6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R03-OAR-2020-0171; FRL-10010-86-Region 3]

Air Plan Approval; West Virginia; Redesignation of the Marshall Sulfur Dioxide Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a redesignation request and state implementation plan (SIP) revisions submitted by the State of West Virginia related to the national ambient air quality standard (NAAQS or Standard) for the 2010 1-hour sulfur dioxide (SO_2) NAAQS (2010 SO_2 NAAQS). On March 18, 2020, West Virginia, through the West Virginia Department of Environmental Protection (WVDEP), submitted a redesignation request for the Marshall, West Virginia SO_2 Nonattainment Area (Marshall Area or Area). In conjunction with its request, WVDEP submitted SIP revisions comprised of a maintenance plan providing for continued attainment of the SO_2 NAAQS for a period of ten years following redesignation of the Area, SO_2 emissions limits for the Mitchell Power Plant (Mitchell), and a modeling analysis demonstrating that the Mitchell limits provide for attainment in the Area. The effect of this proposal, if finalized, would change the designation of the Marshall Area from nonattainment to attainment of the 2010 SO_2 NAAQS. 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-2020-0171 at https://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 https://www.epa.gov/dockets/commenting-epa-dockets.

FOR FURTHER INFORMATION CONTACT: Marilyn Powers, Planning & Implementation Branch (3AD30), Air & Radiation Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. The telephone number is (215) 814-2308. Ms. Powers can also be reached via electronic mail at powers.marilyn@epa.gov.

SUPPLEMENTARY INFORMATION: EPA is proposing to take the following actions: 1) approve and incorporate into the SIP the SO_2 limits and associated compliance and monitoring parameters in consent order CO-SIP-C-2019-13 for Mitchell; 2) determine that the air quality

modeling submitted by the WVDEP demonstrates that the Marshall Area has attained the 2010 SO_2 NAAQS as a result of compliance with the consent order limits for Mitchell; 3) approve and incorporate into the SIP West Virginia's plan for maintaining the 2010 SO_2 NAAQS in the Marshall Area through 2030 pursuant to section 175A of the CAA; and 4) redesignate the Marshall Area to attainment for the 2010 SO_2 NAAQS.

Table of Contents

I. Background

On June 22, 2010 (75 FR 35520), EPA published a new 1-hour primary SO_2 NAAQS of 75 parts per billion (ppb), which 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 does not exceed 75 ppb, as determined in accordance with appendix T of 40 CFR part 50. On August 5,

2013 (78 FR 47191), EPA designated 29 areas of the country as nonattainment for the 2010 SO_2 NAAQS, including the Marshall Area in West Virginia. These designations are referred to as "round one" SO_2 area designations which were effective on October 4, 2013. In that action, the Marshall Area was designated nonattainment for the 2010 SO_2 NAAQS based on data collected at the Moundsville, West Virginia ambient air quality monitoring station for calendar years 2009 through 2011. The Marshall Area is comprised of the Clay, Franklin, and Washington Tax Districts of Marshall County, West Virginia.

Under CAA section 191(a), attainment plan SIPs were due for areas designated nonattainment in round one 18 months after the effective date of designation, or April 4, 2015. Such SIPs were required by CAA section 192(a) to provide for attainment of the NAAQS as expeditiously as practicable, but no later than five years from the effective date of nonattainment designation, or October 4, 2018. West Virginia submitted an attainment SIP on March 17, 2017 (2017 SIP).[1] The SIP addressed the required elements of an attainment SIP under CAA section 172(c), including an attainment demonstration that the State asserted showed attainment of the 2010 SO_2 Standard, SO_2 emissions limits for the Mitchell Power Plant, reasonably available control measures including reasonably available control technology (RACM/RACT), reasonable further progress (RFP), contingency measures, and certification that nonattainment new source review (NNSR) permit program requirements were being met. The 2017 SIP included a West Virginia Compliance Order on Consent (2016 consent order) that required Kentucky Power Company, the operator of American Electric Power's (AEP) Mitchell Power Plant, to comply with an SO_2 maximum emissions limit from Units 1 and 2, of 6,175 pounds per hour (lbs/hr) on a

[1] On March 18, 2016, EPA made a finding of failure to submit nonattainment area SIPs for 19 nonattainment areas, including the Marshall Area. EPA's letter to West Virginia dated September 27, 2017 confirmed that West Virginia's March 17, 2017 submittal corrected the deficiency identified in the finding.

30-day rolling average, along with associated monitoring, recordkeeping, and reporting requirements, starting on January 1, 2017. The March 18, 2020 submittal requesting redesignation included a demonstration showing attainment, a maintenance plan, contingency measures, and a December 2, 2019 consent order (2019 consent order) with Kentucky Power for Mitchell with lower SO_2 emissions limits based on modeling with a changed stack height. Specifically, the 2019 consent order establishes an SO_2 emissions limit for Mitchell Units 1 and 2 as a maximum of 3,149 lbs/hr on a 30-day rolling average, with compliance parameters including continuous emissions monitoring, recordkeeping including a calculation of the daily 30-day average, reporting of deviations from the requirements and semi-annual compliance reporting. Compliance with the limits and other provisions in the 2019 consent order were required starting on January 1, 2020.

Under CAA section 110(k)(2) through (4), EPA was required to take action to approve or disapprove West Virginia's 2017 SIP within 12 months of determining it to be complete, but EPA did not take timely action. Subsequently, the Center for Biological Diversity and other plaintiffs (CBD) sued EPA in the U.S. District Court for the Northern District of California seeking a court order to compel EPA's action on West Virginia's 2017 SIP and several other SIPs for other areas in the nation. *Center for Biological Diversity, et al., v. Wheeler*, No. 4:18-cv-03544-YGR. That lawsuit resulted in the plaintiffs and EPA agreeing to a schedule, entered by the court as an order, for EPA to take action on the covered SIPs by certain deadlines. October 30, 2020 was the court ordered deadline given for EPA to take action on West Virginia's 2017 SIP. The order also provided that if EPA issues a redesignation to attainment for any area for which the order required EPA action on a submitted SIP covered by the order, then EPA's obligation to take action on that SIP's CAA section 172(c) elements would be

automatically terminated. Consequently, if EPA takes final action to redesignate the Marshall, West Virginia nonattainment area to attainment before October 30, 2020, EPA will not be required to take action on the 2017 SIP.

II. Criteria for Redesignation to Attainment

Under CAA section 107(d)(3)(E), there are five criteria which must be met before a nonattainment area may be redesignated to attainment:

1. EPA has determined that the relevant NAAQS has been attained in the area;

2. The applicable implementation plan has been fully approved by EPA under section 110(k);

3. EPA has determined that improvement in air quality is due to permanent and enforceable reductions in emissions resulting from the SIP, Federal regulations, and other permanent and enforceable reductions;

4. EPA has fully approved a maintenance plan, including a contingency plan, for the area under section 175A of the CAA; and,

5. The state has met all applicable requirements for the area under section 110 and part D.

III. EPA's Analysis of West Virginia's Redesignation Request for the Marshall Area

A. The Marshall Area has attained the 2010 SO_2 NAAQS

EPA's 2014 Guidance[2] for areas designated nonattainment explains that there are generally two components needed to support an attainment determination, which should be considered interdependently. First, to demonstrate that it is meeting the Standard, an SO_2 nonattainment area which was designated based on air quality monitoring data would need to have three consecutive calendar years of air quality monitoring data showing that the area is meeting the Standard. The data would need to be complete and quality-assured, consistent with

[2] Guidance for 1-Hour Sulfur Dioxide Nonattainment Area SIP Submissions, April 23, 2014, page 62.

40 CFR part 58 requirements, and other relevant EPA guidance, and properly submitted to the Air Quality System (AQS) database of the EPA's Aerometric Information Retrieval System (AIRS). Areas relying on monitoring data alone to support a determination of attainment are also expected to provide a demonstration (via air quality modeling) that the affected monitor(s) is or are located in the area of maximum concentration. If there are air quality monitors located in the area, but none are located in the area of predicted maximum concentration, then air quality dispersion modeling will generally be needed to estimate SO_2 concentrations in the area for purposes of determining attainment. If both monitoring and modeling evidence is available, EPA will consider all available evidence.

Under EPA regulations at 40 CFR 50.17, the SO_2 Standard is met at an ambient air quality monitoring site when the three-year average of the annual 99th percentile of daily maximum one-hour average concentrations is less than or equal to 75 ppb, as determined in accordance with appendix T of 40 CFR part 50. The Standard must be met at all relevant monitoring sites in the subject area. There is only one monitor in the Marshall Area, which is located at the Moundsville National Guard Armory in Marshall County. The data from this monitor has been certified and uploaded to EPA's AQS website, through December 31, 2019, and shows an attaining design value for the most recent three-year period (2017 through 2019) of 8 ppb. The 2019 AQS design value report is included in the docket for this rulemaking action and is summarized in Table 1.

Table 1. Marshall Area 99th Percentile of 1-hour Daily Maximum SO_2 Concentrations (ppb), and 2017 – 2019 Design Value.

Monitor	Monitor ID	2017	2018	2019	2017-2019 Design Value
Moundsville National Guard Armory	54-051-1002	7	9	9	8

1. 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. The control strategy requirements that SIPs must meet are further delineated in 40 CFR part 51 subpart G. EPA has long required that all SIPs and control strategies reflect four fundamental principles of quantification, enforceability, replicability, and accountability. General Preamble for Implementation of title I of the CAA. 57 FR 13498, April 16, 1992, at 13567-68. Attainment plans for the SO_2 NAAQS 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 April 2014 guidance recommends that the emission limits 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 April 2014 guidance, pages 22 to 39. The April 2014 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 (CEV) shown to provide for attainment that the plan otherwise would have set.

The April 2014 guidance provides an extensive discussion of EPA's rationale for concluding that appropriately set, comparably stringent limitations based on averaging times for periods 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 pages 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 99th 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 99th 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 of the NAAQS's 75 ppb level does not create a violation of the Standard. Instead, at issue is whether a source operating in compliance with a properly set emission limit with a longer term average could cause exceedances of 75 ppb, 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 3-year average of the annual fourth highest daily maximum 1-hour average 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's form for determining attainment at monitoring sites, follows.

For SO_2 attainment demonstrations 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"[3] shows three, not four days with maximum hourly levels exceeding 75 ppb) is labeled the "critical emission value." The modeling process for identifying this CEV 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 CEV.

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 CEV. EPA also acknowledges the concern that longer term emission limits can allow short periods with emissions above the CEV which, if coincident with meteorological conditions conducive to high SO_2 concentrations, could in turn create the possibility of an

[3] An "average year" is used to mean a year with average air quality. While 40 CFR part 50 appendix T provides for averaging three years of 99th percentile daily maximum 1-hour values (e.g., the fourth highest daily maximum 1-hour 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.

exceedance of the NAAQS level occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the CEV. However, for several reasons, EPA believes that the approach recommended in its April 2014 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 CEV that is proportionate to the anticipated variability in the source's emissions profile. As a result, EPA expects either form of emission limit to yield a comparable reduction in SO_2 emissions and 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 at levels higher than the CEV but on average, and presumably at most times, to emit well below the CEV. In an "average year," compliance with the 1-hour limit is expected to result in three exceedance days (i.e., three days with maximum 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 of 75 ppb would occur that would not occur in the 1-hour limit scenario (if emissions exceed the CEV at times when meteorology is conducive to poor air quality).

However, this comparison must also factor in the likelihood that exceedances of 75 ppb 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 CEV), 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 1,000 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 five 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 1,000 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 per hour, 1,100 pounds per hour, 500 pounds per hour, 900 pounds per hour, and 1,200 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 of 75 ppb that would not otherwise have occurred, but the third day would not have exceedances that otherwise would have occurred, and the fourth day would be below rather than at 75 ppb. In this example, the fourth highest maximum daily 1-hour 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 April 2014 Guidance, EPA found that the requirement for lower average emissions over a longer averaging period 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 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 of 75 ppb and better air quality than an emission profile with maximum allowable emissions under a 1-hour emission limit at the CEV. 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 CEV–meets the requirement in section 110(a)(1) and 172(c)(1) for state implementation plans to "provide for attainment" of the NAAQS. For SO_2, as for other pollutants, it is generally impossible to design a nonattainment area 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 CEV. 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 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 April 2014 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 CEV), 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 99th percentile among these long term averages to the 99th 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.[4] The guidance provided extensive recommendations regarding the calculation of the adjustment factor, for example to derive the adjustment factor from long term average versus 1-hour emissions statistics computed in accordance with the compliance determination procedures that the state is applying. These recommendations are intended to yield the most pertinent estimate of the impact of applying a longer term average limit on the stringency of the limit in the relevant context. The April 2014 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*).*[5] In 2005, EPA promulgated 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

[4] For example, if the CEV is 1,000 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.
[5] EPA published revisions to the *Guideline on Air Quality Models* (40 CFR part 51, appendix W) on January 17, 2017.

SO_2 Standard is provided in appendix A to the April 2014 SO_2 Guidance document referenced above. Appendix A provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations. 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 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 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).

In the modeling analysis for Marshall, attainment was demonstrated at an hourly SO_2

emission rate of 0.31 pounds per million British thermal units (lb/MMBtu) from both generating units at the Mitchell Power Plant, which equates to a 1-hour modeled CEV of 5,222.08 lbs/hr (both units combined). West Virginia submitted an analysis of emissions from October 1, 2011 through September 30, 2016 to determine a rolling 30-day average emission rate that would be of comparable stringency to a 1-hour limit at the modeled emission rate, as suggested in the April 2014 Guidance. West Virginia followed the steps established by *Appendix C, Example Determination of Longer Term Average Emission Limits* of the April 2014 Guidance, including the evaluation of five years of historical data and the distribution of the hourly and 30-day averages. The 99th percentile value among the hourly data and the 99th percentile value among the 30 operating-day period averages were each computed. In order to calculate the 30-day average, only operating days were included in the average. An operating day is a day in which one or both of units had at least one hour of emissions data reported. The ratio of these two values was an adjustment factor of 60.3 percent. Multiplying this adjustment factor by the CEV serves to estimate the 30-day average limit that is comparably stringent to a 1-hour limit at the CEV. By this means, West Virginia calculated a 30-day average limit of 3,149 pounds of SO_2 per hour on a 30-day rolling average basis (both units combined). EPA agrees that West Virginia appropriately determined the CEV, the adjustment factor, and the resulting 30-day average limit.

2. Modeling analysis

The Moundsville Armory monitor was sited to assess the SO_2 impacts caused by the major SO_2 sources located along the Ohio River Valley in Marshall County. These facilities have had significant contributions of SO_2 emissions to the area and impacted the Moundsville

monitoring site for over three decades. During the 2009-2011 time frame upon which the nonattainment designation was based, the sources included the R.E. Burger Power Plant in Belmont County, Ohio, the Kammer Power Plant, and the Rain CII Carbon Plant, which have all permanently shut down, and the Eagle Natrium, LLC plant, which now burns natural gas, and the Mitchell Power Plant. Mitchell Power Plant is the remaining primary source of SO_2 in the Area that contributes to the Moundsville monitor, which is located approximately 11 kilometers northeast of Mitchell. However, the attainment modeling submitted in the 2017 SIP showed that the maximum SO_2 concentration within the Area is located 0.75 kilometers east-northeast of the Mitchell Power Plant.

Because the Moundsville Armory monitor is not at the location of maximum concentration, a modeling demonstration is required to show that SO_2 concentrations throughout the Area show attainment. West Virginia's March 18, 2020, SIP submittal includes a modeling analysis to show that the Area will attain the 2010 SO_2 NAAQS based on the SO_2 emission limit established for Mitchell Power Plant in a 2019 consent order with WVDEQ. EPA's analysis of the West Virginia modeling is more fully described in a Modeling Technical Support Document (TSD) that is provided in the docket for this rulemaking action and summarized below.

The modeling protocol was developed by West Virginia in September of 2016 and periodically revised throughout the development of the 2017 attainment SIP modeling demonstration. Final revisions to the protocol were made in December of 2016 and reflect the procedures that were used in the submitted 2017 attainment SIP modeling analysis. Although WVDEP did not subsequently alter the modeling protocol, WVDEP revised the attainment SIP modeling inputs in July 2019 to change the Mitchell stack height used in the modeling analysis to determine the lower limits needed to attain the SO_2 Standard. The modeling analysis was

submitted as part of West Virginia's 2020 redesignation request and was conducted in accordance with appendix A of EPA's April 2014 Guidance and appendix W to 40 CFR part 51 – Guideline on Air Quality Models, that was published on January 17, 2017[6] and became effective May 22, 2017.

West Virginia developed its modeling analysis for the Marshall, West Virginia SO_2 redesignation request in July 2019 using AERMOD version 18081, which was the most current version of the model available when the modeling was being performed. AERMOD is a refined, steady-state (both emissions and meteorology over a 1-hour time step), multiple source, air-dispersion model that was originally promulgated by the EPA as part of its December 2005 revision to the Guideline on Air Quality Models, and is the preferred model to use for industrial sources in this type of air quality analysis. At the time West Virginia was preparing the 2017 SO_2 attainment SIP, the available version of AERMOD was version 15181, which was made available by EPA's Support Center for Air Quality Models[7] on July 24, 2015. On April 24, 2018, EPA released AERMOD version 18081. For the March 18, 2020 redesignation request, West Virginia re-ran the model using AERMOD 18081. The most notable changes between version 18081 and version 15181 of the model was the inclusion of an alternate surface friction option ("ADJ_U*") and the allowance for the use of prognostic meteorological data as regulatory default options according to the final modeling guideline (40 CFR part 51 appendix W), released on December 20, 2016. The ADJ_U* option was used in the latest modeling.

The AERMOD system used in the modeling demonstration is comprised of several preprocessors that are needed to develop the files necessary to run the air-dispersion model.

[6] https://www3.epa.gov/ttn/scram/appendix_w/2016/AppendixW_2017.pdf
[7] https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod

These preprocessors include the meteorological preprocessors AERMET[8] and AERSURFACE,[9] as well as the building preprocessor, BPIPPRM, to calculate building downwash parameters and the terrain preprocessor, AERMAP,[10] to determine emission source and receptor elevations used in the final SIP modeling analysis. The primary SO_2 emitting facility remaining in operation and impacting the Marshall Area is the Mitchell Power Plant.[11] To ensure maintenance of the 2010 SO_2 NAAQS in the Marshall Area, air dispersion modeling was conducted for the SO_2 emissions from the Mitchell Plant to show that the Marshall Area will continue to attain the 2010 SO_2 NAAQS. The Mitchell Plant consists of two coal-fired electric generating units (EGU) rated at 800 megawatts (MW) net each, equipped with an electrostatic precipitator for particulate control, selective catalytic reduction (SCR) for nitrogen oxide and mercury control, and a limestone-based flue gas desulfurization system for SO_2 control. The plant is located in the Ohio River Valley in Marshall County, West Virginia, approximately 11 kilometers southwest of Moundsville, West Virginia. The units were modeled as point sources and a load analysis was performed at full load, 75% load, and 50% load.

The meteorological inputs used were developed for the period 2011 through 2015 using Version 18081 of AERMET using Wheeling Airport surface data along with one minute and five minute data from the Automated Surface Observing System (ASOS) located at the site. Upper Air Data was sourced from the Greater Pittsburgh International Airport (KPIT) site through the National Oceanic and Atmospheric Administration Earth System Research Laboratory Radiosonde Database.

[8] American Meteorological Society/Environmental Protection Agency Regulatory Model Meteorological Processor.
[9] American Meteorological Society/Environmental Protection Agency Regulatory Model Land Cover Processor.
[10] American Meteorological Society/Environmental Protection Agency Regulatory Model Terrain Preprocessor.
[11] See Round 1 SO_2 designations TSD for West Virginia for EPA's analysis of emissions and boundaries for the Marshall Area, at https://www.epa.gov/sites/production/files/2016-03/documents/wv-tsd.pdf

The modeled design concentration is the combination of the appropriate background concentration (section 8.3 of appendix W – Guideline on Air Quality Models) and the estimated modeled impact of the Mitchell Plant and any other identified nearby sources, which in this case was none. A comparison of the modeled design concentrations for each load case to the 2010 SO_2 NAAQS is shown on Table 2.

Table 2. Summary of West Virginia SO_2 Modeling Demonstration Results, in micrograms per cubic meter ($\mu g/m^3$)

Case	West Virginia 1-Hour SO_2 Concentration ($\mu g/m^3$)	1-Hour SO_2 NAAQS ($\mu g/m^3$)
Full Load	196.2	196.4
75 % Load	187.9	196.4
50 % Load	175.5	196.4

The West Virginia modeling demonstration generally follows guidance included in appendix A of EPA's 2014 Guidance and EPA's revised "Guideline on Air Quality Models" published on January 17, 2017 (82 FR 5182). Peak model concentrations from the compliance run were 196.2 $\mu g/m^3$. The modeled emission rates reflect emission rates contained in the 2019 consent order between West Virginia and Kentucky Power that are part of the SIP submittal, and which became enforceable at the state level on January 1, 2020, and which will become Federally enforceable if this proposed rulemaking is finalized. The modeling demonstration properly characterized source limits, local meteorological data, background concentrations and provided an adequate model receptor grid to capture maximum modeled concentrations. The modeling simulations show that even at the worst-case scenario, with the Mitchell facility operating at full capacity at the allowable emission limits, the design value would be below the NAAQS, demonstrating that the modeled emission limits will allow the Marshall Area to comply with the 2010 SO_2 NAAQS for the maintenance period.

EPA's April 2014 Guidance[12] explains that EPA may also make determinations of attainment based on the modeling from the attainment demonstration for the applicable SIP for the affected area, eliminating the need for separate actuals-based modeling to support a redesignation request. A demonstration that the control strategy in the SIP has been fully implemented (compliance records demonstrating that the control measures have been implemented as required by the approved SIP) would also be relevant for making this determination. An additional SIP submittal from the air agency would not be required by the CAA, and if the air agency has previously submitted a modeled attainment demonstration, using allowable emissions, no further modeling would be needed as long as the source characteristics *(e.g.* factors affecting plume height) are still reasonably represented.

The modeling submitted by West Virginia as part of its 2020 redesignation request is based on emission limits established in the 2019 consent order. The 2019 consent order requires Kentucky Power, the operator of the Mitchell Power Plant, to comply with SO_2 limits at the Mitchell Power Plant and associated compliance parameters starting on January 1, 2020. The air quality modeling submitted with the state's request used allowable emissions (i.e. the SO_2 limits effective January 1, 2020), and so long as Mitchell is meeting its allowable limits, and the source characteristics are consistent with the demonstration, such modeling is likely conservative given that the actual emissions from Mitchell are well below the emission used in the modeling. First quarter 2020 emissions data for Mitchell Power Plant shows compliance with the SO_2 emissions limit established under the 2019 consent order.[13] In addition, West Virginia's submittal includes a chart of the last ten years of Mitchell's actual emissions, as compared to the new limits in the

[12] See page 63.
[13] See graph entitled "2020Q1 Historical AEP Mitchell Combined Units 1 & 2 30-Day Rolling Average Emissions of SO_2" available in the docket for this rulemaking action. The first quarter SO_2 emissions data for Mitchell Power Plant is publicly available at EPA's Air Markets Program Data at https://ampd.epa.gov//ampd/QueryToolie.html

consent order. In that chart, shown in figure 4 of the submittal, the combined actual emissions from the stacks at Mitchell are well below the 30-day average rolling limit of 3,149 pounds of SO_2 per hour that took effect on January 1, 2020.

Based upon the modeling submitted as part of the maintenance plan for the redesignation request submitted on March 18, 2020, EPA is proposing to find that West Virginia has shown that the Marshall Area is attaining the 2010 SO_2 NAAQS.

B. West Virginia has met all applicable requirements of section 110 and part D of the CAA for the Marshall Area and EPA has fully approved the applicable implementation plan under section 110(k) of the CAA

In accordance with section 107(d)(3)(E)(v) of the CAA, in order to redesignate the Marshall Area to attainment, West Virginia must meet all requirements applicable to the Marshall Area under CAA section 110 (general SIP requirements) and part D of title I of the CAA (SIP requirements for nonattainment areas), and in accordance with section 107(d)(3)(E)(ii) of the CAA, those requirements must be fully approved into the West Virginia SIP under CAA section 110(k).

EPA is proposing to determine that, in accordance with section 107(d)(3)(E)(v), West Virginia has met all SIP requirements under section 110 of the CAA and part D of title I of the CAA applicable for purposes of this redesignation. In making these determinations, EPA identified the requirements that are applicable to the Area for purposes of redesignation and determined that these requirements are fully approved under section 110(k) of the CAA. EPA's rationale is discussed in more detail in sections III.B.1 and III.B.1.a of the preamble for this proposed rulemaking.

a. Section 110 general requirements for SIPs

Pursuant to CAA section 110(a)(1), whenever new or revised NAAQS are promulgated, the CAA requires states to submit a plan (*i.e.* "SIP") for the implementation, maintenance and enforcement of such NAAQS. Section 110(a)(2) of title I of the CAA contains the general requirements for a SIP, also known as "infrastructure" requirements. The infrastructure requirements of section 110(a)(2) include the requirements in subsections 110(a)(2)(A) through (M). However, not every requirement of section 110(a)(2) is an applicable requirement for the purposes of redesignating the Marshall Area to attainment for the SO_2 NAAQS. For example, section 110(a)(2)(D) requires that SIPs contain certain measures to prevent sources in a state from significantly contributing to air quality problems in another state. When such issues have been identified, EPA has required certain states to establish programs to address transport of air pollutants. See Nitrogen Oxides (NO_x) SIP Call and amendments to the NO_x SIP Call (64 FR 26298, May 14, 1999 and 65 FR 11222, March 2, 2000), and the Cross-State Air Pollution Rule (CSAPR) Update (81 FR 74504, October 26, 2016). However, the section 110(a)(2)(D) SIP requirements are not linked with a particular area's SO_2 designation. That is, the section 110(a)(2)(D) requirement continues to apply to a state regardless of the attainment designation (or redesignation) of an area. EPA has concluded that the SIP requirements linked to an area's SO_2 designation for a particular NAAQS are the relevant (applicable) measures when reviewing a redesignation request for an area, and therefore the general requirements of section 110(a)(2), such as section 110(a)(2)(D), are not applicable requirements for the purposes of a SO_2 redesignation.

Similarly, other section 110(a)(2) elements that are neither connected with attainment plan submissions nor linked with an area's SO_2 designation are not applicable requirements for purposes of redesignation. An area redesignated from SO_2 nonattainment to attainment will

remain subject to these requirements after redesignation to attainment. This approach is consistent with EPA's existing policy on the applicability for the purpose of redesignations of conformity and oxygenated fuels requirements, as well as CAA section 184 ozone transport requirements. See Reading, Pennsylvania, proposed and final rulemakings (61 FR 53174, October 10, 1996; 62 FR 24826, May 7, 2008); Cleveland-Akron-Loraine, Ohio, final rulemaking (61 FR 20458, May 7, 1996); and Tampa, Florida, final rulemaking (60 FR 62748, December 7, 1995). See also the discussion on this issue in the Cincinnati, Ohio, redesignation (65 FR 37890, June 19, 2000), and in the Pittsburgh, Pennsylvania, redesignation (66 FR 50399, October 19, 2001).

Nonetheless, EPA approved elements of West Virginia's July 1, 2013, and June 1, 2015, SO_2 infrastructure SIP submittals on November 17, 2014 (79 FR 62022) and August 11, 2016 (81 FR 53008), respectively.[14] As explained previously, the general requirements of CAA section 110(a)(2) are statewide requirements that are not linked to the nonattainment status of the Marshall Area and are therefore not "applicable requirements" for the purpose of reviewing West Virginia's redesignation request. Because West Virginia satisfies the general SIP elements and requirements set forth in CAA section 110(a)(2) applicable to and necessary for SO_2 redesignation, EPA proposes to conclude that West Virginia has satisfied the criterion of section 107(d)(3)(E)(v) related to section 110(a)(2) of the CAA.

b. Part D requirements

In addition to the CAA section 110 requirements, section 107(d)(3)(E)(v) requires that the state meet all the requirements applicable to the nonattainment area "under part D of this

[14] West Virginia's SO_2 infrastructure SIP submittals did not address the interstate transport element of CAA section 110(a)(2)(D)(i). As explained previously, the interstate transport element of CAA section 110(a)(2)(D)(i) is not an applicable requirement for redesignation of the Marshall Area.

subchapter" in order for the nonattainment area to be redesignated. Both section 107 and part D are within subchapter 1 of the CAA. Part D, entitled "Plan Requirements for Nonattainment Areas," consists of six subparts, of which only subparts 1 and 5 are applicable to SO_2 nonattainment areas. Subpart 1 (sections 171 through 179B) contains provisions that can apply to all nonattainment areas for all criteria pollutants, while subpart 5 (sections 191 through 192) contains additional provisions for SO_2, NO_x, or lead nonattainment areas. The requirements applicable to this redesignation are discussed below.

i. Subpart 1 requirements

1). Section 172 requirements

CAA section 172 requires states with nonattainment areas to submit plans that provide for timely attainment of the NAAQS. More specifically, CAA section 172(c) contains general requirements for nonattainment plans. A thorough discussion of these requirements is found in the General Preamble for Implementation of title I. 57 FR 13498, April 16, 1992.

As noted in the General Preamble, certain attainment-related planning requirements under section 172(c) no longer have meaning for an area that is already attaining the NAAQS, and therefore are not applicable for purposes of redesignation. For example, for an area that is already attaining the NAAQS, there would be nothing for the state to provide in order to show reasonable further progress to attainment in that area. Similarly, the CAA section 172 requirements for the attainment demonstration, implementation of reasonably available control measures, including reasonably available control technology, and contingency measures that are triggered if an area fails to meet RFP or fails to attain also are not applicable for purposes of redesignation.

With respect to the CAA section 172(c)(3) requirement to submit an actual current

emissions inventory, WVDEP submitted a 2011 base year emissions inventory for the Marshall Area on May 6, 2015. On July 31, 2015 (80 FR 45613), EPA approved the base year inventory into the West Virginia SIP.

2). Section 173

Section 173 of the CAA includes requirements for permit programs that are required in a nonattainment area for new sources as required by section 172(c)(5), known as nonattainment new source review (NNSR). However, EPA has a longstanding interpretation that because the NNSR permit program is replaced by the prevention of significant deterioration (PSD) permit program upon an area's redesignation to attainment, nonattainment areas seeking redesignation to attainment do not need a fully approved part D NNSR program in order to be redesignated. A more detailed rationale for this view is described in a memorandum from Mary Nichols, Assistant Administrator for Air and Radiation, dated October 14, 1994, entitled, ''Part D New Source Review Requirements for Areas Requesting Redesignation to Attainment.'' Nevertheless, EPA notes that West Virginia has SIP-approved NNSR and PSD programs, found at 45CSR13, 45CSR19, and 45CSR14. See 40 CFR 52.2520(c). West Virginia's PSD program will become applicable for SO_2 in the Marshall Area upon redesignation to attainment.

3). Section 175A

CAA section 175A requires that states seeking redesignation of an area to attainment submit a "maintenance plan" containing certain elements. West Virginia included a maintenance plan for the Marshall Area with its March 18, 2020 redesignation request, which EPA is proposing to approve in conjunction with the redesignation, and it is discussed in detail in section III.D of the preamble of this proposed rulemaking.

4). Section 176 requirements

Section 176(c) of the CAA requires Federal actions conform to the air quality planning goals in the applicable SIP. The requirement to determine conformity applies to transportation plans, programs, and projects that are developed, funded, or approved under title 23 of the United States Code and the Federal Transit Act (transportation conformity) as well as to all other Federally-supported or funded projects (general conformity). Section 176(c) of the CAA also requires that states establish criteria and procedures to ensure that Federally-supported or funded transportation plans, transportation improvement programs (TIPs) and projects conform to the goals of the applicable SIP. This is referred to as a transportation conformity SIP. In the preamble to the January 1993 proposed transportation conformity rule, EPA stated that, "Based on available emissions information, EPA believes highway and transit motor vehicles are not significant sources of lead or sulfur dioxide. Therefore, transportation plans, TIPs, and projects are presumed to conform to the applicable implementation plans for these pollutants." (See 58 FR 3776, January 11, 1993.) In November 1993, EPA finalized its transportation conformity regulations. One section of those regulations addressed the geographic applicability of the transportation conformity regulations. The regulation stated at that time that, "The provisions of this subpart apply with respect to emissions of the following criteria pollutants: ozone, carbon monoxide, nitrogen dioxide, and particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10})."[15] Based on this provision, transportation conformity does not apply in nonattainment or maintenance areas for SO_2. Therefore, a transportation conformity SIP is not required for SO_2 nonattainment and maintenance areas and is not necessary in order for an SO_2 nonattainment area to be redesignated to attainment, and EPA's transportation conformity rules do not apply to SO_2 for the Marshall Area.

[15] This provision has been revised to include particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$). See 40 CFR 93.102(b)(1).

ii. Subpart 5 requirements

The subpart 5 requirements, which consist of sections 191 and 192 of the CAA, are specific provisions applicable to SO_2, NO_2 or lead nonattainment areas. Section 191 of the CAA requires states with areas designated nonattainment for SO_2, NO_2 or lead after November 15, 1990, to submit within 18 months of the designation an implementation plan meeting the requirements of part D. The substance of the required plans is established by section 172(c). Section 192 sets forth attainment dates for nonattainment areas under section 191.

For SO_2, section 192(a) requires that attainment plans provide for attainment of the primary Standard as expeditiously as possible, but no later than five years from the date of the nonattainment designation. EPA designated the Marshall Area as nonattainment on August 5, 2013, with an attainment date of October 4, 2018. However, because EPA is reviewing a redesignation request under section 107(d)(3)(E), rather than a determination of attainment under section 179(c), the determination of whether the Area attained by the attainment date set forth in section 192 is not applicable to this action proposing approval of West Virginia's redesignation request.

Based on the above, EPA is proposing to find that West Virginia has satisfied the applicable requirements for the redesignation of the Marshall Area under section 110 and part D of title I of the CAA.

C. The air quality improvements in the Marshall Area are due to permanent and enforceable emission reductions

For an area to be redesignated, the state must be able to reasonably attribute the improvement in air quality to emission reductions which are permanent and enforceable.[16] The

[16] See April 2014 Guidance, page 64.

Marshall Area was designated nonattainment on August 5, 2013 based on monitored data from 2009–2011. Since the Area was designated, several large SO_2 emitting facilities in the Marshall Area have permanently shut down, and one facility has switched to a cleaner fuel. On June 1, 2015 and October 9, 2015, the AEP's Kammer Power Plant (Kammer) and the Rain CII Carbon facility (Rain CII), respectively, closed permanently. On November 12, 2015 and June 10, 2016, the Eagle Natrium, LLC plant implemented a fuel switch from burning coal to burning natural gas on boiler #6 and boiler #5, respectively.[17] The Mitchell Power Plant is therefore the remaining primary source of SO_2 emissions in the Marshall Area. Mitchell has significantly reduced its SO_2 emissions since the Area was designated, and these emission reductions are being made permanent and enforceable by the limits contained in West Virginia consent order CO-SIP-C-2019-13. West Virginia requested that the 2019 consent order be incorporated into the West Virginia SIP. If this action is finalized, the emission limits and associated parameters in the 2019 consent order will become permanent and Federally-enforceable. The 2019 consent order requires that combined SO_2 emissions from Mitchell Units 1 and 2 be limited to a total maximum of 3,149 lbs/hr on a 30-operating day rolling average basis, and includes monitoring, recordkeeping, and reporting provisions to show compliance with the limits. Compliance with the 2019 consent order was required starting on January 1, 2020.

At the time of the Marshall Area's nonattainment designation, the monitored SO_2 design value at the Moundsville monitor for 2009-2011 was 80 ppb. These monitored values occurred before the permanent closure of the two facilities and the switch to burning natural gas at another facility mentioned in the preceding paragraph as well as the emission reductions at Mitchell.

[17] Appendix D of the March 18, 2020 West Virginia redesignation request includes documentation showing the permanent closure of the Kammer and Rain CII facilities, and the fuel switch at the Eagle Natrium facility, included in the docket for this rulemaking action.

More recent monitoring data indicate that ambient SO_2 levels have improved significantly at the monitor. The 2019 data shows the 99th percentile value at 9 ppb. The monitored design value for the Marshall Area for 2017-2019 is 8 ppb, which is well below the SO_2 NAAQS of 75 ppb. This air quality improvement is attributable to the substantial SO_2 emission reductions noted above, and therefore EPA proposes to find that the improvement in air quality in the Marshall Area can be attributed to permanent and enforceable emission reductions, and that CAA section 107(d)(3)(E)(iii) has been satisfied by West Virginia.

D. West Virginia has a fully approvable maintenance plan for the Marshall Area

CAA section 175A sets forth the elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. Under section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least ten years after the nonattainment area is redesignated to attainment. Eight years after the redesignation, the state must submit a revised maintenance plan demonstrating that attainment will continue to be maintained for the ten years following the initial ten-year period. To address the possibility of future NAAQS violations, the maintenance plan must also contain contingency measures as EPA deems necessary to assure prompt correction of any future violations. Specifically, the maintenance plan should address five requirements: 1) an attainment emissions inventory; 2) a maintenance demonstration; 3) a commitment for continued air quality monitoring; 4) the verification of continued attainment; and 5) a contingency plan.[18]

In conjunction with its request to redesignate the Marshall Area, West Virginia submitted, as a revision to its SIP, a plan to provide for maintenance of the SO_2 NAAQS through 2030 in the Area, which is 10 years after the expected effective date of the redesignation to

[18] See Memorandum from John Calcagni, Director, Air Quality Management Division, EPA, "Procedures for Processing Requests to Redesignate Areas to Attainment", September 4, 1992.

attainment. West Virginia has committed to review the maintenance plan for the Area eight years after redesignation. The maintenance plan includes the five components noted previously in this section.

In a maintenance plan, states are required to submit an inventory used for the year of attainment, which is called the attainment year inventory. This inventory is used as the basis for future, projected emission inventories that are used to show the area will remain in attainment. West Virginia submitted a 2016 SO_2 emissions inventory as the attainment year inventory. The year 2016 was selected because it is one of the three years of monitoring data from 2016 through 2018 for which the design value showed compliance with the SO_2 NAAQS.

For the 2016 attainment year inventory for point sources, West Virginia used actual emissions reported by each facility. Eagle Natrium switched its fuel source from coal to natural gas between 2015 and 2016, resulting in lower SO_2 emissions in 2016. The Kammer Power Plant and Rain CII Carbon plant both closed in 2015 and therefore there were no emissions from these plants in 2016. The point source emissions for the Marshall Area were verified against EPA's emissions inventory system (EIS) and EPA found them to be acceptable.

Nonroad and onroad emissions for 2016 were calculated by West Virginia using EPA's Motor Vehicle Emissions Simulator (MOVES) 2014a model. NONROAD is a component of the MOVES model that is run within the model. Monthly results were summed to get the yearly emissions.

Emissions for the nonpoint or area source category for 2016 were not available at the time of the attainment plan submittal, and so emissions for these sources were calculated using projections from the Mid Atlantic Regional Air Management Association's (MARAMA) 2017

Beta Modeling Inventory[19] found in the emissions modeling framework (EMF). The EMF is a tool that supports the management and quality assurance of emissions inventories and emissions modeling-related data, and the running of the Sparse Matrix Operator Kernel Emissions Model (SMOKE) to develop air quality model inputs. West Virginia stated that 2017 is a reasonable substitution since the MARAMA model used a "no-growth" assumption for fuel usage, population, and employment between 2016 and 2017. The 2017 projected nonpoint emissions for Marshall County are 49.66 tpy, while the nonpoint emissions in the National Emissions Inventory (NEI) 2014 version2 for Marshall County is 30 tpy, therefore the 2017 projected nonpoint emissions is conservative compared to the 2014 version2 NEI.

Oil and gas emissions for 2016 were calculated using EPA's Oil and Gas Tool version 2.2 with local data from West Virginia's Geological and Economic Survey. These emissions represent the sum of SO_2 generated by oil and gas production and exploration activities.

Projection inventories are used to show that the area will remain in attainment. West Virginia, with the assistance of MARAMA, developed 2023 and 2030 emission projections for the interim and maintenance plan end year, respectively. The Mitchell Power Plant is the primary point source still in operation within the nonattainment area. The projection inventory for the Mitchell Power Plant is based on actual emission trends over the last five years. Onroad and nonroad emissions were calculated using the same methodologies as the 2016 attainment year inventory. For the nonpoint emission projections, West Virginia submitted emissions from MARAMA's Emissions Inventory Development for 2011 and 2017 Beta2 Modeling Inventory, which projected emissions for 2023.[20] The emissions for 2030 were "grown" using the emission

[19] MARAMA emissions inventories:
https://www.marama.org/technical-center/emissions-inventory/2011-inventory-and-projections
[20] Mid-Atlantic Regional Air Management Association emissions inventories:

factors used to calculate the 2023 emissions. Oil and gas emissions for 2023 and 2030 were developed using Annual Energy Outlook (AEO) 2017 future year production projections and growth factors and following the methodologies documented in EPA's "TSD for Additional Updates to Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform for Year 2023."

EPA reviewed all the files and the emission results provided by West Virginia for both the attainment year inventory and the projected inventories and found them to be acceptable. The detailed inventory information for the Marshall Area is contained in appendix B of the March 18, 2020 SIP submittal. Appendix B, as well as EPA's Emissions Inventory TSD, is included in the docket for this rulemaking action. The inventories are shown in Table 3.

Table 3. Emissions Inventories for the Marshall Nonattainment Area, in tons per year (tpy)

Sector	**2011 actuals (Base)**	**2016 actuals[a] (Attainment)**	**2023 projected (Interim)**	**2030 projected (Maintenance)**
EGU	21,231	3,605	2,900	2,900
Non-EGU	12,792	2,556	12	12
Oil & Gas	6.1001	10.55	12.76	13.46
Area (non-point)	51.19	49.66	45.58	45.05
Non-Road	0.02	0.01	0.01	0.01
On-Road	2.10	2.03	0.81	0.76
TOTAL	34,082.41	6,223.25	2,971.16	2,971.28

[a] With the exception of non-point sources as explained previously.

A state may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS.[21] West Virginia's projected actual emissions for the interim year of 2023 and for the maintenance year of 2030 are both below the total attainment year

https://www.marama.org/technical-center/emissions-inventory/2011-inventory-and-projections

[21] See April 2014 Guidance, page 67.

inventory, which is acceptable for showing maintenance in the Marshall Area.

West Virginia has committed to continue monitoring SO_2 levels at the Moundsville monitor, and will consult with EPA prior to making changes to the existing monitoring network, should changes be needed in the future. West Virginia has committed to enter all data into AQS on a timely basis in accordance with Federal guidelines, and to continue to quality assure the monitoring data to meet the requirements of 40 CFR part 58 and all other Federal requirements.

The closures of Kammer and Rain CII, and the fuel switch to natural gas at Eagle Natrium LLC, has resulted in significant reductions of SO_2 emissions in the Marshall Area. The only significant SO_2 emitting facility remaining in the Marshall Area is the Mitchell Power Plant.

The new, permanent and enforceable SO_2 emission limits for the Mitchell Power Plant described above, which were shown to be comparably stringent to the CEV established by the March 18, 2020 modeling, ensure that the Marshall Area will continue attain the NAAQS.

For the Marshall Area and SO_2 in general, "attainment revolves around compliance of a single source or a small set of sources with emission limits shown to provide for attainment,"[22] specifically the Mitchell Power Plant. West Virginia has committed to track the SO_2 emissions and compliance status of the Mitchell Power Plant in order to verify that the plant complies with the emission limit in the 2019 consent order, so that modeling using the corresponding 1-hour CEV may be considered to demonstrate that the Area is maintaining the Standard. To demonstrate compliance with the SO_2 emission limitations of the 2019 consent order, Kentucky Power is required to use the continuous emissions monitoring system (CEMS) installed, certified, operated, and maintained in accordance with 40 CFR part 75, and is required to calculate and record a 30-operating day rolling average SO_2 emission rate, updated after each

[22] See April 2014 Guidance, page 69.

new boiler operating day. Each 30-operating day rolling average emission rate is the average of all of the valid hourly SO_2 emission rates in the 30-operating day period. The 2019 consent order also requires the reporting of any exceedance of the 30-operating day rolling average SO_2 emission limit to WVDEP within five business days after the exceedance occurs, and must include information related to any deviations from the 30-operating day rolling average limit, if any, the duration of the deviation, and the cause of the deviation. Kentucky Power must also submit semiannual compliance reports to WVDEP on emissions from Mitchell Units 1 and 2. All major sources in West Virginia are required to submit annual emissions data, which the State uses to update its emission inventories as required by the CAA, and West Virginia has committed to provide updates to future inventories in accordance with EPA's AERR rule every three years. West Virginia has also committed to assure that existing control measures will remain in effect, that any changes to its rules or emissions applicable to SO_2 as required for maintenance of the 2010 SO_2 Standard will be submitted to EPA for approval as a SIP revision, and that it intends to continue enforcing all rules that relate to the emission of SO_2 precursors in the Marshall Area.[23]

The April 2014 Guidance, pages 65-69, states that the requirement to submit contingency measures in accordance with section 175A(d) can be adequately addressed for SO_2 by having a comprehensive enforcement program which can quickly identify and address sources that might be causing exceedances of the NAAQS. To do so, West Virginia has committed to adopt and expeditiously implement necessary corrective actions as follows. A warning level response shall be triggered whenever the 99^{th} percentile of the 1-hour daily SO_2 maximum concentration of 75.5 ppb occurs in a single calendar year within the maintenance area (i.e, the Marshall Area). A

[23] See March 18, 2020 West Virginia redesignation request submittal, page 28.

warning level response will consist of a study to determine whether SO_2 values indicate a trend toward higher ambient SO_2 values or whether SO_2 source emissions appear to be increasing.

The study will evaluate whether the trend, if any, is likely to continue and, if so, the control measures necessary to reverse the trend, taking into consideration ease and timing for implementation as well as economic and social considerations. Implementation of necessary controls in response to a warning level response trigger will take place as expeditiously as possible, but in no event later than 12 months from the conclusion of the most recent calendar year. If the 2-year average of the 99^{th} percentile of the 1-hour daily SO_2 maximum concentrations is 75 ppb or greater, or a violation of the SO_2 NAAQS occurs within the maintenance area, an ''action level response'' will be triggered. If the exceedance is found to not be caused by an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement, the West Virginia Division of Air Quality (DAQ), in conjunction with the metropolitan planning organization (MPO) or regional council of governments, will determine additional control measures needed to assure continued attainment of the 2010 SO_2 NAAQS. Any selected measures will be those that can be implemented within 18 months from the close of the calendar year that prompted the action level response.[24] If additional control measures are required, West Virginia commits to adopt the measures in accordance with the State's administrative process for rulemaking and submit an analysis to EPA to demonstrate the proposed measures are adequate to return the area to attainment.

Based on EPA's findings, the Agency proposes to find that West Virginia's submitted maintenance plan adequately addresses the five basic components necessary to maintain the SO_2 NAAQS in the Marshall Area. EPA is proposing to find that West Virginia's maintenance plan

[24] See March 18, 2020 West Virginia redesignation request submittal, page 29.

for the Marshall Area is approvable per the CAA, including CAA section 175A and EPA guidance, and is proposing to approve the maintenance plan as a revision to the West Virginia SIP.

IV. The Effect of EPA's Proposed Actions

The effect of this proposal, if finalized, would change the classification of the Marshall Area from nonattainment to attainment of the 2010 SO_2 NAAQS, incorporate the emissions limits contained in the 2019 consent order for Mitchell into the West Virginia SIP, and incorporate the maintenance plan into the West Virginia SIP. In addition, if finalized before October 30, 2020, the redesignation would terminate EPA's obligation to act by that date on the 2017 SIP submitted for the Marshall Area, under the terms of the court order entered in *Center for Biological Diversity v. Wheeler*.

V. Proposed Actions

EPA is proposing to find that the Marshall Area has attained the 2010 SO_2 NAAQS, as demonstrated by a modeling analysis reflecting a new SO_2 emission limit for the Mitchell Power Plant. EPA is also proposing that West Virginia has met the planning requirements necessary for EPA to redesignate the Marshall Area from nonattainment to attainment of the 2010 SO_2 NAAQS, including the requirements for permanent and enforceable measures, submission of an approvable maintenance plan that will assure attainment for ten years after redesignation, and that all other CAA requirements under section 110 and part D, as discussed in this rulemaking, have been met. EPA is also proposing to approve the Marshall Area redesignation request, maintenance plan, SO_2 emission limits and associated compliance parameters for Mitchell in the 2019 consent order, and the modeling demonstration showing that the limits provide for maintenance. EPA is proposing these actions under the CAA.

VI. 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 West Virginia consent order CO-SIP-C-2019-13. EPA has made, and will continue to make, these materials generally available through https://www.regulations.gov and at the EPA Region III Office (please contact the person identified in the **For Further Information Contact** section of this preamble for more information).

VII. Statutory and Executive Order Reviews

Under the CAA, the redesignation of an area to attainment and the accompanying approval of the maintenance plan under CAA section 107(d)(3)(E) are actions that affect the status of a geographical area and do not impose any additional regulatory requirements on sources beyond those required by state law. A redesignation to attainment does not in and of itself impose any new requirements, but rather results in the application of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, 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 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 these reasons, 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 it is not a significant regulatory action 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 (Public Law 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 rulemaking redesignating the Marshall Area, approving the Marshall Area maintenance plan, and approving other related SIP revisions, 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

40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

40 CFR Part 81

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds

Dated: June 18, 2020.

Cosmo Servidio,
Regional Administrator,
Region III.

[FR Doc. 2020-13585 Filed: 6/30/2020 8:45 am; Publication Date: 7/1/2020]