



6560-50-P

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R04-OAR-2017-0625; FRL-9995-59-Region 4]**

**Air Plan Approval; KY; Attainment Plan for Jefferson County SO<sub>2</sub> Nonattainment Area**

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

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving State Implementation Plan (SIP) revisions, submitted under a cover letter dated June 23, 2017, by the Commonwealth of Kentucky, through the Kentucky Division for Air Quality on behalf of the Louisville Metro Air Pollution Control District (LMAPCD or District or Jefferson County) to EPA, for attaining the 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (NAAQS or standard) for the Jefferson County SO<sub>2</sub> nonattainment area (hereafter referred to as the “Jefferson County nonattainment area,” “nonattainment area” or “Area”). The Jefferson County nonattainment area is comprised of a portion of Jefferson County in Kentucky surrounding the Louisville Gas and Electric Mill Creek Electric Generating Station (hereafter referred to as “Mill Creek” or “LG&E”). This plan (hereafter called a “nonattainment plan” or “SIP” or “attainment SIP”) includes Kentucky’s attainment demonstration and other elements required under the Clean Air Act (CAA or Act). In addition to an attainment demonstration, the plan addresses the requirement for meeting reasonable further progress (RFP) toward attainment of the NAAQS,

reasonably available control measures and reasonably available control technology (RACM/RACT), base-year and projection-year emissions inventories, enforceable emissions limitations and control measures, nonattainment new source review (NNSR) and contingency measures. EPA concludes that Kentucky has appropriately demonstrated that the nonattainment plan provisions provide for attainment of the 2010 1-hour primary SO<sub>2</sub> NAAQS in the Jefferson County nonattainment area and that the nonattainment plan meets the other applicable requirements under the CAA.

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

**ADDRESSES:** EPA has established a docket for this action under Docket Identification No. EPA-R04-OAR-2017-0625. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information 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 either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division (formerly the Air, Pesticides and Toxics Management Division), U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. EPA requests that if at all possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's official hours of business are Monday through Friday 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

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- I. Background and Purpose**

On June 22, 2010, EPA promulgated a new 1-hour primary SO<sub>2</sub> 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 99th 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. *See* 75 FR 35520, codified at 40 CFR 50.17(a) and (b). On August 5, 2013, EPA designated a first set of 29 areas of the country as nonattainment for the 2010 SO<sub>2</sub> NAAQS, including the Jefferson County nonattainment area within the Commonwealth of Kentucky. *See* 78 FR 47191, codified at 40 CFR part 81, subpart C. These “round one” area designations were effective October 4, 2013. Section 191(a) of the CAA directs states to submit SIPs for areas designated as nonattainment for

the SO<sub>2</sub> NAAQS to EPA within 18 months of the effective date of the designation, *i.e.*, by no later than April 4, 2015, in this case. These SIPs are required to demonstrate that their respective areas will attain the NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of designation, which is October 4, 2018, in accordance with CAA sections 191-192.

Section 172(c) of part D of the CAA lists the required components of a nonattainment plan submittal. The base year emissions inventory (section 172(c)(3)) is required to show a “comprehensive, accurate, current inventory” of all relevant pollutants in the nonattainment area. The nonattainment plan must identify and quantify any expected emissions from the construction of new sources to account for emissions in the area that might affect RFP toward attainment, or that might interfere with attainment and maintenance of the NAAQS, and it must provide for a NNSR program (section 172(c)(5)). The attainment demonstration must include a modeling analysis showing that the enforceable emissions limitations and other control measures taken by the state will provide for RFP and expeditious attainment of the NAAQS (section 172(c)(2), (4), (6), and (7)). The nonattainment plan must include an analysis and provide for implementation of the RACM considered, including RACT (section 172(c)(1)). Finally, the nonattainment plan must provide for contingency measures (section 172(c)(9)) to be implemented either in the case that RFP toward attainment is not made, or in the case that the area fails to attain the NAAQS by the attainment date.

On April 23, 2014, EPA issued a guidance document entitled, “Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions.” This guidance provides recommendations for the development of SO<sub>2</sub> nonattainment SIPs to satisfy CAA requirements (*see, e.g.*, sections 172,

191, and 192). An attainment demonstration must also meet the requirements of 40 CFR part 51, subparts F and G, and 40 CFR part 51, appendix W (the *Guideline on Air Quality Models*; “the *Guideline*” or “Appendix W”), and include inventory data, modeling results, and emissions reduction analyses on which the state has based its projected attainment. The guidance also discusses criteria EPA expects to use in assessing whether emission limits with longer averaging times of up to 30 days ensure attainment of the SO<sub>2</sub> NAAQS.

For a number of areas, including the Jefferson County nonattainment area, EPA published a document on March 18, 2016, that certain states had failed to submit the required SO<sub>2</sub> nonattainment plan by the 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, and for EPA to promulgate a federal implementation plan (FIP) under section 110(c) of the CAA. In response to the requirement for SO<sub>2</sub> nonattainment planning submittals, Kentucky submitted SIP revisions for the Jefferson County nonattainment area on June 23, 2017. Pursuant to Kentucky’s June 23, 2017, attainment SIP revisions and EPA’s subsequent completeness determination letter dated October 10, 2017, the sanctions under section 179(a) were not (and will not be) imposed as a result of Kentucky’s having missed the April 4, 2015, submission deadline. Furthermore, with this current action issuing final approval of Kentucky’s SIP revisions, EPA’s FIP obligation under CAA section 110(c) no longer applies, and therefore no FIP will be imposed to address SO<sub>2</sub> nonattainment planning requirements for the Jefferson County nonattainment area.

On November 9, 2018 (83 FR 56002) (hereafter NPRM), EPA proposed to approve Kentucky’s June 23, 2017, SIP revisions which included the nonattainment plan, and

SO<sub>2</sub> attainment demonstration, among other SO<sub>2</sub> nonattainment planning requirements. The Commonwealth's SIP revisions included all the specific attainment elements mentioned above, including new SO<sub>2</sub> emission limits found to be comparably stringent to a 1-hour critical emissions value that would ensure attainment of the primary SO<sub>2</sub> NAAQS. Specifically, Kentucky's June 23, 2017, SIP revisions include enforceable SO<sub>2</sub> emission limits for Mill Creek and compliance parameters (monitoring and reporting) established at Plant-wide Specific conditions S1-Standards, S2-Monitoring and Record Keeping and S3-Reporting established in title V permit 145-97-TV(R3). Please refer to EPA's proposed approval notice which contains a detailed discussion of the CAA requirements applicable to SO<sub>2</sub> nonattainment SIPs, along with a comprehensive analysis and rationale for its proposed approval of the Commonwealth's attainment SIP. *See* 83 FR at 56003-14.

Comments on EPA's November 9, 2018, proposed rulemaking were due on or before December 10, 2018. EPA received two sets of relevant comments on the proposed approval of Kentucky's SIP revisions for the Jefferson County nonattainment area. These comments are available in the docket for this final rulemaking action. EPA's summary of the relevant comments and EPA's responses are provided below.

The remainder of this preamble summarizes EPA's final approval of Kentucky's SIP revisions and attainment demonstration for the Jefferson County nonattainment area and contains EPA's response to public comments.

## **II. Response to Comments**

EPA received two sets of comments which are included in the docket for this final rulemaking. Generally, the comments related to the following topics: (1) the use of a longer-

term average in emissions limits; (2) the modeling's treatment of the Kosmos Cement Facility (a source that is outside the nonattainment area and also hereafter referred to as Kosmos); and (3) other comments related to the timing and development of the emissions inventory.

**Comment 1:** A Commenter has made several comments related to the use of the 30-day rolling average SO<sub>2</sub> emission limit for the attainment demonstration. Some of the comments can be viewed as general to the use of a longer-term average limit, which are being responded to here, and some are more specific to the specific permit limit for the Mill Creek facility, which will be addressed in a following comment response. Regarding the general use of a longer-term average limit, the Commenter asserts that the 720-hour rolling emissions standard that the proposed approval purports to justify is unlawful and jeopardizes the public health and that a 720-hour averaging period is an inadequate proxy for the 1-hour standard required under the CAA because very brief spikes in SO<sub>2</sub> emissions pose serious health harms. The Commenter also cites to the Sierra Club's Petition To The EPA Administrator To Object To Issuance Of The Revised Title V Operating Permit For The Mill Creek Power Plant In Louisville, Kentucky (June 2, 2017) (Docket ID # EPA-R04-OAR-2017-0625-0009) (hereafter "Title V Petition"), and Sierra Club comments to LMAPCD re: Notice of Action on a Title V Operating Permit O-0127-16-V: LG&E Mill Creek Generating Station (Jan. 25, 2017) (Docket ID # EPA-R04-OAR-2017-0625-0011) (hereafter "Permit Comments"). In these documents, Sierra Club provided information about health effects of SO<sub>2</sub> exposure and also explained its position that the 1-hour SO<sub>2</sub> NAAQS requires short-term limits to effectively protect human health.<sup>1</sup>

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<sup>1</sup> EPA included the Title V Petition, which included attachments such as the Permit comments, in this docket. The Commenter has referenced the petition and certain attachments in its comments on the November 9, 2018, NPRM.

**Response 1:** EPA appreciates the Commenter’s concerns about the appropriateness of approving attainment plans with emission limitations that apply over a longer period than the 1-hour form of the 2010 SO<sub>2</sub> NAAQS. However, as EPA explained in the November 9, 2018, NPRM, and as is further explained below, EPA believes that long-term averaging periods can be appropriate for purposes of attainment planning for the SO<sub>2</sub> NAAQS. EPA also acknowledges the Commenter’s concerns regarding health effects of SO<sub>2</sub> exposure. EPA agrees that the NAAQS is crucial for protecting public health around SO<sub>2</sub> emission sources. As such, EPA established the 1-hour SO<sub>2</sub> NAAQS based on such health effects information and will continue to implement the NAAQS to protect public health and welfare based on the authority granted to EPA in the CAA. However, EPA disagrees with the Commenter’s implication that the protection against short term SO<sub>2</sub> concentrations, which EPA sought by establishing this 1-hour NAAQS, cannot be achieved with, for example, comparably stringent 30-day average emission limits in appropriate cases.

The following explanation of EPA’s guidance with respect to longer-term average limits was provided in its November 9, 2018, NPRM. EPA’s “Guidance for 1-hour SO<sub>2</sub> Nonattainment Area SIP Submissions,” (April 2014 guidance) recommends that the emission limits be expressed as short-term average limits (e.g., addressing emissions averaged over one or three

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EPA is responding to the issues raised in the Title V Petition because the Commenter referenced it in its comments submitted in this matter. In this action, the EPA is addressing the issues raised in the Title V Petition that raise substantive and technical concerns regarding the adequacy of the SIP limits at Mill Creek and other aspects of the SIP to satisfy SIP approval criteria. EPA considers these issues to be appropriately addressed in this rulemaking, which acts on the SIP submission, rather than in an action on the Title V Petition. Action on the Title V permit or Petition may address other issues raised in that petition, such as whether the permit terms properly reflect requirements that apply to sources in order to assure compliance with the applicable requirements of the Clean Air Act, including the applicable implementation plan; as well as whether the state followed the proper procedures in issuing the permit. In this final action, EPA is not addressing those types of issues or taking any action on the Title V Petition.

hours), but also describes the option to utilize emission limitations with longer averaging times of up to 30 days, so long as the state meets various suggested criteria. See EPA's April 2014 guidance, pp. 22 to 39. The guidance recommends that 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.

EPA's April 2014 guidance provides an extensive discussion of EPA's rationale for concluding that appropriately set comparably stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 primary SO<sub>2</sub> NAAQS. In evaluating this option, EPA considered the nature of the standard, conducted detailed analyses of the impact of the 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 attainment plan provides for attainment. April 2014 guidance at pp. 22 to 39; and also at Appendices B, C, and D.

As specified in 40 CFR 50.17(b), the 1-hour primary SO<sub>2</sub> 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<sub>2</sub> 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 Env't'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 level of the standard (75 ppb) does not constitute a violation of

the standard. Instead, at issue is whether a source operating in compliance with a properly set longer-term average could cause exceedances, and if so the resulting frequency and magnitude of such exceedances. What matters is 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 value will be at or below 75 ppb. A synopsis of EPA's review of how to judge whether such plans provide for attainment, based on modeling of projected allowable emissions and considering the form of the NAAQS for determining attainment at monitoring sites, follows.

For SO<sub>2</sub> attainment plans based on 1-hour emission limits, the standard approach is to conduct modeling using fixed emission rates. The maximum emission rate that would be modeled to result in attainment is labeled the CEV. The modeling process for identifying the CEV considers the numerous variables that affect ambient concentrations of SO<sub>2</sub>, 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 limitation at the CEV.

EPA recognizes that some sources may have highly variable emissions that can make it extremely difficult 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<sub>2</sub> concentrations, could create the possibility of an 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) and that takes the source's emissions profile into account. As a general matter, EPA would expect that any emission limit with an averaging time longer than 1-hour would need to reflect a downward adjustment to compensate for the loss of stringency inherent in applying a longer-term average limit. This expectation is based on the idea that a limit based on the 30-day average of emissions, for example, at a given level is likely to be a less stringent limit than a 1-hour limit at the same level, since the control level needed to meet a 1-hour limit every hour is likely to be greater than the control level needed to achieve the same limit on a 30-day average basis. EPA's approach for downward adjustment is to account for the expected variability in emissions over the averaging period (up to 30 days) to achieve comparable stringency to the emissions and expected air quality impacts for a 1-hour period. As a result, EPA expects either form of emission limit to yield comparable air quality and protect the NAAQS.

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 always to emit at the CEV, and in the longer-term average limit scenario, the source is presumed occasionally to emit more than the CEV but, on average, 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 the NAAQS level 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 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 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 described in Appendix B of EPA's April 2014 guidance, EPA conducted a statistical analysis of various scenarios using actual plant data. In doing so, EPA found that the requirement for lower average emissions is highly likely to yield better air quality than is required with a comparably stringent 1-hour limit. Based on analyses described in Appendix B, 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 the NAAQS level 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 net number of overall exceedances of 75 ppb even though it may produce some unmodeled exceedances on occasions when emissions are above the CEV—meets the requirement in sections 110(a) and 172(c) for state implementation plans to provide for attainment of the NAAQS. For SO<sub>2</sub>, as for other pollutants, it is generally impossible to design a nonattainment plan in the present that will guarantee that attainment will occur in the future. A variety of factors can cause a well-designed attainment plan to fail and unexpectedly not result in attainment, for example if meteorology occurs that is more conducive to poor air quality than was anticipated in the plan. Therefore, in determining whether a plan meets the requirement to provide for attainment, EPA's task is commonly to judge not whether the plan provides absolute certainty that attainment will in fact occur, but rather whether the plan provides an adequate level of confidence of prospective NAAQS attainment. From this perspective, in evaluating use of a longer-term limit up to 30-days, 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 of the NAAQS level that would not otherwise have occurred and must also weigh the likelihood that the requirement for lower emissions on average will result in days not having exceedances that would have been expected with emissions at the critical emission value. Additional policy considerations, such as in this case the desirability of accommodating real world emissions variability without significant risk of violations, are also appropriate factors for 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 a period as long as 30 days, determined in accordance with EPA's April 2014 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<sub>2</sub> NAAQS.

EPA's 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 critical emission value), and applies an adjustment factor to determine the (lower) level of the longer-term average emission limit that would be estimated to have a stringency comparable to the otherwise necessary 1-hour emission limit. 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 longer-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 (i.e., the critical emission value) to determine a longer-term average emission limit that may be considered comparably stringent. 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.

The Commenter objected in principle to EPA's proposed approval of the use of longer-term average limits in the Commonwealth's attainment plan, but the Commenter does not provide any critique of the specific elements of the above rationale for EPA's proposed views. Nor does the Commenter explain why EPA should revise its views as to the suitability of longer-term average limits in principle as appropriate elements of attainment plans, subject to case-specific reviews as to whether the specific limits in specific cases satisfy EPA's recommended criteria and whether, as a result, the specific plans may be considered to provide for attainment. Therefore, EPA continues to believe in principle that longer-term average limits, such as the 30-day limits applicable here, if appropriately determined, are a suitable element of an attainment plan that may be judged to provide for attainment.

In this action, EPA is not changing its position regarding the sufficiency in meeting the NAAQS of the 1-hour emissions limitations to which other facilities are subject; EPA is merely reaffirming that properly set longer-term average limits can also provide for attainment, and concluding that the Commonwealth's limits, including 30-day average limits for Mill Creek, in fact provide for attainment of the 1-hour SO<sub>2</sub> standard.

**Comment 2:** In addition to general concern with the use of a longer-term average for compliance with the 2010 1-hour SO<sub>2</sub> standard (see Comment 1), the Commenter expresses specific concerns with how the emissions limits were established for Mill Creek. Those specific comments can be subdivided into the following topics: a) Mill Creek's emissions are not steady-state enough to make the 720-hour limit interchangeable with a 1-hour standard; b) the 0.20 lb/MMBtu [pounds per one million British Thermal Units] 720-hour average emission limit for Mill Creek is too lax, as it was calculated opaquely and based on a 1-hour CEV that LMAPCD

and an independent expert found to be too high to meet the NAAQS; c) the adjustment factors to establish the longer-term limit were inappropriately based on operations of Mill Creek before the controls were installed (2009-2013 operations, instead of 2014-2016 for the installation of the controls -- in the Commenter's opinion, the limits were based on variability of facility operations that are no longer valid (since new controls are in place)); and d) the data used to demonstrate that emissions would rarely be above the CEV (limits established using 2009-2013 operations) were from April 2016-March 2018, after the new controls became operational. In the Commenter's opinion, the demonstration that those limits are effective is invalid since the demonstration is based on operations that were not used to set the limits in the first place.

**Response 2:** For clarity, EPA will respond separately to each of the above 4 subdivided comments.

**Response 2a:** EPA does not agree with the Commenter that it is necessary to have steady state emissions in order to establish a longer-term emission limit that will demonstrate attainment with a 1-hour NAAQS. The Commenter implies that unless emissions are steady state, a 720-hour limit is not "interchangeable" with a 1-hour limit. EPA disagrees. EPA's policy is designed to address situations with variable emissions, and to offer the option for agencies to adopt a longer-term limit that is "interchangeable" with a 1-hour limit in the sense of providing comparable assurances that the standard will be attained, notwithstanding this accommodation of variable emissions. As we explained in our April 2014 guidance, as a general matter, EPA would expect that any emission limit with an averaging time longer than 1-hour would need to reflect a downward adjustment to compensate for the loss of stringency inherent in applying a longer-term average limit. This is why the April 2014 guidance describes a procedure

for establishing a longer-term limit that is designed to have comparably stringency to a 1-hour average limit at the CEV. In the case of Mill Creek, the 1-hour CEV is 0.29 lb/MMBtu, but the proposed 720-hour limit is well below this value at 0.20 lb/MMBtu.

The Commenter also referenced pages of the Title V Petition with a chart described as depicting Mill Creek's SO<sub>2</sub> emissions for nine months in 2016 and concludes that this chart shows that a 30-day average for Mill Creek smooths out instances of excessive 1-hour emissions, which the Commenter contends are relatively frequent and substantial. The Commenter's chart on page 5 of the Title V Petition largely relies on emissions prior to the installation of the improved flue gas desulfurization (FGD) controls and therefore does not reliably depict the potential of Mill Creek, in compliance with its limit, to emit above the CEV. As further explained in Response 2d below, EPA performed an analysis of 3-1/2 years of post-control upgrade emissions and found emissions periods above the CEV to be rare.

**Response 2b:** EPA disagrees with the Commenter that the 0.20 lb/MMBtu emission limit is too "lax." First, the Commenter asserts that the limit was calculated opaquely. As described in detail in EPA's November 9, 2018, NPRM (see 83 FR 56010-11), LMAPCD and the Commonwealth performed modeling to determine an appropriate CEV for each unit, which demonstrates compliance with the 1-hour SO<sub>2</sub> NAAQS. After this, an adjustment factor was calculated and used to determine the appropriate 720-hour emission limit of 0.20 lb/MMBtu. As explained in the NPRM, Kentucky used the procedures in EPA's guidance to determine a compliance ratio (adjustment factor) of 0.69, which when multiplied by 0.29 lbs/MMBTU yields a 30-day average limit of 0.20 lbs/MMBTU. The detailed calculations yielding this adjustment factor were provided in a spreadsheet that Kentucky included as an appendix to the June 23,

2017 attainment SIP (see Appendix 4), as well as in the supporting documents of EPA's November 9, 2018, NPRM (*See* Docket ID: EPA-R04-OAR-2017-0625).

Second, the Commenter asserts that the limit was based on a CEV that was too high to satisfy the NAAQS. EPA disagrees with the Commenter's assertion that the CEV in the modeling performed by LMAPCD and the Commonwealth are too high to demonstrate compliance with the NAAQS. As discussed below, EPA continues to believe that the modeling provided in Kentucky's 2017 attainment demonstration is acceptable and appropriate for demonstrating that Mill Creek's emissions limit will provide for attainment of the NAAQS.

The Commenter cited to an independent expert report and previous comments by LMAPCD, which were included in the Title V Petition. EPA has evaluated the independent expert report and has found aspects of the modeling that deviate from EPA's recommended procedures in the Modeling Guidance for SO<sub>2</sub> Nonattainment Areas (Nonattainment Modeling Guidance),<sup>2</sup> the Guideline on Air Quality Models (Guideline) in 40 CFR Part 51, Appendix W, and common modeling practices. These deviations from EPA's recommended procedures create uncertainty in the results and the conclusions presented in the report. Areas where the modeling deviates from EPA's recommended procedures include: (1) three years (2010-2012) of meteorology data were used to perform the modeling, whereas Kentucky's SIP attainment modeling used five years of meteorology (2011-2015) as recommended in Section 7.2 of the Nonattainment Modeling Guidance and Section 8.4 of the Guideline to ensure that worst-case meteorological conditions are adequately represented in the model results; (2) actual stack heights of 182.9 meters (600 feet) for Mill Creek's boilers were used in the modeling, whereas

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<sup>2</sup> Appendix A of EPA's April 23, 2014, "Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions

the Commonwealth's attainment SIP modeling more appropriately used the Good Engineering Practice (GEP) stack heights of 142.88 meters (469 feet) that were determined in accordance provisions of EPA's stack height regulations in 40 CFR 51.100; (3) an older version of the AERMOD modeling system (version 12345) was used, whereas the attainment SIP modeling used the most recent version of AERMOD (version 15181) that was available at the time the attainment demonstration (developed in 2016-2107); and (4) flagpole heights of 1.5 meters were used for all modeled receptors to reflect a representative inhalation level, whereas the Commonwealth's SIP attainment modeling followed common AERMOD modeling practice of placing receptors at ground level, which EPA believes is more appropriate.

The Commenter asserts that LMAPCD previously recognized that the 720-hour emission limit of 0.20 lb/MMBtu was too high, citing to the Title V Petition. It appears that the Commenter is referencing a discussion on pages 8-9 that references an October 12, 2015 letter from LG&E to LMAPCD.<sup>3</sup> The letter states LG&E's understanding, based on information and data provided by LMAPCD to LG&E, that the modeled CEV translates to a one-hour limit of 0.24 lbs/MMBtu (and a 0.17 lbs/MMBtu 30-day limit). EPA is uncertain of the basis of this limit, and the information and data referred to in this letter. It appears that Commenter is referencing this limit to suggest that LMAPCD, at one time, contemplated a more stringent limit, but LMAPCD is making no such contention in the context of the attainment SIP that EPA is approving today. To the extent that LMAPCD previously considered a different limit, it is not uncommon for state and local technical analyses to evolve during the development of plans and permitting such changes do not, standing alone, lend support to a contention that the state or

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<sup>3</sup> Docket ID # EPA-R04-OAR-2017-0625-0011; Exh. B2.

local final plan is inadequate. Regardless, as discussed in the NPRM and the Responses to Comment 2, EPA has evaluated the 0.20 lb/MMBtu 30-day rolling average limit and is determining that the limit is sufficient to demonstrate attainment of the standard.

**Response 2c:** The commenter correctly notes that the adjustment factor was determined based on the emissions data from the years 2009-2013. Furthermore, the commenter correctly observes that this period precedes the upgrades in the Mill Creek control systems needed to comply with the SIP limits, and the Commenter accurately notes statements in the April 2014 guidance indicating that installation of control equipment is prone to increase the variability of emissions.

For this attainment SIP, as for most SIP submittals addressing a need for additional emission control, the adequacy of the SIP depends on the adequacy of the projection of the future. At issue here in particular is the adequacy of the projection of future variability of emissions at Mill Creek. The April 2014 guidance addresses a number of factors to be considered in order to make the best feasible projection of the variability of emissions once the SIP is implemented. The November 9, 2018, NPRM (*See* 83 FR 56010) addresses how EPA weighed these factors. Kentucky preferred to use data from Mill Creek to evaluate Mill Creek emissions variability, and the data from 2009 to 2013 were the most robust data available for a period with stable operation (*i.e.*, for a period without changes in the applicable control system or instability associated with the startup of the improved control system). The period from 2014 to

2016 included some operations before the control upgrades<sup>4</sup> and some post-upgrade, so that use of these data could be more of an assessment of the variability between the existing and improved control systems rather than an assessment of variability of emissions within the improved control system. Furthermore, the national average data provided in Appendix D of the April 2014 guidance suggest that plants that already have controls comparable to those being required for Mill Creek have variability comparable to the variability projected for Mill Creek. That is, if Kentucky had chosen to project variability at Mill Creek based on variability of another already well controlled plant, it likely would have found a similar adjustment factor as it found with the pre-upgrade emissions data for pre-upgrade Mill Creek emissions data. Consequently, EPA continues to believe that these data were the best data available at the time to estimate the variability of the emissions to be expected at Mill Creek and calculate the adjustment factor needed to establish a longer-term emission limit.

An additional pertinent factor is that during 2009 to 2013, Mill Creek did have existing wet-FGD scrubbers. The typical effect of control on variability can be inferred from Appendix D of the April 2014 guidance, showing national average adjustment factors for uncontrolled facilities and for facilities with a few types of control. EPA would expect that upgrading a control would have less effect on variability than installing a fully new control system. Therefore, EPA would expect Mill Creek to experience less change in variability than facilities that went from no control to full control; indeed, EPA believes that the 2009 to 2013 data should be reasonably indicative of variability following implementation of the control upgrades.

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<sup>4</sup> In this notice, the phrase “control upgrades” refers to the replacement of existing wet FGD systems operating at 90% control efficiency with the new wet FGD system operating at 98 percent efficiency for all four Mill Creek units.

Nevertheless, additional data are now available for a period after the completion of the control upgrades at Mill Creek. EPA analyzed these data, to obtain further insight into how well Kentucky's assessment served as a forecast of post-control emissions variability. For each unit, this analysis used emissions data after completion of the control upgrade until the end of 2018, which at the time of the analysis was the most recent available data. (Specifically, the first data point was taken 30 days after completion of the upgrade, to avoid being influenced by any potential instability in operation of the newly upgraded equipment.) On average, these data sets comprise 3-1/2 years for each unit, which is less than the 5 years that Kentucky analyzed but sufficient to likely be adequately robust. In addition, while this analysis generally used hourly emissions data reported to EPA for emissions trading program purposes, EPA excluded a handful of data points reflecting data substitution, where missing parameter data result in the reporting of extreme emission rates.<sup>5</sup> EPA analyzed these data in accordance with the data handling procedures that it understands that Kentucky will be using to assess compliance with these limits. The results of this analysis, as expected, indicated that the upgrading of control systems had only a relatively modest effect on variability. A spreadsheet providing the full details of EPA's analysis is included in the docket for this rulemaking (*See* Docket ID: EPA-R04-OAR-2017-0625).<sup>6</sup>

The modeling provided by Kentucky showed a modeled design value somewhat below the NAAQS, specifically at 190.1 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) as compared to the

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<sup>5</sup> This analysis excluded SO<sub>2</sub> emissions data with Code 12, "Maximum or Minimum Value from Default or Span Record."

<sup>6</sup> *See* Mill Creek Analysis revised.xlsx in the Docket for this final rulemaking (Docket ID: EPA-R04-OAR-2017-0625).

NAAQS at 196.4  $\mu\text{g}/\text{m}^3$ . Thus, even if a modestly lower adjustment factor were applied (suggesting that a modestly higher hourly limit would correspond to a 30-day average limit of 0.20 lb/MMBtu), the plan would still provide for attainment.

In summary, Kentucky used the most appropriate data available at the time it was preparing the attainment SIP. Kentucky applied an adjustment factor slightly more restrictive than the pertinent national average adjustment factor provided in EPA's guidance, suggesting that development of an adjustment factor based on data from another plant would have yielded a similar adjustment factor. The fact that the facility had existing wet-FGD scrubbers during the period Kentucky analyzed would be expected to improve its suitability for assessing variability following implementation of the SIP. The plan provides a modest margin for uncertainties for example in the appropriate adjustment factor. For this set of reasons, EPA concludes that, notwithstanding the upgrade of emission controls since the time used for determining an adjustment factor, Kentucky has applied an adjustment factor that is likely to be sufficiently reliable to warrant a conclusion that the adjusted limit Kentucky established is comparably stringent to the modeled 1-hour CEV and therefore provides for attainment of the 1-hour  $\text{SO}_2$  standard.

**Response 2d:** Contrary to the Commenter's stated view, EPA believes that our own analysis of the post-upgrade 2016-2018 data, as summarized in the EPA's November 9, 2018, NPRM is valid. At issue here is whether the establishment of a 30-day average limit is likely to provide a sufficient constraint on 1-hour emission levels for EPA to anticipate that occasions of emissions above the CEV will be infrequent. The best data for assessing the likely frequency of 1-hour emissions higher than the CEV during periods of compliance with the longer-term limit

are data during periods of compliance with the longer-term limit. Thus, EPA's analysis, using recent data during which the facility met the longer-term limit, provides the most valid assessment of the pertinent question, and indeed provides a substantially more valid analysis than would have been obtained following the commenter's suggestion to use data from a period with routine long-term average values above the 30-day average limit.

Regardless of whether the Commenter agrees with how the 720-hour permit limit was set, the analysis of the newer emissions data demonstrates, based on the current operation after the control upgrades, that the frequency of time the emissions are over the CEV is expected to be minimal. In addition to the analysis of post-control data that was summarized in EPA's November 9, 2018, NPRM, the Agency has further evaluated the data with the addition of the most recent 9 months of emissions data. In summary, EPA has now looked at post-upgrade data through December 2018.<sup>7</sup> This analysis confirms our belief as proposed that the frequency of time that emissions are over the CEV is minimal.<sup>8</sup> In this current analysis, during periods that the units met the 30-day average limit of 0.20 lb/MMBtu, the frequencies with which emissions from Unit 1, Unit 2, Unit 3, and Unit 4 were higher than the 1-hour critical emission rate were 0.1 percent, 0.2 percent, 0.1 percent, and 0.5 percent, respectively. This analysis supports EPA's conclusion that the 30-day average limit of 0.20 lb/MMBtu in title V permit 145-97-TV(R3) for EGU U1, U2, U3 and U4 for Mill Creek is sufficient to demonstrate attainment without

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<sup>7</sup> For Units 1, 2, and 3, the facility met the new limit for the entire period after completion of the control upgrade. For these units, EPA did not examine the first 30 days after the upgrade, to disregard any instability of operation, but EPA examined the full period from 30 days after upgrade through December 31, 2018. For Unit 4, the unit did not meet the new limit until a corresponding limit under the Mercury and Air Toxics Standards took effect, on April 16, 2016. Therefore, for this analysis for Unit 4, EPA examined the data from April 16, 2016 to December 31, 2018.

<sup>8</sup> See Mill Creek Analysis revised.xlsx in the Docket for this final rulemaking (Docket ID: EPA-R04-OAR-2017-0625)

additional conditions to limit the frequency of elevated emissions or the imposition of shorter-term averaging periods (e.g., 24 hours).

**Comment 3:** A Commenter expresses concern about EPA’s November 9, 2018, NPRM and the treatment of emissions from Kosmos in relation to the attainment demonstration for the Jefferson County nonattainment area. Generally, the Commenter believes that Kosmos should be considered a source to evaluate for an emission limit as part of the SIP, and not treated as either a “nearby” source or an “other” source considered in the background. Specifically, the Commenter claims that considering Kosmos as a background source is unsound and unlawful, in conflict with EPA’s guidance at 40 CFR part 51 Appendix W. The Commenter references air dispersion modeling performed by LMAPCD to site a monitor in the vicinity of Kosmos (proposed Kosmosdale monitor) using the AERMOD model to support its claim that Kosmos should be explicitly modeled to have its emissions impact characterized. The Commenter indicates that the results of this modeling appear to show violations of the 1-hour SO<sub>2</sub> NAAQS both inside and outside the nonattainment area boundary and appear to show that Kosmos causes a significant concentration gradient inside the nonattainment area, which is demonstrated using either normalized or not normalized emissions.

**Response 3:** Since EPA continues to believe that Kentucky’s attainment modeling is appropriate, in which Kosmos’ emissions impacts are adequately represented by modeling accounting for Kosmos as a background source, the Agency does not agree with the Commenter’s assertion that Kosmos should be evaluated for an emissions limit to be included in the SIP or treated as a “nearby source,” as defined in Section 8.3.1 of EPA’s Guideline on Air Quality Models contained in 40 CFR Part 51, Appendix W (Appendix W). EPA’s rationale for

finding that Kentucky's treatment of Kosmos as an "other source" and addressing its impacts with a representative ambient background concentration to be appropriate is fully discussed in Section IV.B.5 of EPA's November 9, 2018, NPRM. The following discussion briefly summarizes EPA's independent analysis, presented in the November 9, 2018, NPRM, that was done to assess the Commonwealth's conclusion that the Green Valley background monitor adequately represents background concentrations of SO<sub>2</sub> within this nonattainment area, and any impact from Kosmos. In accordance with Section 8.3.1.a.i of Appendix W, EPA evaluated whether Kosmos would cause a significant concentration gradient in the vicinity of the Mill Creek source. EPA applied the rule of thumb criterion discussed in Section 8.3.3.b.ii of Appendix W, which provides that the magnitude of a concentration gradient will be greatest in the proximity of the source and will generally not be significant at distances greater than 10 times the height of the stack(s) at that source without consideration of terrain influences. The height of the cement kiln stack at Kosmos is 75 feet (approximately 23 meters), and there are no significant terrain features located near Kosmos or within the nonattainment area boundary. Therefore, concentration gradients should be comparatively modest beyond 230 meters from the stack. The closest edge of the nonattainment boundary is approximately 480 meters from the stack, which is more than twice the distance of this general rule of thumb. Therefore, EPA determined that the SO<sub>2</sub> emissions from Kosmos would not result in a significant concentration gradient within the nonattainment area boundary and therefore can be treated as an "other source" in the attainment demonstration modeling. EPA also evaluated whether the Green Valley background monitor data is appropriate to represent the potential SO<sub>2</sub> concentration impacts from Kosmos within the nonattainment area. Based upon an assessment of wind

patterns in the Louisville area, the SO<sub>2</sub> emissions sources in the vicinity of the Green Valley monitor, and comparing those sources to the Kosmos source, EPA determined that the Green Valley monitor reasonably indicates the impact of Kosmos on the nonattainment area.<sup>9</sup>

Additionally, EPA considered whether Kosmos should be evaluated for an emission limit to include in the SIP as recommended by the Commenter, and ultimately concluded that the Commonwealth's treatment of Kosmos is acceptable and Kosmos did not need to be a "Source Subject to SIP Emissions Limit Evaluation for Compliance with Ambient Standards" as specified in Table 8-1 of Appendix W. SO<sub>2</sub> is a source-oriented pollutant and concentrations are often due to a single large industrial source or group of sources with localized impacts that usually have a limited number of sources affecting areas of air quality which are relatively well defined. Emissions control measures for such sources result in swift and dramatic improvement in air quality. In 2013, EPA designated those areas that were determined to be impacting or contributing to a violation at an ambient air quality monitor (known as round 1 designations). At the time of designations for Jefferson County, Kentucky, it was determined that Mill Creek was the primary cause and contributor to the violation at the Watson Lane monitor (AQS ID: 21-111-0051) based on best available ambient air quality data, emissions and other information that informed EPA's final designation of nonattainment around the Mill Creek facility and the Watson Lane monitor. EPA considered evidence of source-receptor relationships between specific emissions sources and high SO<sub>2</sub> values at violating monitors in determining the appropriate contributing areas and the appropriate extent of the nonattainment area boundary in round 1 designations. This included assessing meteorological data nearest to the then violating

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<sup>9</sup> The complete details of this analysis are presented in Section IV.B.5 of EPA's NPRM (83 FR 56012).

Watson Lane monitor to determine which wind vectors were associated with 1-hour SO<sub>2</sub> concentrations exceeding the NAAQS level. Mill Creek was the largest SO<sub>2</sub> emission source near the Watson Lane monitor, located approximately 1.5 kilometers (km) southwest of the monitor. EPA's review of meteorological data as well as emission data indicated that the majority of the NAAQS level-exceeding hours at the monitor occurred during times when the wind blew from the direction of Mill Creek (i.e. from southwest of the monitor) supporting EPA's conclusion that Mill Creek was likely causing the monitored violations. Therefore, EPA established the boundary around Mill Creek and the Watson Lane monitor based on technical evidence that Mill Creek was causing violations of the SO<sub>2</sub> standard at the monitor. EPA considered jurisdictional boundaries for the purposes of providing a clearly defined legal boundary and to help identify the areas appropriate for carrying out the air quality planning and enforcement functions for nonattainment areas. Kosmos was not the focal point for round 1 designations. In EPA's round 1 designation Technical Support Document (TSD) for Kentucky, EPA explained that areas and sources that we were not then yet prepared to conclude are contributing to the monitored violations were not being included in initial nonattainment areas. EPA did not receive any additional information or comments during the 30-day public comment period for the 2013 round 1 designations asserting that Kosmos was causing or contributing to the violation at the monitor, nor did any petitioner timely challenge the designation for the portion of Jefferson County. That opportunity to bring such a challenge has long since passed. *See* EPA's response to Comment #6.

Mill Creek is the only SO<sub>2</sub> emitting major point source in the nonattainment area and the only emission source explicitly modeled in the attainment modeling analysis submitted by the

Commonwealth for the Jefferson County nonattainment area. All minor area sources and other major point sources (located outside the nonattainment area boundary) were accounted for with the background concentration as discussed in Section IV.B.5. of the November 9, 2018, NPRM. Decreasing trends in Mill Creek SO<sub>2</sub> emissions and ambient monitor concentrations in the nonattainment area at the Watson Lane monitor since 2013 support the Commonwealth's focus on Mill Creek. From 2013 to 2017, actual SO<sub>2</sub> emissions from Mill Creek reported in EPA's Clean Air Market program database decreased from 28,150 tons per year (tpy) to 3,040 tpy due to the new Mill Creek emissions controls, while the Watson Lane ambient monitor design concentrations decreased from 148.6 ppb to 13.7 ppb during the same 5-year period. Despite the Mill Creek and Kosmos sources being in close proximity to each other, the nature of each source and their specific locations provide for distinct spatial patterns of modeled concentration impacts from Mill Creek's emissions, which are emitted from relatively tall stacks (469 feet)<sup>10</sup> and Kosmos' emissions, which are emitted from a relatively short stack (75 feet). The modeling to site the Kosmos monitor conducted by LMAPCD and referenced by the Commenter (in which both Kosmos and Mill Creek were modeled with allowable emissions to find the area of maximum impact from Kosmos' emissions), shows that the highest modeled concentrations were observed outside the nonattainment area southwest of Kosmos' property boundary (in the opposite direction from the nonattainment area and the Watson Lane monitor).<sup>11</sup> In contrast, in the attainment SIP modeling provided by the Commonwealth, where only Mill Creek emissions

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<sup>10</sup> The actual stack heights at Mill Creek range from 600-610 feet. However, the GEP stack heights for each stack that were used in the modeling are 469 feet.

<sup>11</sup> As presented in the LMAPCD's 2017 Network Plan, the Kosmosdale monitor is proposed to be installed southwest of Kosmos within the area of maximum impact.

were explicitly modeled and other sources, including Kosmos, were addressed in the background concentration, the maximum area of impact from Mill Creek's emissions in the nonattainment area is located near the Watson Lane monitor. The results of these modeling analyses show that Mill Creek and Kosmos have different areas of impact and that Kentucky's decision to only evaluate the Mill Creek sources for control to bring the Jefferson County nonattainment area back into attainment with the 1-hour SO<sub>2</sub> NAAQS is appropriate.

The Commonwealth's attainment SIP demonstrates that the emissions limits for Mill Creek provides modeled and monitored attainment for the area and appropriately accounts for the contribution of Kosmos and other sources consistent with EPA's Guidelines and governing regulations (as discussed in the November 9, 2018, NPRM and supported by additional analysis by EPA within that proposal). 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 and it would be unlikely for an area to implement the necessary emission controls yet fail to attain the NAAQS. Attainment plans for SO<sub>2</sub> must meet the applicable requirements of the CAA, and specifically CAA sections 110, 172, 191, and 192. As EPA has explained in the April 2014 guidance and in numerous proposed and final SIP rulemakings implementing the SO<sub>2</sub> NAAQS, a key element in an approvable SIP is the required modeling demonstration showing that the remedial control measures and strategy are adequate to bring a previously or currently violating area into attainment. The Commonwealth's attainment SIP required Mill Creek, the primary SO<sub>2</sub> source in the area, to implement a control strategy in accordance with the CAA and EPA's technical guidance and included a modeled demonstration of attainment by the statutory attainment deadline. During round 1 designations EPA determined Mill Creek to be the primary source of violations at the Watson Lane monitor.

The Commonwealth's attainment plan addressed the violations of the 2010 standard through the implementation of an emission reduction control strategy for Mill Creek, the primary SO<sub>2</sub> source determined to cause measured violations at the ambient air monitor that demonstrated modeled attainment of the 2010 standard. The plan accounted for other sources outside the nonattainment area, including emissions from Kosmos, in the background concentrations. As EPA explained in the November 9, 2018, NPRM and as determined through the modeled attainment demonstration submitted by Kentucky, the evaluation of controls for other sources within or outside the nonattainment area is not necessary to show compliance with 2010 standard. Therefore, in the context of considering the approvability of Commonwealth's attainment SIP including the adequacy of control measures to provide for modeled attainment of the air quality standard under sections 172 and 192, EPA believes it is reasonable to focus on the modeled results that specifically account for those control measures at Mill Creek and their resulting reductions in SO<sub>2</sub> emissions that demonstrate attainment in the Jefferson County nonattainment area. For the reasons described in the November 9, 2018, NPRM and elsewhere in this rule, EPA has concluded that the Commonwealth's SO<sub>2</sub> attainment plan meets the requirement in CAA sections 172(c) and 192(a), and 40 CFR 51.112, to include a modeling demonstration that the Mill Creek control measures included in the plan provide for attainment for the Jefferson County Area.

EPA notes that the LMAPCD's modeling referenced by the Commenter, and which was not submitted by Kentucky to support its attainment demonstration, was conducted for a different purpose than for informing the attainment SIP demonstration. Namely, it was performed to determine the best location to site a new ambient air monitor to characterize future maximum concentrations near the Kosmos facility and used Kosmos' permitted allowable emissions

following procedures provided in EPA’s SO<sub>2</sub> Designations Monitoring Technical Assistance Document (TAD).<sup>12</sup> As referenced by the Commenter, LMAPCD presented the results of modeling with both absolute and normalized concentrations. EPA disagrees with the Commenters assertion that LMAPCD’s absolute and normalized modeling results show that Kosmos causes a significant concentration gradient inside the nonattainment area. For purposes of attainment demonstrations, modeling with allowable emissions is the type of modeling expected under Appendix W for sources being evaluated for new SIP emissions limitations and the new allowable level typically reflects a reduction in emissions from past actual emissions. As explained above and in the response to Comment 6, EPA is concluding that Kosmos is not such a source. Assuming for argument that Kosmos could not be adequately characterized as an “other source,” Section 8.2.2.b. and Table 8-1 in Appendix W provide that for “nearby sources” emissions reflective of actual operation over the most recent two years shall be used in cumulative impact modeling for attainment demonstrations or for evaluating whether nearby sources cause a significant concentration gradient in the area. LMAPCD’s modeling referenced by the Commenter was performed using Kosmos’ allowable emissions without accounting for recent actual operation, so it is not appropriate to assess concentration gradients or contribution to the nonattainment area since it does not reflect actual operations. EPA concludes that for the SIP attainment demonstration, Kosmos is adequately represented by background emissions in Kentucky’s modeling analysis as an “other source.” As such, we reject the Commenter’s view that the more conservative modeling using Kosmos’ allowable emissions that is not required by

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<sup>12</sup> “SO<sub>2</sub> NAAQS Designations Source-Oriented Monitoring Technical Assistance Document,” U.S. EPA Office of Air and Radiation, Office of Air Quality Planning and Standards, Air Quality Assessment Division, February 2016 Draft.

EPA's rules for "nearby sources" must be viewed as a better and preferred characterization of impacts from Kosmos as an "other source."

Furthermore, the monitoring data trends during the time period corroborate the existence of the substantial air quality benefits from the significant SO<sub>2</sub> reductions from Mill Creek facility. In addition to the modeling demonstrating attainment of the SO<sub>2</sub> standard, actual monitored 99th percentile of 1-hour daily maximum concentrations at the Watson Lane monitor do not show violations of the NAAQS. Based on technical and policy considerations, EPA believes that the Kosmos facility was adequately accounted for in the attainment demonstration modeling and was not required to be evaluated for additional controls.

**Comment 4:** A Commenter indicates that EPA's November 9, 2018, NPRM suggests that there is no need for an Agreed Board Order (ABO) to characterize air quality in the vicinity of Kosmos if EPA believes that the potential impacts of Kosmos are characterized by a distant monitor. Additionally, the Commenter argues that there is no logical reason for LMAPCD and the state to enter into the agreement if the option of including Kosmos as an "other," or background, source was available for SIP approval.

**Response 4:** EPA does not believe that it is appropriate to draw this conclusion from the November 9, 2018, NPRM (or this final rule). The more appropriate conclusion to draw is that, for the purpose of attainment demonstration modeling for the Jefferson County nonattainment area, it is appropriate to consider Kosmos a background source. *See* EPA's response to Comment 3 above for EPA's response related to treating Kosmos as a background source. Although EPA believes for the purpose of attainment modeling for the Jefferson County nonattainment area it is appropriate to consider Kosmos a background source, the Agency also

supports the efforts of Kentucky and LMAPCD to further characterize air quality in the area<sup>13</sup> near Kosmos in order to continue to verify that there are no violations of 2010 1-hour SO<sub>2</sub> NAAQS in either the Jefferson County nonattainment area or in other areas potentially impacted by Kosmos' emissions. As was mentioned in EPA's November 9, 2018, NPRM, LMAPCD and Kosmos have entered into an ABO to evaluate the ambient concentrations of SO<sub>2</sub> in the vicinity of Kosmos. That evaluation is ongoing and is separate from this action. Today's SIP approval action, however, should not be interpreted as precluding that evaluation from continuing, nor should it be interpreted as providing a conclusion regarding current SO<sub>2</sub> air quality outside the Jefferson County nonattainment area and, specifically, in the vicinity of the Kosmos facility.

EPA also notes that, if additional characterization of ambient concentrations of SO<sub>2</sub> in the vicinity of Kosmos raises concerns with continued NAAQS attainment or maintenance in either the Jefferson County area or other areas, the Commonwealth and LMAPCD have the authority to remedy any potential violation of a NAAQS through SIP-approved and statutory provisions.<sup>14</sup>

**Comment 5:** A Commenter asserts that treatment of Kosmos as a background source undermines the modeling that was used to site the Kosmos monitor and implies that the

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<sup>13</sup> Pursuant to the CAA, the Administrator also has the authority to address any potential or actual violation of a health-based standard either by revising an area's designation for a particular standard, requiring a state to revise its SIP if EPA determines the plan to be inadequate to attain or maintain a standard, or to work collaboratively with state to remedy any violation of a standard. The statute authorizes the Administrator to remedy a potential violation of any health-based standard including the 2010 SO<sub>2</sub> NAAQS regardless of whether those potential violations are determined to be within an existing attainment area or are within close proximity of a nonattainment area.

<sup>14</sup> LMAPCD Regulation 3.01 - "Ambient Air Quality Standards," section 4 – *General Prohibition* and section 5 – *Methods of Measurement*. Commonwealth of Kentucky 401 Kentucky Administrative Regulation (KAR), Chapter 50 Division for Air Quality; General Administrative Procedures - 50:050 *Monitoring*; Chapter 53 - Ambient Air Quality - 53:005 *General Provisions*. Kentucky Revised Statutes (KRS) Title XVIII – Public Health Chapter 224 Environmental Protection - Subchapter 20 - Air Quality (KRS 224.20-110).

significant concentration gradient shown in the 2017 Network Plan's modeling is fictitious. The Commenter noted that EPA approved the 2017 Network Plan and asserts that EPA must either determine that the concentration gradient is significant and Kosmos should be explicitly modeled (which the Commenter claims was EPA's position as of June 2018) or determine that the AERMOD model does not simulate impacts from sources with short releases such as Kosmos Cement and disregard all regulatory modeling conducted for such sources.

**Response 5:** As presented in the LMAPCD's 2017 Network Plan, modeling was performed using Kosmos' permitted maximum allowable emissions and operations in order to determine the best location to site a new ambient air quality monitor to characterize the future maximum 1-hour SO<sub>2</sub> concentrations near the Kosmos facility. This was done in accordance with the SO<sub>2</sub> NAAQS Designations Source-Oriented Monitoring Technical Assistance Document (TAD) which recommends the use of modeling to determine suitable monitor placement characterizing areas of maximum SO<sub>2</sub> concentrations. Specifically, for these purposes, the SO<sub>2</sub> NAAQS Designations Source-Oriented Monitoring TAD references the SO<sub>2</sub> NAAQS Designations Modeling TAD which in Section 5 discusses the use of allowable or potential-to-emit emissions when actual emissions are unavailable. LMAPCD appropriately followed these modeling procedures for siting a new ambient air monitor. However, as discussed in EPA's response to Comment #3, since LMAPCD's modeling was performed with maximum allowable emissions and operations and does not incorporate actual operation of the Kosmos facility, it was not performed as prescribed in Section 8.2.2.b., and Table 8-1 in Appendix W for evaluating Kosmos' concentration gradient or contribution to concentrations within the nonattainment as a nearby source.

With respect to the Commenter's suggestion that EPA must either determine that Kosmos must be explicitly modeled or determine that AERMOD is not adequate to simulate impacts from short stack releases, EPA does not agree that this action poses this dilemma. As EPA has explained, the SIP modeling appropriately treats Kosmos as a background source. Further, EPA is making no determination on the adequacy of AERMOD, generally, in the context of this action. Rather the only determination EPA is making regarding AERMOD in this action concerns its evaluation of the appropriateness of Kentucky's use of AERMOD in its attainment demonstration modeling, which EPA is concluding is appropriate.

**Comment 6:** A Commenter questions EPA's designation process for the 2010 SO<sub>2</sub> NAAQS. Specifically, the Commenter claims EPA has erroneously designated Kosmos' area as attaining the NAAQS and that Kosmos should therefore be considered a source to evaluate for an emissions limit as part of a SIP, rather than a nearby source or an "other" or background source.

**Response 6:** First, for the reasons previously explained, EPA concludes that it was not necessary to evaluate Kosmos for an emission limit to include in the SIP, and that Kentucky has appropriately characterized Kosmos' emissions impacts in the nonattainment area. See EPA's response to Comment #3. Second, EPA believes that the Commenter's reference to EPA's round 3 SO<sub>2</sub> designations signed on December 21, 2017 (83 FR 1098), is outside the scope of this action to approve the nonattainment planning SIP for the Jefferson County nonattainment area. In proposing to approve the SIP addressed in this action, EPA did not reopen either of the designations addressing Jefferson County, Kentucky, and this final action has no final effect on those designations. EPA also notes that no petitioner timely challenged the designation for Kosmos' area, and that the opportunity to bring such a challenge has long since passed.

However, for informational purposes EPA notes that, generally, designations are based on the best ambient air quality data available at the time of designation to determine if an area meets or does not meet the standard. EPA's attainment/unclassifiable designation for the remaining portion of Jefferson County, in which the Kosmos facility resides, was finalized in January 2018 and became effective on April 9, 2018. *See* 83 FR 1098 (January 8, 2018). EPA provided a 30-day public comment period (although not required by section 107(d) of the CAA) on the Agency's intended designations published in a notice of availability requesting public comments from interested parties, other than the states, territories and tribes on September 5, 2017. *See* 82 FR 41903. Additionally, interested parties who had submitted comments had an opportunity to file a petition for judicial review within 60-days after the publication date of the final rule for EPA's designations. EPA received no comments on its intended attainment/unclassifiable designation for the remaining portion of Jefferson County, Kentucky nor did the Agency receive a petition for judicial review challenging the final attainment/unclassifiable designation for the remaining portion of Jefferson County, Kentucky.

**Comment 7:** A Commenter claims that EPA reversed its position on how to treat Kosmos from the time that EPA provided the Commonwealth preliminary comments on its submission when it was under review at the state level and prior to formal submission to EPA. The Commenter points to Louisville's March 17, 2017, prehearing SIP submittal and EPA's April 18, 2017<sup>15</sup> letter commenting on this prehearing submittal where EPA recommended treatment of Kosmos as a nearby source. The Commenter suggests that these previous

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<sup>15</sup> The Commenter included a date of April 18, 2018, for an EPA letter. However, based on the context of its use, EPA believes the Commenter is referring to an April 18, 2017 EPA letter, which was also referenced in footnote 22 of the November 9, 2018, NPRM.

preliminary comments show that EPA's November 9, 2018, NPRM to approve Kentucky's treatment of Kosmos as a background source constitutes an arbitrary and capricious shift in position and is not supported by the record.

**Response 7:** First, it is not uncommon during continuing discussions with states for EPA's positions on the manner in which states address attainment planning to evolve as technical information continues to be developed and submitted to EPA, evaluated by Agency staff, and refined. This is exactly what happened in this case, and EPA rejects the assertion that the fact of such evolution alone shows that our final approval is arbitrary and capricious. In Section IV.B.5 of the November 9, 2018 NPRM, EPA detailed its analysis of the appropriateness of treatment of Kosmos as an "other source" and addressing its impacts with a representative ambient background concentration. *See* also EPA's response to Comment #3 on the rationale for the treatment of Kosmos. The Commenter did not express any technical concerns with this analysis in the November 9, 2018, NPRM. EPA believes the record supports EPA's determination that the Commonwealth's treatment of Kosmos as an "other source" is appropriate and does not agree that its earlier comments on the Commonwealth's preliminary submittal show that its current approach is arbitrary and capricious and not supported by the record.

**Comment 8:** A Commenter asserts that EPA is establishing the monitor as a means of compliance with the attainment demonstration and expresses concerns about this assumption.

**Response 8:** EPA disagrees with the Commenter's characterization of the role of the Kosmosdale monitor. EPA concludes in this rulemaking that Kentucky's plan provides for attainment in the established nonattainment area, and at the same time EPA supports Kentucky's efforts to pursue additional monitoring information to characterize air quality outside the

nonattainment area in the vicinity of the Kosmos facility. EPA notes that its evaluation of the Commonwealth's SIP revision is based on the CAA requirements for attainment planning and on established guidance related to attainment plans. As outlined in EPA's November 9, 2018, NPRM, the Agency's proposed approval of the SO<sub>2</sub> attainment SIP is solely based on the Agency's determination that the plan complies with the nonattainment planning requirements of section 172(c) of the CAA for demonstrating attainment. LMAPCD's board order does not supplement the Commonwealth's attainment SIP nor did the Commonwealth request the order be incorporated into the SIP. As indicated in EPA's April 18, 2017, comment letter, EPA and the Commonwealth and LMAPCD have discussed appropriate consideration of Kosmos. This is reflected in the discussion in Section IV.B.5 of the November 9, 2018, NPRM regarding the appropriate treatment of Kosmos in the attainment demonstration modeling.

**Comment 9:** A Commenter expresses concerns with connecting the timing of the deployment of the monitor near Kosmos with the attainment demonstration for the Jefferson County nonattainment area and notes that the monitoring plan is not contingent on the SIP submittal.

**Response 9:** EPA agrees with the Commenter that the ambient air monitoring network plan is not contingent on a SIP submittal. The network plan is a separate regulatory planning process. On February 1, 2018, EPA approved siting the Kosmosdale monitor (AQS ID: 21-111-0065) to characterize the maximum ambient 1-hour SO<sub>2</sub> concentration near Kosmos as part of the 2017 Kentucky Ambient Air Monitoring Network Plan.

**Comment 10:** Based on a Commenter's review of EPA's November 9, 2018, NPRM, the Commenter asserts that EPA is in agreement or has otherwise made certain determinations

that Kosmos does not constitute a source causing or contributing to 1-hour SO<sub>2</sub> NAAQS violation inside the nonattainment area or otherwise constitutes a source for which consideration of SO<sub>2</sub> emissions limitations or other controls are necessary in order for the Jefferson County nonattainment area to attain the 1-hour SO<sub>2</sub> NAAQS and that therefore, source-specific modeling of Kosmos emissions is not necessary under the 2014 SO<sub>2</sub> Nonattainment Guidance. Further, the Commenter claims that EPA had determined that Kosmos' emissions are adequately represented by ambient monitoring data from the Watson Lane monitor and that therefore, Kosmos should not be considered a "nearby" source for the purposes of modeling the Mill Creek Generating Station emissions under 40 CFR Part 51, Appendix W. The Commenter also states that EPA concluded that SO<sub>2</sub> emissions from Kosmos would likely not result in a significant concentration gradient within the nonattainment area boundary.

**Response 10:** EPA has in fact concluded that Kentucky's SIP adequately shows that the nonattainment area will meet the NAAQS throughout the area's boundaries, notwithstanding emissions from Kosmos. However, EPA also believes that Kentucky has good reasons to establish a monitor near Kosmos to better characterize the ambient concentrations of SO<sub>2</sub> in the vicinity of the facility, in order to better understand air quality in the vicinity of Kosmos. In the separate action to approve Kentucky's monitoring network, which is a separate regulatory process and is not being re-opened or reevaluated in this SIP approval action, EPA supported Kentucky's choice. As explained in EPA's November 9, 2018, NPRM, and above in EPA's response to Comment #3, EPA observes that the analysis supplementing the Commonwealth's modeling analysis determined that the SO<sub>2</sub> emission from Kosmos would not result in a significant concentration gradient in the nonattainment area. As a result, Kosmos' emissions

were not further characterized for purposes of consideration for SIP emission limits to demonstrate attainment for the nonattainment area or as a nearby source. See EPA's response to Comment #3. A conclusion that Kosmos should not be considered a "nearby" source or considered for a SIP emission limit for the purpose of modeling the Mill Creek Generating Station and the associated nonattainment area in no way indicates that it is unreasonable for Kentucky to choose to monitor air quality in the more immediate vicinity of from Kosmos.

Lastly, EPA does not agree with the Commenter that EPA determined that Kosmos' impacts are represented by ambient monitoring data at the Watson Lane monitor at all locations. EPA's supplemented background analysis in the November 9, 2018, NPRM supports the Commonwealth's conclusion that the Green Valley background monitor, located 27 km north of the nonattainment area in Indiana, adequately represents background concentrations of SO<sub>2</sub> within this nonattainment area, including the impact from Kosmos. EPA also evaluated whether Green Valley background monitor data is adequately representative of potential SO<sub>2</sub> concentration impacts from Kosmos within the Jefferson County nonattainment area based on an assessment of wind patterns in the Louisville area, the SO<sub>2</sub> emissions sources in the vicinity of the Green Valley monitor and comparing those sources to the Kosmos source. EPA's rationale for finding Kentucky's treatment of Kosmos as an "other source" and addressing its impacts with a representative ambient background concentration is fully discussed in Section IV.B.5 of EPA's November 9, 2018, NPRM. EPA's November 9, 2018, NPRM did not indicate that Kosmos' impacts closer to the facility are represented by ambient air quality data from the Watson Lane monitor.

**Comment 11a:** A Commenter requests that EPA delete footnote number 22 because the

Commenter states that the ABO referenced in footnote 22 is not necessary for EPA's approval of the SIP. The Commenter agrees with EPA that Kosmos is appropriately considered as a background source and no emissions limits or other controls are necessary under the SIP to bring the Jefferson County nonattainment area into attainment.

**Response 11a:** EPA included footnote number 22 to acknowledge information provided as part of the record respecting the attainment SIP and does not believe there is any need to delete this footnote. *See* EPA's November 9, 2018, NPRM, and EPA's response to Comment #3 for more information on the treatment of Kosmos in the attainment demonstration. *See* also EPA's response to Comment #8 as it pertains to the relevance of EPA's footnote regarding the ABO. The Agency also supports the efforts of Kentucky and LMAPCD to further characterize air quality in the area near Kosmos in order to continue to verify that there are no violations of 2010 1-hour SO<sub>2</sub> NAAQS in the vicinity of Kosmos.

**Comment 11b:** Additionally, a Commenter requests that EPA delete footnote number 22 because of the Commenter's assertion that the ABO between Kosmos and LMAPCD is not necessary because current monitoring data (presumably at the Watson Lane monitor) is attaining the NAAQS, and thus, in the Commenter's opinion the premise on which the ABO was based is no longer valid. The Commenter mentions that the ABO is "subject to change" and claims that the ABO will need to be revisited by LMAPCD and Kosmos and revised as necessary and appropriate.

**Response 11b:** EPA does not agree with the Commenter that footnote 22 should be deleted. EPA understands that there is continued dialog between the LMAPCD (in consultation with Kentucky) and Kosmos regarding the ABO and the status of installation and operation of

the Kosmosdale SO<sub>2</sub> monitor which is approved in the ambient air monitoring network plan to characterize the impact of SO<sub>2</sub> emissions from the facility to the area surrounding the facility. EPA encourages this continued dialog and does not intend through this action to indicate that SO<sub>2</sub> air quality in the vicinity of Kosmos should not be further evaluated for purposes of verifying that there are no violations of 2010 1-hour SO<sub>2</sub> NAAQS in either the Jefferson County nonattainment area or in other areas potentially impacted by Kosmos' emissions. *See* EPA's response to Comment #4.

**Comment 11c:** A Commenter claims that footnote number 22 inaccurately summarizes the ABO and asserts that the ABO does not require Kosmos to “deploy” a monitor but instead only allows monitoring to continue until the end of [a] three-year monitoring period if a cost agreement and access agreement can be finalized and further only requires action by Kosmos if necessary to meet the SO<sub>2</sub> NAAQS. The Commenter concludes that the ABO is not necessary for the SIP approval and thus the footnote should be deleted.

**Response 11c:** EPA acknowledges that the ABO does not require Kosmos to deploy an SO<sub>2</sub> ambient air monitor; monitoring will be performed by LMAPCD. The ABO establishes an agreement between Kosmos and LMAPCD regarding access and cost responsibility of the monitoring. As prescribed in the ABO and approved by EPA in the Kentucky Ambient Air Monitoring Network plan, which is not being re-opened in this SIP approval action nor related to EPA's approval of the attainment SIP, LMAPCD will operate the air monitoring site as a State and Local Air Monitoring Station (SLAMS) to monitor SO<sub>2</sub> and meteorological data to obtain 3 years of quality-assured data. *See* EPA's response to Comment #8.

**Comment 12:** A Commenter claims that EPA's November 9, 2018, NPRM fails to meet

the CAA's statutory deadline to issue a Federal Implementation Plan (FIP) and that EPA must issue a FIP and must impose sanctions on Kentucky for failing to submit a lawful SIP.

**Response 12:** EPA acknowledges that it did not approve a SIP revision or promulgate a FIP for the Jefferson County area by the statutory deadline under CAA 110(c)(1)(A). However, with this final action to approve Kentucky's attainment SIP, EPA is discharging the statutory obligation under CAA section 110(k)(2) to act on the SIP, and such approval terminates our FIP obligation under section 110(c)(1)(A) for the Jefferson County Area. Regarding sanctions under CAA section 179, as noted in EPA's November 9, 2018, NPRM, the Commonwealth provided the required attainment SIP submittal for the Jefferson County Area to address SO<sub>2</sub> nonattainment planning requirements on June 23, 2017. EPA subsequently determined the attainment SIP submittal complete on October 10, 2017, and thus that Kentucky corrected the deficiency that was the basis of EPA's March 18, 2016, finding for the Area. Because this deficiency has been corrected, section 179 sanctions are no longer applicable, and no section 179 sanctions clock was actually running or past due at the time the Commenter submitted its objections. A copy of EPA's completeness determination letter is provided in the docket for this rulemaking.

**Comment 13:** A Commenter asserts that the projected 2018 attainment year inventory is set artificially high and suggests that the limits should be set based on certain scrubber efficiency (i.e., 89 percent). The Commenter also refers to the RACT/RACM portion of the November 9, 2018, NPRM and indicates a discrepancy related to the emissions for post-level control. Specifically, the Commenter argues that EPA states that the scrubber improvement is a removal rate of 98 percent, compared to 90 percent before the upgrades, which would equate to a post-

control level of 6,000 tpy, not the projected 13,940 tpy.

**Response 13:** EPA disagrees with the Commenter that the projected emission inventory is artificially high. The projected 2018 SO<sub>2</sub> emissions for Mill Creek are considered conservative based on the source's expected levels or potential to emit beyond the October 4, 2018, attainment date. The projected emission inventory is an estimate of emissions from all SO<sub>2</sub> emission sources determined to have an impact on the affected nonattainment area for the year in which the area is expected to attain the standard, consistent with the attainment demonstration for the affected area. This inventory should reflect projected emissions for the attainment year for all SO<sub>2</sub> sources in the nonattainment area, taking into account emission changes that are expected after the base year. The projected inventory is not an exact measurement for post-control actual emissions and there is no one prescribed method for developing the inventory. Mill Creek's 2011 base year emissions for all four units was 29,944 tpy (*see* Table 3 in the November 9, 2018, NPRM). LMAPCD derived the 13,490 tpy projected post-construction potential (projected inventory) by converting the 30-day 0.20 lb/MMBtu emission rate to tpy (by multiplying the permitted rate in lb/MMBtu times the nominal heat capacity for each unit and the total calendar year hours). Kentucky also subtracted Mill Creek's 2011 base year emissions to show the contemporaneous SO<sub>2</sub> decreases for each unit at Mill Creek. The 0.20 lb/MMBtu emission rate is based on the FGD SO<sub>2</sub> scrubber upgrades installed at Mill Creek and demonstrates modeled attainment of the 2010 standard. According to 40 CFR 51.110(a), a control strategy must be selected that provides the degree of emission reductions necessary for attainment and maintenance of the NAAQS. EPA believes the projected inventory is an appropriate estimation of the expected improvement in emissions within the Jefferson

County nonattainment area due to the adoption and implementation of upgraded SO<sub>2</sub> scrubber control measures at Mill Creek. Furthermore, the Commenter's post-control calculation of 6,000 tpy is based on applying a reduction factor to the 2011 actual emissions rather than the uncontrolled potential to emit.

EPA also disagrees with the Commenter's assertion that the November 9, 2018, NPRM suggests the SO<sub>2</sub> removal efficiency at Mill Creek only achieved 89 percent since 2014 emission levels (*see* footnote No. 23 in the November 9, 2018, NPRM). The Commenter appears to confuse actual and allowable emissions and the application of control efficiencies and emission reductions regarding the change in emissions for Mill Creek post control. EPA acknowledges that the reduction in actual emissions since 2014 mathematically equates to an 89 percent reduction in SO<sub>2</sub> emissions but the Agency's purpose for footnote #24 (*See* 83 FR 56002 at 56013) was to show the decrease in actual emissions since 2014 and not to make a definitive determination of the efficiency of the SO<sub>2</sub> scrubbers since installation of upgrades at Mill Creek. Additionally, EPA notes that the reduction in actual emissions discussed in the November 9, 2018, NPRM is considered a snapshot of the level of actual emissions since the installation of controls and is not considered a definitive indication of the SO<sub>2</sub> removal capability of the scrubber upgrades.

EPA notes that since completion of the control installations at Mill Creek in 2016, the facility's actual SO<sub>2</sub> emissions have decreased from 28,149 tons in 2014 to 3,040 tons in 2017. EPA believes the control strategy implemented at Mill Creek provides for the attainment of the standard, which is supported by the modeled attainment demonstration, and the steady decline in actual annual SO<sub>2</sub> emissions since controls were installed in 2016. The 2015-2017 design value

is the latest three year average available and Watson Lane monitor has a reading of 31 ppb, well below the 75 ppb SO<sub>2</sub> standard.

### **III. Incorporation by Reference**

In this rule, EPA is finalizing rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is finalizing the incorporation by reference into the Jefferson County portion of the Kentucky SIP, a SO<sub>2</sub> emission limit and specified compliance conditions established in title V permit 145-97-TV(R3) for each coal-fired emissions unit at the LG&E Mill Creek Generating station in Jefferson County nonattainment area. Specifically, EPA is incorporating into the Jefferson County portion of the Kentucky SIP Plant-wide Specific conditions S1-Standards, S2-Monitoring and Record Keeping and S3-Reporting in title V permit 145-97-TV(R3) for EGU U1, U2, U3 and U4. These conditions include a 0.20 lb/MMBtu 30-day SO<sub>2</sub> emission limit for each EGU, U1, U2, U3 and U4, and associated operating and compliance conditions (monitoring, recordkeeping and reporting) for these units and are the basis for the attainment demonstration. EPA has made, and will continue to make, these materials generally available through [www.regulations.gov](http://www.regulations.gov) and at EPA Region 4 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 in the next update to the SIP compilation.<sup>16</sup>

#### **IV. Final Action**

EPA is approving Kentucky's SO<sub>2</sub> nonattainment SIP submissions, which the Commonwealth submitted to EPA through a letter dated June 23, 2017, for attaining the 2010 1-hour SO<sub>2</sub> NAAQS for the Jefferson County nonattainment area and for meeting other nonattainment area planning requirements. EPA has determined that Kentucky's nonattainment SIPs meet the applicable requirements of sections 110, 172, 191 and 192 of the CAA and nonattainment regulatory requirements at 40 CFR part 51. Kentucky's June 23, 2017, SIP revisions include an attainment demonstration for the Jefferson County nonattainment area and other nonattainment requirements for RFP, RACT/RACM, NNSR, base-year and projection-year emission inventories, enforceable emission limits and control measures and compliance parameters, and contingency measures. Additionally, EPA is approving into the Jefferson County portion of the Kentucky SIP, Mill Creek's enforceable SO<sub>2</sub> emission limits and compliance parameters (monitoring, recordkeeping and reporting) established at Plant-wide Specific condition S1-Standards, S2-Monitoring and Record Keeping and S3-Reporting established in title V permit 145-97-TV(R3).

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

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

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<sup>16</sup> *See* 62 FR 27968 (May 22, 1997).

provided that they meet the criteria of the CAA. 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);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (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).

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 as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

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 CAA, 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

from date of publication of this document 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 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: May 28, 2019.

Mary S. Walker,  
Regional Administrator,  
Region 4.

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 S – Kentucky**

2. Section 52.920 is amended by:

a. Adding, in paragraph (d), the entry “Louisville Gas and Electric Mill Creek Electric Generating Station” at the end of the table; and

b. Adding, in paragraph (e), the entries “2010 1-hour SO<sub>2</sub> Attainment Demonstration for the Jefferson County Area,” “2010 1-hour SO<sub>2</sub> Jefferson County Nonattainment Plan for 172(c)(3) 2011 Base-Year Emissions Inventory”, and “2010 1-hour SO<sub>2</sub> Jefferson County Nonattainment Plan for 172(c)(5) New Source Review Requirements” at the end of the table.

The additions read as follows:

**§52.920 Identification of plan.**

\* \* \* \*

(d) \* \* \*

**EPA-Approved Kentucky Source-Specific Requirements**

Name of source	Permit No.	State effective date	EPA approval date	Explanations
**	**	*	*	*
Louisville Gas and Electric Mill Creek Electric Generating Station	145-97-TV(R3)	6/23/2017	[Insert date of publication in <u>Federal Register</u> ] [Insert citation of publication]	Plant-wide Specific condition S1- Standards, S2- Monitoring and Record Keeping and S3- Reporting in title V permit 145-97-TV(R3) for EGU U1, U2, U3 and U4

\* \* \* \*

(e) \* \* \*

**EPA-Approved Kentucky Non-Regulatory Provisions**

Name of non-regulatory SIP provision	Applicable geographic or nonattainment area	State submittal date/effective date	EPA approval date	Explanations
**	**	*	*	*

2010 1-hour SO <sub>2</sub> Attainment Demonstration for the Jefferson County Area	Jefferson County	6/23/2017	[Insert date of publication in <u>Federal Register</u> ] [Insert citation of publication]	
2010 1-hour SO <sub>2</sub> Jefferson County Nonattainment Plan for 172(c)(3) 2011 Base-Year Emissions Inventory	Jefferson County	6/23/2017	[Insert date of publication in <u>Federal Register</u> ] [Insert citation of publication]	
2010 1-hour SO <sub>2</sub> Jefferson County Nonattainment Plan for 172(c)(5) New Source Review Requirements	Jefferson County	6/23/2017	[Insert date of publication in <u>Federal Register</u> ] [Insert citation of publication]	

[FR Doc. 2019-13736 Filed: 6/27/2019 8:45 am; Publication Date: 6/28/2019]