainment area (NAA) by using proportional population for the four municipalities that comprise the NAA. Using the 2010 census, approximately 43.18 percent of the population of Warren County lives within the Warren NAA, therefore the total nonroad emissions for the county (0.781 tpy) were multiplied by the percent of the population

(43.18 %) to get nonroad emissions for the NAA (0.337 tpy). The onroad emissions were calculated using the EPA's MOVES2014 emissions model. The inputs used in the model account for vehicle activity data within the four municipalities within the NAA. The onroad and nonroad emissions contribute to 0.17 % and 0.031 %, respectively, of the total emissions in the NAA. As stated in the NPRM, EPA reviewed the methodologies for the development of the base year inventory and found them to be reasonable.

*Comment 6:* The commenter states that EPA's claim of evaluating SO<sub>2</sub> emissions in the Warren nonattainment area is not valid because there are only two SO<sub>2</sub> ambient air quality monitors within the four municipalities of the Warren Area. The commenter asserts that the ambient air quality data is not representative of the entire nonattainment area or the most populated municipality, and that additional monitor sites must be established in the populated areas. The commenter states that the Warren Overlook monitor is 2.9 miles from the United Refinery and that neither that monitor nor the Warren East monitor are in the direction of the prevailing wind, 229.6 degrees. Therefore, because of the lack of monitoring sites in all municipalities, the "dubious" siting of existing monitors in locations not in the path of prevailing winds, and the vast area of Warren County not proximate to monitors, the claim by EPA that the attainment plan evaluates SO<sub>2</sub> emissions for the area is unprovable. The commenter asserts that the plan is not approvable and fails to meet the requirements of 40 CFR 51.112(a) which requires plans to demonstrate that the measures are adequate to provide for timely attainment and maintenance of NAAQS. The commenter asserts additional "emissions monitors" must be established in populated areas near the refinery where people are most likely exposed to SO<sub>2</sub>. The commenter urged EPA to reevaluate the number and location of monitors to ensure accurate and timely data

regarding SO<sub>2</sub> exposure.

*Response 6:* EPA disagrees with the commenter. EPA used ambient monitoring data to determine that the Warren Area was not attaining the 2010 SO<sub>2</sub> NAAQS in 2013 (78 FR 47191), and consistent with EPA's 2014 SO<sub>2</sub> Nonattainment Guidance and EPA's Modeling Guidance, PADEP provided modeling to determine that PADEP's attainment plan will bring the entire nonattainment area into attainment with the NAAQS. The 2010 primary SO<sub>2</sub> NAAQS was established to be protective of public health and the Warren Area attainment plan modeling shows that the SO<sub>2</sub> NAAQS will be met *throughout* the nonattainment Area. EPA evaluated PADEP's modeling and emissions data and determined that it has met all applicable requirements as described in EPA's NPRM.

PADEP operates more monitors in the area (and throughout the State) than are required by the Population Weighted Emissions Index (PWEI) requirement described in appendix D to 40 CFR part 58. PADEP established the Warren Overlook monitor in November 1996 and the Warren East monitor was established in January 2012. The monitors have been sited correctly and in accordance with the requirements of 40 CFR part 58, appendix E. Thus, EPA disagrees with the commenter that EPA must reevaluate the number and location of SO<sub>2</sub> monitors in the area and disagrees with the commenter that the siting of ambient monitors in the Area impacts our ability to approve the attainment plan for this area. As Pennsylvania has the legally required monitoring for the Area per 40 CFR part 58 and EPA finds the attainment plan otherwise meets requirements in the CAA, EPA is approving the attainment plan for the Warren Area.

In addition, EPA approved Pennsylvania's November 17, 2017 Annual Ambient Air Monitoring

Network Plan on January 11, 2018 because it meets the requirements of 40 CFR part 58.10, and has not in this SIP approval action re-opened that prior monitoring plan approval action.<sup>9</sup>

*Comment 7:* The commenter asserts that the United Refining COA is designed only to ensure a violation at the monitor is not recorded and that it is not protective of the health of citizens in the area since the monitors are not properly placed. The commenter asserts that the placement of monitors is such that they will have minimal likelihood of detecting an exceedance. The commenter states that as currently constructed, the Attainment Plan “lacks sufficient measures to expeditiously identify the source of any violation of the SO<sub>2</sub> NAAQS, and, more importantly, lacks essential safeguards to trigger protection of public health and welfare across the entire nonattainment area.”

*Response 7:* EPA disagrees with the commenter. The 2010 primary SO<sub>2</sub> NAAQS was established to be protective of public health and the Warren Area attainment plan modeling shows that the SO<sub>2</sub> NAAQS will be met throughout the nonattainment area.

The COA between PADEP and United Refining was signed on September 29, 2017 and is included in the Docket in Appendix B of Pennsylvania’s submittal. The emissions limitations agreed to in the COA were modeled by Pennsylvania to show that at the worst case (maximum allowable emissions) scenario, emissions from United Refining will not be causing nonattainment of the primary SO<sub>2</sub> NAAQS anywhere in the Warren Area. In addition, as discussed in Response 6, PADEP meets the requirements for ambient monitoring as established in 40 CFR part 58, appendices D and E. Thus, EPA is approving Pennsylvania’s attainment plan

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<sup>9</sup> For informational purposes, EPA’s approval letter for the Pennsylvania November 17, 2017 Annual Ambient Air Monitoring Network Plan is included in the docket for this rulemaking and available at [www.regulations.gov](http://www.regulations.gov).

for the Warren Area.

*Comment 8:* Two commenters addressed the NNSR Program in Pennsylvania, as it relates to the addition of sour tip stripper units that were installed at the United Refining plant in March 2018. The first commenter asserts that while Pennsylvania concluded the modification of the sour tip stripper unit to the Facility did not trigger NNSR, the restart of the refinery after the modification, should have prompted PADEP regulators “to conduct the NNSR.” The commenter asked how EPA could conclude Pennsylvania’s SIP meets requirements of CAA 172(c)(5) for the Area and states that EPA should pause approval of the attainment plan to conduct an audit of PADEP compliance with NNSR regulations. The second commenter asks if the modified sour tip units were taken into account with regard to the proposed attainment plan and if United Refining is subject to the NNSR program for the Warren Area.

*Response 8:* EPA disagrees with the commenters, and notes that several of the points they raise are outside the scope of this attainment SIP approval action. 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. Pennsylvania has a NNSR program for criteria pollutants in 25 Pennsylvania Code Chapter 127, Subchapter E, which was approved into the Pennsylvania SIP on December 9, 1997 (62 FR 64722). On May 14, 2012 (77 FR 28261), EPA approved a SIP revision pertaining to the pre-construction permitting requirements of Pennsylvania’s NNSR program to update the regulations to meet EPA’s 2002 NSR reform regulations. EPA then approved an update to Pennsylvania’s NNSR regulations on July 13, 2012 (77 FR 41276). PADEP’s currently SIP approved NNSR program meets all of the requirements of CAA sections 175(c)(5) and 173 and 40 CFR 51.165 for SO<sub>2</sub> sources undergoing construction

or major modification in the Warren Area. EPA does not, as a general matter, evaluate individual permitting actions in the context of a SIP revision. Nor do we “audit” a permitting authority’s implementation of already approved regulations in the course of determining whether an individual SIP revision request meets all applicable requirements of the CAA. If a source improperly avoids NNSR permitting, the source is potentially subject to enforcement action. As noted by the commenter, PADEP evaluated the installation of the sour tips stripper unit and determined that the project did not trigger major NNSR. The commenter has provided no evidence to conclude that PADEP did so incorrectly. Regardless, if the commenter took issue with PADEP’s determination on the sour tips stripper installation, the time to raise such concerns was during the permitting process, not here, as individual permitting actions are not germane to this SIP action which only evaluates whether the SIP includes the program as required by CAA section 172(c)(5).

In addition, the Warren Attainment Plan was submitted to EPA on September 29, 2017, which was prior to the installation of the sour tip units, and as such that installation was not included in the attainment plan. However, the project was considered under Pennsylvania’s NNSR regulations; the project was evaluated and determined by PADEP to not trigger major NNSR. Finally, EPA disagrees that the attainment plan submitted to meet CAA section 172 needs to address any modifications at sources in a nonattainment area that occur after the plan is submitted. CAA section 172(c)(5) specifically requires attainment plans to include NNSR permit programs which will ensure future construction or modifications at sources (such as the sour tip units at United Refining) do not interfere with an area attaining the NAAQS.

*Comment 9:* Six commenters provided video and photos of a fire at the United Refining facility

in spring 2018, with identical comments. The commenters inquired whether EPA or PADEP have been contacted about the fires at the refinery, or if EPA or PADEP have been actively involved in the restart of the refinery. The commenters inquired about the types of pollutants that are being released during the refinery fire, which they assert have been ongoing for three weeks.

*Response 9:* EPA notes that none of the comments and photos sent by commenters about fires at United Refining are related to the attainment plan EPA has proposed to approve for the Warren Area or to the reasoning EPA provided in the NPRM for our approval of the plan as addressing requirements in CAA sections 110, 172, and 192. The fires do not affect whether the limits that Pennsylvania has adopted suffice to assure attainment or whether the plan more generally satisfies applicable requirements. Thus, these comments are not germane to our proposed rulemaking, and no response is necessary. However, EPA reviewed PADEP's preliminary (yet to be quality assured or certified) hourly SO<sub>2</sub> data collected at the Warren Overlook and Warren East monitors for the month of April, when the fires and related flaring were reported to EPA.<sup>10</sup> The ambient air quality monitor data reviewed by EPA during this period do not show monitored SO<sub>2</sub> concentrations approaching the NAAQS of 75 ppb. The highest hourly concentration at the monitors during April 2018 was 22 ppb on April 23, 2018, which is well below the 2010 SO<sub>2</sub> NAAQS. The commenters have not provided any other information such as modeling of actual emissions during the fire to suggest that there are NAAQS exceedances that the monitors may have not detected.

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<sup>10</sup> PADEP's preliminary ambient air monitoring data is accessible in real-time at this site: [http://www.ahs.dep.pa.gov/air\\_apps/aadata/Default.aspx](http://www.ahs.dep.pa.gov/air_apps/aadata/Default.aspx). EPA accessed the data on the morning of Friday, May 18, 2018 and has provided this data in a memo to the file in the docket for this rulemaking.

### **III. Final Action**

EPA is approving Pennsylvania's SIP revision submittal for the Warren Area, as submitted through PADEP to EPA on September 29, 2017 for the purpose of demonstrating attainment of the 2010 1-hour SO<sub>2</sub> NAAQS. EPA has determined that Pennsylvania's SO<sub>2</sub> attainment plan for the 2010 1-hour SO<sub>2</sub> NAAQS for the Warren Area meets the applicable requirements of the CAA in sections 110 and 172 and comports with EPA's recommendations discussed in the 2014 SO<sub>2</sub> Nonattainment Guidance. Specifically, EPA is approving the base year emissions inventory, a modeling demonstration of SO<sub>2</sub> attainment, an analysis of RACM/RACT, a RFP plan, and contingency measures for the Warren Area, and concludes that the Pennsylvania SIP has met requirements for NNSR for the 2010 1-hour SO<sub>2</sub> NAAQS. Additionally, EPA is approving into the Pennsylvania SIP specific SO<sub>2</sub> emission limits, compliance parameters and contingency measures established for United Refining, the SO<sub>2</sub> source impacting the Warren Area. Furthermore, approval of this SIP submittal removes EPA's duty to promulgate and implement a FIP under CAA section 110(c) for the Warren Area.

### **IV. Incorporation by Reference**

In this document, EPA is finalizing regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is finalizing the incorporation by reference of the portions of the COA entered between Pennsylvania and United Refining Company on September 29, 2017 that are not redacted. This includes emission limits and associated compliance parameters, record-keeping and reporting, and contingency measures. EPA has made, and will continue to make, these materials generally available through <https://www.regulations.gov/> or at the EPA Region III Office (please contact the person

identified in the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information). Therefore, these materials have been approved by EPA for inclusion in the SIP, have been incorporated by reference by EPA into that plan, are fully federally enforceable under sections 110 and 113 of the CAA as of the effective date of the final rulemaking of EPA's approval, and will be incorporated by reference by the Director of the Federal Register in the next update to the SIP compilation.<sup>11</sup>

## **V. Statutory and Executive Order Reviews**

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. 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 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);
- 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.*);

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<sup>11</sup> 62 FR 27968 (May 22, 1997).

- 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 Clean Air Act; 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, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which

includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[Insert date 60 days after date of publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action of approving a SIP revision, submitted by the Commonwealth of Pennsylvania through the Pennsylvania PADEP, to EPA on September 29, 2017, for attainment of the 2010 1-hour SO<sub>2</sub> primary NAAQS in the Warren, Pennsylvania SO<sub>2</sub> nonattainment area may not be challenged later in proceedings to enforce its requirements. (See CAA section 307(b)(2).)

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

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

Dated: September 28, 2018.

Cosmo Servidio,  
Regional Administrator,  
Region III.

40 CFR part 52 is amended as follows:

**PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

1. The authority citation for part 52 continues to read as follows:

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

**Subpart NN-- Pennsylvania**

2. Amend § 52.2020 by:

a. In paragraph (d)(3), adding an entry for “United Refining Company” at the end of the table;  
and

b. In paragraph (e)(1), adding an entry for “Attainment Plan for the Warren, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard” at the end of the table.

The additions read as follows:

**§ 52.2020 Identification of plan.**

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(d)\* \* \*

(3)\*\*\*

Name of source	Permit No.	County	State effective date	EPA approval date	Additional explanation/§ 52.2063 citation
* * * * *	*				

United Refining Company	None	Warren	9/29/17	<b><u>[Insert date of publication in the Federal Register], [Insert Federal Register citation]</u></b>	Sulfur dioxide emission limits and related parameters in unredacted portions of the Consent Order and Agreement
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(e)\*\*\*

(1) \*\*\*

<b>Name of non-regulatory SIP revision</b>	<b>Applicable geographic area</b>	<b>State submittal date</b>	<b>EPA approval date</b>	<b>Additional explanation</b>
* * * * *				
Attainment Plan for the Warren, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard	Conewango Township, Glade Township, Pleasant Township, and the City of Warren in Warren County		<b><u>[Insert date of publication in the Federal Register], [Insert Federal Register citation]</u></b>	Includes base year emissions inventory.

\* \* \* \* \*

[FR Doc. 2018-22174 Filed: 10/11/2018 8:45 am; Publication Date: 10/12/2018]