ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R04–OAR–2018–0142; FRL–9980–57—Region 4]

Air Plan Approval; Kentucky; 2008 Ozone NAAQS Interstate Transport SIP Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving a revision to Kentucky's State Implementation Plan (SIP) pertaining to the ''good neighbor'' provision of the Clean Air Act (CAA or Act) for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). Kentucky submitted a draft version of this SIP revision for parallel processing by EPA on February 28, 2018, and submitted a final version that contained no substantive changes on May 10, 2018. The good neighbor provision requires each state's implementation plan to address the interstate transport of air pollution in amounts that contribute significantly to nonattainment, or interfere with maintenance, of a NAAQS in any other state. In this action, EPA is approving Kentucky's submission demonstrating that no additional emission reductions are necessary to address the good neighbor provision for the 2008 ozone NAAQS beyond those required by the Cross-State Air Pollution Rule Update (CSAPR Update) federal implementation plan (FIP). Accordingly, EPA is approving Kentucky's submission because it partially addresses the requirements of the good neighbor provision for the 2008 ozone NAAQS, and it resolves any obligation remaining under the good neighbor provision after promulgation of the CSAPR Update FIP. The approval of Kentucky's SIP submission and the CSAPR Update FIP, together, fully address the requirements of the good neighbor provision for the 2008 ozone NAAQS for Kentucky. EPA is approving this action because it is consistent with the CAA.

DATES: This rule is effective August 16, 2018.

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA–R04–OAR–2018–0142. All documents in the docket are listed on the *www.regulations.gov* website. Although listed in the index, some information may not be 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* or in hard copy at the Air Regulatory Management Section, Air Planning and Implementation Branch, 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.

FOR FURTHER INFORMATION CONTACT: Ashten Bailey, Air Regulatory Management Section, Air Planning and Implementation Branch, Air, Pesticides and Toxics Management Division, Region 4, U.S. Environmental Protection Agency, 61 Forsyth Street SW, Atlanta, Georgia 30303–8960. Ms. Bailey can be reached by telephone at (404) 562–9164 or via electronic mail at *bailey.ashten@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. Background

On March 27, 2008 (73 FR 16436), EPA promulgated an ozone NAAQS that revised the levels of the primary and secondary 8-hour ozone standards from 0.08 parts per million (ppm) to 0.075 ppm or 75 parts per billion (ppb). Pursuant to CAA section 110(a)(1), within three years after promulgation of a new or revised NAAQS (or shorter, if EPA prescribes), states must submit SIPs that meet the applicable requirements of section 110(a)(2). EPA has historically referred to these SIP submissions made for the purpose of satisfying the requirements of sections 110(a)(1) and 110(a)(2) as ''infrastructure SIP'' submissions. One of the structural requirements of section 110(a)(2) is section 110(a)(2)(D)(i), also known as the ''good neighbor'' provision, which generally requires SIPs to contain adequate provisions to prohibit in-state emissions activities from having certain adverse air quality effects on downwind states due to interstate transport of air pollution. There are four sub-elements, or ''prongs,'' within section 110(a)(2)(D)(i) of the CAA. CAA section 110(a)(2)(D)(i)(I), addressing two of these four prongs, requires SIPs to include provisions prohibiting any source or other type of emissions activity in one state from emitting any air pollutant in amounts that will contribute significantly to nonattainment, or interfere with maintenance, of the NAAQS in another state. The two provisions of this section are referred to as prong 1 (significant contribution to nonattainment) and prong 2 (interference with maintenance). This action addresses only prongs 1 and 2 of section 110(a)(2)(D)(i).[1]

On July 17, 2012, Kentucky submitted a SIP submission to EPA, addressing a number of the CAA requirements for the 2008 8-hour ozone NAAQS infrastructure SIPs. With respect to the interstate transport requirements of 110(a)(2)(D)(i)(I), EPA disapproved the submission (78 FR 14681 (March 7, 2013), effective April 8, 2013) because the SIP had relied on Kentucky's participation in the Clean Air Interstate Rule (CAIR), which did not address the 2008 ozone NAAQS and had been remanded by the D.C. Circuit. In October 2016, EPA promulgated the CSAPR Update to address the requirements of CAA section 110(a)(2)(D)(i)(I) concerning interstate transport of air pollution for the 2008 ozone NAAQS. *See* 81 FR 74504 (October 26, 2016). In the CSAPR Update rulemaking, EPA determined that air pollution transported from Kentucky would unlawfully affect other states' ability to attain or maintain the 2008 8-hour ozone NAAQS. EPA's analysis projected that in 2017, Kentucky would be linked to downwind nonattainment or maintenance problems at four monitors, or receptors. Accordingly, EPA established an ozone season nitrogen oxides (NO_X) budget for Kentucky's electricity generating units (EGUs) and promulgated a FIP requiring affected EGUs to participate in an allowance trading program to implement the budget.[2] At the time it finalized the CSAPR Update, EPA determined that, after implementation of the rule, many downwind air quality problems would persist in 2017, including at two of the four receptors to which Kentucky was linked. EPA therefore found that the CSAPR Update FIPs for Kentucky and 20 other states may not fully address the good neighbor requirements as to the 2008 8-hour ozone NAAQS. EPA explained that further analysis of air quality in a potential future compliance year and potential control strategies would be needed to determine whether any

[1] All other infrastructure SIP elements for Kentucky for the 2008 8-hour ozone NAAQS were addressed in separate rulemakings. *See* 78 FR 14681 (March 7, 2013) and 79 FR 65143 (November 3, 2014).

[2] CSAPR Update, 81 FR at 74507–08.

further emission reductions from these states would be necessary to fully address the good neighbor obligations.

On October 27, 2017, EPA issued a memorandum (October 2017 Transport Memo) [3] that provided technical information and related analyses to assist states with developing SIPs to address any remaining section 110(a)(2)(D)(i)(I) requirements for the 2008 8-hour ozone NAAQS. EPA's updated modeling data, released with the October 2017 Transport Memo, indicate that for the 2023 future base case emissions scenario there are no monitoring sites, outside of California, that are projected to have nonattainment or maintenance problems with respect to the 2008 ozone NAAQS in 2023.

II. This Action

On February 28, 2018, Kentucky submitted a draft SIP revision to EPA for parallel processing that reviewed air quality modeling and data files that EPA disseminated in the October 2017 Transport Memo. The draft SIP revision indicated that the air quality problems at monitors to which Kentucky remained linked after implementation of the CSAPR Update would be resolved by 2023. Kentucky's draft SIP submission agreed with the October 2017 Transport Memo's preliminary projections and provided information intended to demonstrate that reliance on the modeling to evaluate its remaining good neighbor obligation is appropriate. The draft submission also contained air quality modeling conducted by Alpine Geophysics, LLC (Alpine) that concluded that none of the nonattainment and maintenance receptors identified in the CSAPR Update are predicted to be in nonattainment or have issues with maintenance of the 2008 ozone NAAQS in 2023. Additionally, Kentucky cited information related to emissions trends—such as reductions in ozone precursor emissions and controls on Kentucky sources—as further evidence that, after implementation of all on-the-books measures, including those promulgated in the CSAPR Update FIPs, emissions from the Commonwealth will no longer contribute significantly to nonattainment or interfere with maintenance of the 2008 8-hour ozone NAAQS in any other state.

In a notice of proposed rulemaking (NPRM) published on April 18, 2018 (83 FR 17123), EPA proposed to approve Kentucky's February 28, 2018 draft SIP submission. In the NPRM, EPA explained that it was basing its proposal to approve Kentucky's February 28, 2018 draft SIP submission on a finding that 2023 is a reasonable analytic year for evaluating ozone transport problems with respect to the 2008 ozone NAAQS and that interstate ozone transport air quality modeling projections for 2023 indicate that Kentucky is not expected to significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS in downwind states. As described in more detail in the NPRM, EPA based its evaluation on a four-step analytic framework by:

(1) Identifying downwind air quality problems relative to the 2008 ozone NAAQS considering air quality modeling projections to a future compliance year;

(2) Determining which upwind states are ''linked'' to these identified downwind air quality problems and thereby warrant further analysis to determine whether their emissions violate the good neighbor provision;

(3) For states linked to downwind air quality problems, identifying upwind emissions on a statewide basis that significantly contribute to nonattainment or interfere with maintenance of a standard; and

(4) For states that are found to have emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, implementing the necessary emission reductions within the state.

EPA explained that its selection of 2023 was a reasonable analytic year for evaluating downwind air quality at step one of the framework, supported by an assessment of attainment dates for the 2008 ozone NAAQS and feasibility of implementing potential control strategies at both EGUs and non-EGUs to reduce NO_X in CSAPR Update states, including Kentucky. First, EPA considered the upcoming 2021 and 2027 attainment dates for the 2008 ozone NAAQS, consistent with the holding of the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) in *North Carolina* v. *EPA,* 531 F.3d 896, 911–12 (2008). Next, EPA assessed the amount of time necessary to implement new NO_X controls at EGUs and non-EGUs across the CSAPR Update region, finding that, fleetwide, sources would require four years to implement additional, substantial NO_X emission reductions. EPA therefore proposed to find that 2023 is an appropriate future analytic year because it is the first ozone season for which significant new post-combustion controls to reduce NO_X could be feasibly installed across the CSAPR Update region, and thus represents the timeframe that is as expeditious as practicable for upwind states to implement additional emission reductions. EPA then described its modeling analysis at step one of the four-step framework for the 2023 analytic year, which indicates that there are no expected nonattainment or maintenance receptors for the 2008 ozone NAAQS in the eastern U.S. in this future year. Please refer to the April 18, 2018 NPRM for additional information on the basis for the proposed approval.

Based on these proposed findings and the information provided in Kentucky's February 28, 2018 SIP submittal, EPA proposed to determine that Kentucky's draft SIP submission demonstrates that emission activities from the Commonwealth will not contribute significantly to nonattainment or interfere with maintenance of the 2008 8-hour ozone NAAQS in any other state after implementation of all on-the-books measures, including the CSAPR Update. Comments on the NPRM were due on or before May 18, 2018. EPA received adverse comments on the proposed rulemaking, which are discussed below. Because Kentucky submitted the draft SIP revision for parallel processing, EPA's April 18, 2018 proposed rulemaking was contingent upon Kentucky providing a final SIP revision that was substantively the same as the draft SIP revision. *See* 83 FR 17123. Kentucky submitted the final version of its SIP revision on May 10, 2018.[4] The May 10, 2018 SIP submission had no substantive changes from the February 28, 2018 draft SIP submission.

After considering the comments received on the NPRM, for the reasons described in the NPRM and in this action,[5] EPA is now taking final action to approve Kentucky's May 10, 2018, final SIP submission and find that Kentucky is not required to make any further reductions, beyond those required by the CSAPR Update, to address its statutory obligation under CAA section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. EPA's final approval of Kentucky's submission means that Kentucky's obligations under 110(a)(2)(D)(i)(I) are fully addressed through the combination of the 2016 CSAPR Update FIP and the 2018 SIP demonstration showing that no

[3] Memorandum, Stephen D. Page, Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Action Section 110(a)(2)(D)(i)(I).

[4] Both the draft and final SIP revisions are provided in the docket for this action.

[5] EPA notes that to the extent there are any conflicts between the rationale provided in the NPRM for the proposed approval and the rationale provided in this action, statements made in this document should be treated as the controlling basis for EPA's final action approving Kentucky's SIP submission.

further reductions are necessary. As a result, EPA is also amending the regulatory text at 40 CFR 52.940(b)(2) to reflect that the CSAPR Update represents a full remedy with respect to Kentucky's transport obligation for the 2008 ozone NAAQS.

III. Response to Comments

The Regional Administrator signed the proposed rule on April 9, 2018, and on April 12, 2018, EPA made a prepublication version of the proposal available on its website. The 30-day public comment period on the proposed rulemaking began on April 18, 2018, the day of publication of the proposal in the **Federal Register**, and closed on May 18, 2018. EPA received 15 comments on the proposed action, 10 of which are relevant to the proposal. The relevant comments were submitted by the Connecticut Department of Energy and Environmental Protection, Delaware Department of Natural Resources & Environmental Control, Maryland Department of the Environment, Midwest Ozone Group, New Jersey Department of Environmental Protection, New York State Department of Environmental Conservation (NYDEC), New York State Office of the Attorney General, Sierra Club and Chesapeake Bay Foundation, and Utility Air Regulatory Group. The remaining comments were outside the scope of the proposed action. This section contains summaries of the relevant comments and EPA's responses to those comments.

Comment: One commenter states that existing measures, including volatile organic compounds (VOC) and NO_X requirements for EGUs, industrial sources, and mobile sources within Kentucky, have brought Kentucky into attainment of both the 2008 and 2015 ozone NAAQS. The commenter states that the issue being addressed in the proposed SIP is whether these existing measures also satisfy Kentucky's ''good neighbor'' requirements for the 2008 ozone NAAQS. The commenter states that 2023 is the appropriate analytic year for evaluation of ozone transport issues related to the 2008 ozone NAAQS. The commenter points to the October 2017 Transport Memo and its modeling results as demonstrating that there is no need to conduct any further analysis of EPA's four-step transport framework. The commenter states its support of both EPA and Alpine modeling showing no downwind air quality problems related to the 2008 ozone NAAQS and cites a report prepared for the commenter by Alpine indicating that all sites identified in the final CSAPR Update will have design values below the 2008 ozone NAAQS by 2023 and that therefore no states are required to estimate their contributions to these monitors. The commenter states in conclusion that recent modeling performed by EPA as well as by Alpine indicate that implementation of the CSAPR Update, in addition to other on-the-books controls, are all that are needed to satisfy requirements related to the 2008 ozone NAAQS, and indicates commenter's support for Kentucky's request that EPA approve its ''good neighbor'' SIP.

An additional commenter expresses support for EPA to finalize approval of Kentucky's section 110(a)(2)(D)(i)(I) SIP submission and further states its support for Kentucky's reliance on EPA's modeling analysis. The commenter states that the EPA analysis released in the October 2017 Transport Memo was consistent with the four-step framework, and that it was not necessary to complete all four steps because no receptor in the eastern United States is expected to have problems attaining or maintaining the 2008 ozone NAAQS in 2023. The commenter states that 2023 is the modeling year used in EPA's modeling because that is the earliest year by which it is feasible to install controls across the CSAPR Update region and states its support of EPA's decision to evaluate the feasibility of installing controls on a regional basis rather than on a state-by-state or unit-by-unit basis. The commenter further states that EPA properly considered upcoming attainment dates and the need to consider future effects of local, state, and federal emission reduction requirements in order to avoid unlawfully mandating over-control. The commenter concludes that EPA's modeling analysis is reasonable and that EPA's approval is proper even without additional information from Kentucky. In support of its assertion that EPA should finalize its approval, the commenter notes that Kentucky also provides state-specific information to further demonstrate that reliance on EPA's modeling is appropriate in the context of this SIP and modeling performed by Alpine that is consistent with EPA's results.

Response: EPA agrees with the commenters' assertions as to the appropriateness of 2023 as an analytic year and other specifics of EPA's analysis as documented in the October 2017 Transport Memo. EPA acknowledges receipt of the Alpine report and recognizes that it demonstrates similar 2023 design values to those projected by EPA's modeling.

Comment: One commenter states that, although it appreciates the emissions reductions made thus far by Kentucky, EPA must disapprove Kentucky's proposed SIP as it does not fulfill the CAA's good neighbor obligations. Another commenter states that, while New York will continue to control air pollution, it does not have the authority to control sources in upwind states and that EPA must disapprove the Kentucky submission. Additional commenters state opposition to EPA's proposed approval, and assert that EPA should disapprove Kentucky's SIP submission.

Response: EPA disagrees with the commenters' contentions that EPA should disapprove Kentucky's submittal because it does not fulfill the CAA's good neighbor obligations. As explained in the proposed rulemaking and further in this action, based on EPA's modeling and with implementation of the CSAPR Update and other measures, Kentucky is not expected to significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS in downwind states in 2023. Kentucky provided information showing that the use of the modeling is appropriate in this context, and also included additional modeling that showed results consistent with EPA's modeling. Thus, Kentucky's draft submission is approvable because it demonstrated that emission activity from the State will not contribute significantly to nonattainment or interfere with maintenance of the 2008 8-hour ozone NAAQS in any other state after implementation of all on-the-books measures, including the CSAPR Update.

To the extent that these comments are general statements stating opposition to EPA's action and are intended to incorporate other, specific comments made by commenters, EPA has addressed the specific concerns later in this preamble.

Comment: One commenter states that EPA's determination of significant contribution should be based upon current data, and to base the determination on 2023 modeling ignores New York's 2021 attainment deadline and adds too much uncertainty and speculation to the determination of whether Kentucky significantly contributes to nonattainment or interferes with maintenance in New York and other states.

Response: EPA does not agree that it is inappropriate to rely on modeled projections for a future year, rather than current data, to analyze ozone concentrations in downwind states. Consistent with historical practice, Kentucky and EPA have focused their analysis in this action on a future year in light of the forward-looking nature of the good neighbor obligation in section

110(a)(2)(D)(i)(I). Specifically, the statute requires that states prohibit emissions that ''will'' significantly contribute to nonattainment or interfere with maintenance of the NAAQS in any other state. EPA reasonably interprets this language as permitting states and EPA in implementing the good neighbor provision to evaluate downwind air quality problems, and the need for further upwind emission reductions, prospectively. In EPA's prior regional transport rulemakings, the Agency generally evaluated whether upwind states ''will'' significantly contribute to nonattainment or interfere with maintenance based on projections of air quality in the future year in which any emission reductions would be expected to go into effect. *See, e.g.,* NO_X SIP Call, 63 FR 57377 (using the anticipated 2007 compliance year for its analysis); CAIR, 70 FR 25241 (using the years 2009 and 2010, the anticipated compliance years for the ozone and fine particulate matter ($PM_{2.5}$) NAAQS, respectively); CSAPR, 76 FR 48211 (using the 2012 compliance year); CSAPR Update, 81 FR 74537 (using the 2017 compliance year). The D.C. Circuit affirmed EPA's interpretation of ''will,'' finding EPA's consideration of future projected air quality (in addition to current measured data) to be a reasonable interpretation of an ambiguous term. *North Carolina,* 531 F.3d at 913–14. Thus, consistent with this precedent, it is reasonable for EPA to analyze air quality in an appropriate future compliance year to evaluate any remaining obligation for the 2008 ozone NAAQS.

EPA also does not agree that the 2023 modeling is too uncertain or speculative as compared to current data. As discussed in more detail later, courts' rulings have deferred to EPA's reasonable reliance on modeling to inform its policy choices, notwithstanding that no model is perfect and there may be some level of discrepancy between modeled predictions what eventually occurs. Comments regarding the relationship between the future analytic year and the attainment date are also addressed later in this preamble.

Comment: One commenter states that the plain meaning of section 110(a)(2)(D) requires Kentucky to prohibit contributing emissions prior to the 2008 ozone attainment dates set for downwind states, *i.e.,* by 2018 for moderate nonattainment areas. The commenter contends that the D.C. Circuit adopted this plain reading, finding the statute unambiguously requires compliance with NAAQS attainment deadlines in *North Carolina,* 531 F.3d at 911–12. The court based its conclusion on the requirement that implementing provisions be consistent with Title I of the CAA, finding the plan must be consistent with both the substantive and procedural requirements of NAAQS compliance. *Id.* at 911. The commenter states that the court also held that compliance must be achieved in time for attainment determinations for downwind states expected to be close to the NAAQS so as not to ''interfere with maintenance.'' *Id.* at 908–09.

The commenter further states that the CAA establishes attainment dates for the 2008 ozone NAAQS ''as expeditiously as practicable'' but no later than 3, 6, 9, 15, or 20 years—depending on area classification—after the designation. The commenter contends that, in *NRDC* v. *EPA,* 777 F.3d 456 (D.C. Cir. 2014), the court rejected EPA's attempt to extend the 2008 ozone NAAQS compliance deadlines by several months, holding that the CAA requires attainment dates be set at the statutorily fixed term of time from the date of designations.

The commenter therefore asserts that section 110(a)(2)(D)(i)(I) does not allow Kentucky to wait until 2023 nor does it grant EPA discretion to extend compliance deadlines. The commenter contends that, by 2023, the harms the good neighbor provisions were intended to avoid will have already befallen downwind states. Accordingly, the commenter states that Kentucky must take immediate steps to offset past over-pollution. In a footnote, the commenter notes that prior legal precedent indicates that attainment dates are ''central to the regulatory scheme,'' *Sierra Club* v. *EPA,* 294 F.3d 155, 161 (D.C. Cir. 2002), and ''leave no room for claims of technological or economic feasibility,'' *NRDC,* 777 F.3d at 468.

Another commenter points to 2015–2017 design values at monitors in the NJ-NY-CT nonattainment area that are above the standard at 83 ppb (the Stratford monitor) and 82 ppb (the Westport monitor). The commenter states that design values indicate that the area can expect to be reclassified as ''serious'' with an attainment deadline of July 2021, based on a 2020 design value. The commenter contends that the Kentucky SIP is deficient because it relies on a future year that does not adequately reflect the appropriate attainment year of the impacted nonattainment area. Because the moderate attainment deadline has passed, the commenter states that modeling for the next attainment date of July 2021 (based on 2020 design values) should be conducted.

The commenter asserts that downwind states significantly impacted by ozone pollution will be unable to meet attainment deadlines if good neighbor SIPs are not done prior to the attainment deadline of the downwind nonattainment areas. The commenter asserts the CAA recognizes this since the good neighbor provision is required to be addressed ahead of the attainment demonstration requirements for nonattainment areas. The commenter notes that Kentucky's significant contributions for the 2008 ozone NAAQS therefore should have been addressed by March 2011. The commenter states that 2023 is an inappropriate future year for modeling because it falls after both the July 2018 moderate classification deadline and the July 2021 serious classification deadline.

One commenter states that the tri-state New York City metropolitan area struggles to attain the 2008 ozone NAAQS, with 2017 design values up to 83 ppb, due in significant part to interstate transport of ozone precursors from upwind states like Kentucky. The commenter notes that NYDEC requested a reclassification of the area to ''serious'' nonattainment due to the inevitability of missing the moderate area attainment deadline. The commenter therefore asserts that the 2023 modeling year relied upon by EPA and Kentucky is well beyond—and fails to take into account—the attainment deadline for ''serious'' nonattainment areas.

The commenter further states that had EPA met its 2015 FIP deadline for Kentucky, it could have mandated controls that would be installed and operating in time to benefit New York's ''serious'' nonattainment deadline.

One commenter contends that EPA's proposed approval fails to account for New York's upcoming attainment deadlines for the 2008 ozone NAAQS. The commenter asserts that the New York metropolitan area has struggled to attain the 2008 ozone NAAQS, with 2017 design values of up to 83 ppb. The commenter asserts that EPA admitted the CSAPR Update was only a partial remedy for downwind states such as New York, and that additional reductions may be required from upwind states, including Kentucky. CSAPR Update modeling projected that New York would remain in nonattainment past its July 20, 2018 statutory attainment deadline. On November 10, 2017, NYDEC requested a reclassification to ''serious'' nonattainment, due to the inevitability of missing the July 20, 2018 moderate area attainment deadline, which the state attributed in large part to

transported emissions from upwind states such as Kentucky. The reclassification carries an attainment deadline of July 20, 2021, based on 2018–2020 monitoring data.

The commenter asserts that 2023 modeling analysis takes no account of New York's current and likely new attainment deadlines, in direct conflict with settled law under the Act. To be fully compliant, the commenter believes a good neighbor SIP must eliminate significant contribution to downwind nonattainment or interference with maintenance by the deadlines for downwind areas to attain the NAAQS. EPA's proposed approval only discusses this deadline in its conclusion that emission reductions will not be achieved in time to meet it. The commenter asserts that EPA cannot approve a SIP that delays eliminating emissions that presently contribute to downwind nonattainment past New York's attainment deadlines.

One commenter challenges the future year selection of 2023 and states that it perpetuates Connecticut citizens' health and economic burdens. The commenter states that Connecticut faces a reclassification to serious nonattainment, has previously been reclassified to moderate, and has not met attainment due to ''overwhelming'' transport from upwind areas, including Kentucky.

Response: EPA disagrees that it has failed to consider the appropriate attainment dates in relying on the 2023 modeling results to approve Kentucky's SIP submission.

First, to the extent the commenters suggest that the current measured design values may preclude EPA's reliance on modeled projections, EPA does not agree. As explained earlier in this action, EPA has reasonably interpreted the term ''will'' in the good neighbor provision as permitting states and EPA in implementing the good neighbor provision to evaluate downwind air quality problems, and the need for further upwind emission reductions, prospectively and coordinated with anticipated compliance timeframes. *See North Carolina,* 531 F.3d at 913–14.

EPA further disagrees that the D.C. Circuit's *North Carolina* decision constrains EPA to choosing the next relevant attainment date as its future analytic year. The *North Carolina* decision faulted EPA for not giving *any* consideration to upcoming attainment dates in downwind states when setting compliance deadlines for upwind emissions; there, EPA had evaluated *only* the feasibility of implementing upwind controls. *Id.* at 911–12. But the court did not hold that the CAA imposes strict deadlines for the implementation of good neighbor emission reductions. Nor did the court opine that EPA would never be justified in setting compliance dates that post-date downwind attainment dates or consider the feasibility of implementing upwind emission reductions. Indeed, in remanding the rule, the D.C. Circuit acknowledged that upwind compliance dates may, in some circumstances, follow attainment dates. *Id.* at 930 (instructing EPA to ''decide what date, whether 2015 or earlier, is as expeditious as practicable for states to eliminate their significant contributions to downwind nonattainment'').[6]

While the commenters suggest that the court's reference to the phrase ''consistent with the provisions of this subchapter''—*i.e.,* CAA Title I—imports downwind attainment dates from section 181 into the good neighbor provision, CAA section 181 itself does not impose inflexible deadlines for attainment. The general timeframes provided in the section 181(a)(1) table may be (and often are) modified pursuant to other provisions in section 181, considering factors such as measured ozone concentrations and the feasibility of implementing additional emission reductions. For example, the six-year timeframe for attainment of the 2008 ozone NAAQS in moderate areas could be extended by up to two years (to 2020), pursuant to section 181(a)(5). And pursuant to section 181(b)(2), when downwind areas are unable to implement sufficient reductions via feasible control technologies by one attainment date, those areas will be ''bumped up'' in classification and given a new attainment date with additional time to attain. With ''bump-ups'' like this, the date for an area to attain the 2008 ozone NAAQS could be extended to 2021, 2027, and 2032, and each of these deadlines could be subject to further extensions of up to two years pursuant to section 181(a)(5). *See also Whitman* v. *Am. Trucking Ass'ns, Inc.,* 531 U.S. 457, 493–94 (2001) (Breyer concurring) (considerations of costs and technological feasibility may affect deadlines selected by EPA). Thus, the commenters' premise that all upwind emission reductions must occur before the earliest downwind attainment date, feasible or not, is inconsistent with the framework of section 181 as it applies to downwind states.

Similarly, the D.C. Circuit's decision in *NRDC,* 777 F.3d at 468, does not stand for the proposition that EPA should ignore the feasibility of implementing emission reductions when addressing the good neighbor provision, or that such emission reductions are strictly required to be in place by a date certain. There, EPA had set 2008 ozone standard attainment dates in December 2015 so that downwind states could use data from the 2015 ozone season to demonstrate attainment. *Id.* at 465. The *NRDC* court simply held that section 181(a)(1) did not allow EPA this type of flexibility. The court's holding in *NRDC* did not speak to state planning or implementation requirements that apply for areas subject to those dates, or the various ways in which the date may be legally extended under the CAA. *NRDC* is therefore inapposite as to how the good neighbor provision should be harmonized with CAA statutory or regulatory dates for downwind states.

Here, EPA has considered the downwind attainment dates for the 2008 ozone NAAQS, consistent with the court's holding in *North Carolina.* As the commenters note, areas classified as moderate nonattainment areas currently have attainment dates of July 20, 2018, but the 2017 ozone season was the last full season from which data could be used to determine attainment of the NAAQS by that date. Given that the 2017 ozone season has now passed, it is not possible to achieve additional emission reductions by the moderate area attainment date. It is therefore necessary to consider what subsequent attainment dates should inform EPA's analysis. The next attainment dates for the 2008 ozone NAAQS will be July 20, 2021, for nonattainment areas classified as serious, and July 20, 2027, for nonattainment areas classified as severe.[7] Because the various attainment

[6] EPA also disagrees with the commenters' contention that the *North Carolina* decision explicitly requires emission reductions, 531 F.3d at 911–912, necessary to address the ''interfere with maintenance clause'' of the good neighbor provision to be aligned with downwind attainment dates. The commenters are conflating the court's holding that EPA should consider downwind attainment dates when setting compliance schedules for upwind state emission reductions with the court's separate holding that EPA must give independent significance to the ''interfere with maintenance'' clause when identifying downwind air quality problems. *id.* at 910–911. The court did not explicitly indicate whether EPA was required to align emission reductions associated with maintenance receptors with downwind attainment dates, indicating only that EPA must ''provide a sufficient level of protection to downwind states projected to be in *nonattainment* as of'' the future analytic year. *Id.* at 912 (emphasis added).

[7] While there are no areas (outside of California) that are currently designated as serious or severe for the 2008 ozone NAAQS, the CAA requires that EPA reclassify to serious any moderate nonattainment areas that fail to attain by their attainment date of July 20, 2018. Similarly, if any area fails to attain by the serious area attainment date, the CAA requires that EPA reclassify the area to severe.

deadlines are in July, which is in the middle of the ozone monitoring season for all states, data from the calendar year immediately prior to the attainment date (*e.g.,* data from 2020 for the 2021 attainment date and from 2026 for the 2027 attainment date) are the last data that can be used to demonstrate attainment with the NAAQS by the relevant attainment date.

As discussed in the NPRM and later in this action, EPA has also considered the timeframes that would likely be required for implementing further emissions reductions as expeditiously as practicable and concluded that additional control strategies at EGUs and non-EGUs could not be implemented by the July 2021 serious area attainment date, and certainly not by the 2020 ozone season immediately preceding that attainment date. This consideration of feasibility is consistent with the considerations affecting the statutory timeframes imposed on downwind nonattainment areas under section 181. Therefore, because new emissions controls for sources in upwind states cannot be implemented feasibly for several years, and at that later point in time air quality will likely be cleaner due to continued phase-in of existing regulatory programs, changing market conditions, and fleet turnover, it is reasonable for EPA to evaluate air quality (at step one of the four-step framework) in a future year that is aligned with feasible control installation timing in order to ensure that the upwind states continue to be linked to downwind air quality problems when any potential emissions reductions would be implemented and to ensure that such reductions do not over-control relative to the identified ozone problem.

Comment: One commenter notes that Delaware's Sussex County is a standalone nonattainment area and New Castle County is part of the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE nonattainment area (Philadelphia NAA), with an attainment date of July 20, 2015. The CAA requires states to attain the ozone standards as expeditiously as practicable, but states significantly impacted by ozone pollution from upwind states will be unable to do so if good neighbor SIPs are not submitted with adequate remedies implemented prior to downwind attainment dates. Such SIPs are required to be addressed prior to the submission of attainment demonstrations by nonattainment areas, such that Kentucky should have addressed its significant contribution for the 2008 ozone NAAQS by March 2011. The commenter notes that states, including Kentucky, failed to submit SIPs and EPA failed to issue FIPs until the CSAPR Update was issued on October 26, 2016, well after the attainment dates for many areas, including Delaware.

The commenter contends that EPA should have acted in a timely manner when states failed to adopt good neighbor provisions, and contends that Kentucky should have tied its analysis of significant contribution to the air quality at the time designations were made. The commenter asserts that EPA should have coupled its analysis and remedy with marginal attainment dates, as the first deadline for which nonattainment areas had to attain the standard. The commenter notes that EPA aligned its modeling analysis and implementation of the CSAPR Update with the moderate area attainment dates in 2018. While the commenter acknowledges that EPA could not have tied implementation of the CSAPR Update to the 2015 marginal area attainment date which had already passed, the commenter contends EPA should have addressed the need for good neighbor reductions relative to marginal nonattainment by aligning contribution modeling analysis for those states to some timeframe prior to the marginal attainment deadline. Instead, EPA's process takes place after the attainment dates, at which point EPA concludes that Delaware and all other areas outside of California do not need reductions to attain and maintain the NAAQS.

Response: As explained earlier in this action, EPA has reasonably interpreted the term ''will'' in the good neighbor provision as permitting states and EPA in implementing the good neighbor provision to evaluate downwind air quality problems, and the need for further upwind emission reductions, prospectively and coordinated with anticipated compliance timeframes. *See North Carolina,* 531 F.3d at 913–14. Accordingly, EPA does not agree that Kentucky should tie its analysis to either the date when designations were made or the marginal area attainment date, both of which have now passed. Were EPA to have evaluated good neighbor obligations based on a retrospective analysis of downwind air quality, the Agency could not have ensured that any emission reductions that may have been required would actually be necessary to address downwind air quality problems at the time they were implemented, which could result in impermissible over-control under the Supreme Court's holding in *EPA* v. *EME Homer City Generation, L.P.,* 134 S. Ct. 1584, 1608 (2014) (*EME Homer City*). Whether Kentucky or EPA acted in a timely manner to develop a SIP or promulgate a FIP, respectively, does not lessen the obligation to comply the Supreme Court's holding in the present action.

Comment: One commenter alleges that EPA's decision to untether its action from statutory nonattainment dates and instead focus on 2023 is arbitrary and capricious, as the ''agency has relied on factors which Congress has not intended it to consider'' and ''entirely failed to consider an important aspect of the problem.'' *Motor Vehicle Mfrs. Ass'n* v. *State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 43 (1983). The commenter suggests that EPA takes a novel approach of selecting an analytic year five years in the future based on concerns that by the time any controls can be implemented, they may no longer be needed. The commenter cites both CSAPR and the CSAPR Update as examples of how EPA analyzed projected emissions in the upcoming year. The commenter states that EPA's logic is almost tantamount to urging upwind states to wait because downwind states will take care of the problem themselves.

The commenter states that technical feasibility has been specifically rejected as a basis for ignoring attainment deadlines in *North Carolina,* and over-control is at best a secondary factor which does not justify complete departure from the plain text and controlling precedent. The commenter states that EPA's emphasis on over-control is contrary to *EME Homer City,* stating that when the Supreme Court upheld the consideration of cost-effectiveness in CSAPR and upheld EPA's immediate issuance of a FIP after disapproving a SIP, the Court clearly indicated that the key statutory mandate of the good neighbor provision is to expeditiously ''maximize achievement of attainment downwind.'' 134 S. Ct. at 1590. The Court made concern about over-control secondary to that goal. *Id.* at 1609.

The commenter further asserts that reliance on feasibility of implementing controls to justify delaying action or analysis until 2023 is foreclosed by *North Carolina,* which specifically rejected the compliance deadlines in CAIR that were based on feasibility restraints but were not consistent with compliance deadlines for downwind states. When EPA has considered feasibility in analyzing ozone related good neighbor obligations since *North Carolina,* it has not been in the context of selecting an analytic year, but in allocating emission budgets. The commenter states that EPA's argument regarding feasibility also includes the

need for additional time for planning and coordination between EPA and states, but asserts that the courts have rejected claims that additional time is necessary to improve the quality or soundness of regulations. *Sierra Club* v. *Johnson,* 444 F. Supp. 2d 46, 53 (D.D.C. 2006).

One commenter states that EPA should focus on achieving available emission reductions on or before the 2020 ozone season (the next applicable attainment date), rather than looking ahead to 2023. The commenter states that by focusing on the timeframes to install new controls, EPA has not conducted an analysis of reductions available in the near term to see if there are additional NO_X reduction strategies that are available prior to 2023. The commenter identified optimization of previously installed post-combustion controls as a potential NO_X reduction strategy with reductions available immediately and at low cost. The commenter stated that EPA's concern with over-control must be evaluated relative to the attainment deadlines for the standard. Therefore, relying on EPA's 2023 modeling is inconsistent with the intent of the CAA to achieve standards as expeditiously as practicable.

Another commenter states that EPA's rationale for use of a 2023 modeling year rests on a speculative guess of the time required for two categories of cost-effective controls to be installed, starting from the date of its approval. The commenter contends that EPA cannot rely on the cost-effectiveness of EGU controls as the exclusive consideration in justifying a further five-year delay when a full remedy for Kentucky has already been unlawfully delayed for years. Even if EPA has a general duty to avoid over-control of upwind emissions, it cannot point to this duty to justify a strategy that postpones necessary controls. Rather, EPA should require these controls now, and then reevaluate them in a few years at the point when the purported over-control may actually occur.

Response: EPA disagrees with the commenters' assertion that EPA has inappropriately weighted concerns about over-control of upwind state emissions. The Supreme Court and the D.C. Circuit have both held that EPA may not require emissions reductions (at step three of the framework) that are greater than necessary to achieve attainment and maintenance of the NAAQS in downwind areas. *EME Homer City,* 134 S. Ct. at 1608; *EME Homer City Generation, L.P.* v. *EPA,* 795 F.3d 118, 127 (D.C. Cir. 2012) (*EME Homer City II*). While the Supreme Court indicated that ''EPA must have leeway'' to balance the possibilities of under-control and over-control and that ''some amount of over-control . . . would not be surprising,'' the Court did not indicate that such over-control was required. 134 S. Ct. at 1609. Rather, the Court held, ''If EPA requires an upwind State to reduce emissions by more than the amount necessary to achieve attainment in every downwind State to which it is linked, the Agency will have overstepped its authority, under the Good Neighbor Provision.'' *Id.* at 1608. On remand in *EME Homer City II,* the D.C. Circuit gave that holding further meaning when it determined that the CSAPR phase 2 ozone season NO_X budgets for 10 states were invalid because EPA's modeling showed that the downwind air quality problems to which these states were linked when EPA evaluated air quality projections in 2012 would be entirely resolved by 2014, when the phase 2 budgets were scheduled to be implemented. 795 F.3d at 129–30. Thus, the Court did not find that over-control was a secondary consideration, but rather that it was a constraint on EPA's authority.

To the extent that the commenters note that EPA chose an earlier analytic year in prior rulemakings, EPA notes that it has not done so in all rulemakings. In the NO_X SIP Call, EPA evaluated air quality in 2007, nine years after the rule was promulgated. 63 FR 57377 (October 27, 1998). In CAIR, which was promulgated in 2005, EPA evaluated air quality in 2009 and 2010, for the ozone and $PM_{2.5}$ NAAQS, respectively. 70 FR 25241 (May 12, 2005). Thus, EPA's approach in this action is not inconsistent with these prior actions. Although EPA evaluated relatively more near-term air quality in CSAPR and CSAPR Update, EPA expected that certain cost-effective emission reductions could be implemented in the near-term in those actions. Here, EPA has already analyzed and implemented those cost-effective control strategies that could be implemented quickly (including the optimization of existing post-combustion controls) to address the 2008 ozone NAAQS through the CSAPR Update FIPs. Accordingly, any further emission reductions that may be required to address the 2008 ozone NAAQS would necessarily be implemented through control strategies that cannot be implemented in the near term and require a longer period for implementation. In addition, NO_X emissions levels are expected to decline in the future through the combination of the implementation of existing local, state, and federal emissions reduction programs and changing market conditions for generation technologies and fuels.[8] Therefore, were EPA to evaluate downwind ozone concentrations and upwind state linkages in a future year that precedes the date when actual compliance is anticipated (*i.e.,* the timeframe within which additional control strategies can feasibly be implemented), EPA could not ensure that the emission reductions will be ''*necessary* to achieve attainment'' in any downwind area by the time they were implemented. Such an approach would only replicate the circumstances the D.C. Circuit found impermissible in CSAPR.

The commenter's citation to *Sierra Club* v. *Johnson* is inapposite. In that case, EPA sought more time to promulgate regulations under the CAA after failing to perform the mandatory duties within the statutorily prescribed timeframe. 444 F. Supp. 2d at 52. Therefore, the court's reference to the Agency's need for ''additional time'' is in reference to the time required to conduct the rulemaking process. *Id.* at 53. The court was not interpreting the requirements of the good neighbor provision or any other provision regarding the time required for states or sources to implement controls under the CAA.

Finally, the commenters misunderstand EPA's evaluation to the extent they suggest that EPA relied on the cost-effectiveness of controls for this action. EPA evaluated the feasibility of implementing various control options, without regard to cost, that had not previously been included in EPA's analysis of cost-effective controls in the CSAPR Update. EPA concluded that additional controls on either EGUs or non-EGUs—when considering multiple projects across multiple states and allowing for planning and permitting—would generally require four years or more to implement, which would lead to an implementation timeframe associated with the 2023 ozone season. Because the air quality modeling results for 2023 showed that air quality problems in the eastern U.S. would be resolved by 2023, EPA did not further evaluate the cost-effectiveness of the control options considered for the feasibility analysis.

Comment: One commenter contends that EPA's insistence on fleetwide compliance is based on a circular argument wherein such a scheme would

[8] Annual Energy Outlook 2018. *Electricity Supply, Disposition, Prices, and Emissions.* Reference Case. Department of Energy, Energy Information Administration.

cause labor and material shortages that would, in turn, require four years to implement, at which point they will be unnecessary. The commenter points out that this means there will be no labor shortage. The commenter notes that this is contrary to EPA's prior approaches in CSAPR where the agency segregated controls based on feasibility, including multiple phases, and conducted emissions analyses for both phases.

One commenter states that EPA cannot rely on its analysis of alleged labor and materials shortages relating to installation of new controls at a ''fleet'' level. While EPA may prefer a regional approach, Congress did not establish a regional implementation plan requirement or mechanism, and EPA is not considering whether to approve a regional transport rule, nor a group of SIPs or FIPs. EPA is proposing to approve a single SIP from a single state and has not undertaken a study of the labor or materials market in Kentucky. Therefore, EPA's justification for allowing the delay of EGU controls for up to 48 months based on its speculative estimate of the time needed to install these controls on all sources within some unidentified region is arbitrary and capricious.

One commenter states EPA's approach to evaluating potential NO_X controls on a regional, rather than state-specific, basis ''undermines the intent of the CAA'' and causes Connecticut to be required to spend more to attempt to comply with the CAA than states that emit and contribute more to Connecticut's ozone problem.'' The commenter states as an example that it recently promulgated a reasonably available control technology (RACT) rule with a minimum control cost of $13,000 per ton. The commenter states that EPA's under controlling of emissions has led to delays in attainment and added cost for Connecticut despite ozone exceedances being overwhelmingly due to transported emissions.

One commenter states that guidance provided in an informational memorandum issued by EPA in January 2015 [9] specifically references upwind state responsibilities in determining the states' good neighbor SIP transport obligations. EPA further states in its proposal that it believes the most appropriate approach to evaluating potential upwind obligations for Kentucky (where several other states are also linked to the Harford County receptor) is to evaluate potential NO_X control strategies on a regional, rather than state-specific basis. The commenter asserts that this is inconsistent with the scope of EPA's SIP approval authority under CAA section 110, which involves intra-state, rather than regional, plans to attain the NAAQS. The commenter also contends that EPA's position is contrary to its previous positions in denying Maryland's request for a super-regional nonattainment area under CAA section 107, and in denying Maryland's section 176A petition requesting expansion of the Ozone Transport Region (OTR). To the contrary, EPA stated in those actions that CAA sections 110 and 126 were more appropriate mechanisms for controlling interstate pollution transport.

Response: EPA disagrees with the commenters that it is inappropriate to evaluate the feasibility of implementing NO_X controls on a regional or fleetwide basis. EPA's analysis of the feasibility of NO_X control strategies reflects the time needed to plan for, install, test, and place into operation new EGU and non-EGU NO_X reduction strategies regionally—*i.e.,* across multiple states. This regional analytic approach is consistent with the regional nature of interstate ozone pollution transport. The Agency adopted this approach based on previous interstate ozone transport analyses showing that where eastern downwind ozone problems are identified, multiple upwind states typically are linked to these problems. *See* 81 FR at 74538 (October 26, 2016). Specifically of relevance to this action, EPA's assessment in the CSAPR Update found that 21 states would continue to contribute greater than or equal to 1 percent of the 2008 ozone NAAQS to identified downwind nonattainment or maintenance receptors in multiple downwind states in 2017, even after implementation of the CSAPR Update FIPs. Thus, to reasonably address these ozone transport problems, EPA must identify and apportion emission reduction responsibility across multiple upwind states. In other words, EPA's analysis should necessarily be regional, rather than focused on individual linkages. Where such an analysis is needed for multiple states, the inquiry into the availability and feasibility of control options is necessarily considerably more complicated than for a single state or sector.

EPA further disagrees that this approach is inconsistent with EPA's prior rulemakings, like CSAPR, where the Agency implemented controls in multiple phases. In CSAPR, EPA evaluated downwind air quality and upwind state linkages based on 2012 air quality and contribution modeling. The commenter is correct that EPA then implemented two phases of emission budgets, with a first phase of reductions implemented beginning in 2012 and a second phase of reductions implemented beginning in 2014. However, in subsequent litigation, a number of the phase 2 ozone season NO_X emission budgets were remanded because EPA's modeling showed that there would no longer be downwind air quality problems in many areas in 2014. *See EME Homer City II,* 795 F.3d at 129–30. Thus, EPA cannot require additional emission reductions in a future year if EPA's data show that there will no longer be downwind air quality problems in that year. Here, EPA implemented a first phase of post-CSAPR emission reductions in 2017 via the CSAPR Update. In this action, Kentucky and EPA have evaluated whether a second phase of post-CSAPR emission reductions is necessary and authorized by the good neighbor provision and determined that it is not because downwind air quality problems identified in 2017 with respect to the 2008 ozone NAAQS will be resolved by 2023.

EPA does not agree that this approach is inconsistent with the scope of EPA's authority under section 110. The fact that EPA is, in this action, acting on a single SIP does not alter the regional nature of ozone pollution transport. As the Supreme Court noted, the good neighbor provision presents a ''thorny causation problem'' with respect to ozone pollution transport in light of the ''collective and interwoven contributions of multiple upwind States,'' *EME Homer City,* 134 S. Ct. at 1604. The Court affirmed EPA's consideration of the problem on a regional rather than localized scale. *Id.* at 1606–07 (affirming EPA's use of cost to apportion upwind state emission reduction responsibility). The Court did not indicate that this endorsement of a regional assessment was appropriate only when EPA is taking a regional action. Rather, it is reasonable for EPA to interpret the implementation of the good neighbor provision for a particular NAAQS consistently regardless of the scope of the action. Consistent with this opinion, it is therefore also reasonable for EPA to view an individual state's implementation plan through a regional lens.

EPA also does not agree that the Agency's approach to evaluating interstate ozone transport under section

[9] Memorandum from Stephen D. Page to Regional Air Division Directors, ''Information on the Interstate Transport 'Good Neighbor' Provision for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) under Clean Air Act (CAA) Section 110(a)(2)(D)(i)(I)'' (January 22, 2015) (January 2015 Transport Memo), *available at https://www.epa.gov/sites/production/files/2015-11/documents/goodneighborprovision2008naaqs.pdf.*

110 is inconsistent with its recent action on a section 176A petition to expand the OTR or EPA's designations under section 107. EPA denied the section 176A petition because it concluded that any remaining interstate transport problems could be better addressed via the good neighbor provision, which EPA and the states can use to make decisions regarding which precursor pollutants to address, which sources to regulate, and what amount of emission reductions to require, flexibilities that are not available with respect to control requirements applicable to sources in the OTR. *See* 82 FR 51244–46 (November 3, 2017). EPA did not deny the petition because it concluded that ozone transport was not regional; on the contrary, EPA explicitly acknowledged the regional nature of ozone transport in its action. *See* 82 FR 6511 (January 19, 2017).

With respect to the request for a super-regional nonattainment area under section 107, EPA has consistently explained that such an approach is not consistent with the statutory language.[10] CAA section 107(d)(1) provides that areas designated nonattainment should include any ''nearby'' area contributing to a violation of the NAAQS. EPA has repeatedly explained that the proposal for broad super-regional nonattainment areas go beyond this statutory definition by including areas that are not necessarily ''nearby'' but contribute to nonattainment through long-range transport, an issue that other sections of the CAA, like the good neighbor provision, are designed to address. Thus, rather than contradict EPA's analysis of ozone transport regionwide, EPA's prior actions regarding requests for a super-regional nonattainment area support EPA's view that such an approach is appropriately applied under the good neighbor provision.

Finally, EPA does not agree that its conclusion that no additional emission reductions would be required of upwind states undermines its fleetwide analysis of labor and material shortages. EPA's analysis was based on the assumption that *if* additional controls would be required of upwind states, they would be required on a region-wide basis. This was a reasonable assumption in light of the complex, regional nature of ozone pollution transport. Had EPA identified remaining downwind air quality problems in the future analytic year, it would have been reasonable to assume that multiple upwind states would contribute to any remaining air quality problem consistent with EPA's previous ozone transport analyses and thus multiple upwind states could be required to concurrently implement emission reductions. As explained earlier, while EPA has phased-in application of controls in some circumstances, those phases were implemented based on consistent, region-wide compliance deadlines. The commenters do not explain how EPA could set different compliance dates for different states in the CSAPR Update region to require additional emission reductions while also insuring that states' obligations were addressed in a consistent, non-arbitrary manner that did not lead to over- or under-control.

Comment: One commenter states that EPA's argument that extensive planning is required to install controls is uncompelling because EPA has had ample time to plan. The CSAPR Update repeatedly emphasizes that states, including Kentucky, were expected to have remaining obligations after the implementation of the CSAPR Update. Moreover, EPA has been on notice that it would be required to take action on Kentucky by June 2018 as required by court order.

Response: The commenter misunderstands EPA's reference to the planning required to implement additional controls. The individual sources, not EPA, must engage in appropriate planning anytime they install new control devices. As discussed in more detail later, installing new selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) controls for EGUs or non-EGUs generally involves the following steps: Conducting an engineering review of the facility; advertising and awarding a procurement contract; obtaining a construction permit; installing the control technology; testing the control technology; and obtaining or modifying an operating permit.[11] Scheduled curtailment, or planned outage, for pollution control installation would be necessary to complete either SCR or SNCR projects. Given that peak demand for EGUs and rule compliance would both fall in the ozone season, such sources would likely try to schedule installation projects for the ''shoulder'' seasons (*i.e.,* the spring and/or fall seasons), when electricity demand is lower than in the summer, reserves are higher, and ozone season compliance requirements are not in effect. In addition to the coordination of scheduled curtailment, an appropriate compliance timeframe would need to accommodate the additional coordination of labor and material supply necessary for any fleet-wide mitigation efforts. More details regarding these considerations are outlined later in this preamble.

Many of these materials, installation, and labor concerns are also relevant for non-EGU control technologies. Thus, the implementation of new EGU and non-EGU NO_X reduction strategies, especially when implemented across a broad region of states, requires extensive time and planning by the affected sources.

Moreover, while EPA indicated that the CSAPR Update *may* not fully address states' good neighbor obligations, the Agency did not definitively conclude that more emission reductions would necessarily be required. Nor did the Agency indicate what sources would likely be controlled, in which states, or via what control strategies *if* additional emission reductions were in fact required. Thus, EPA does not agree with the commenter's suggestion that it was reasonable for any particular sources to begin planning for the implementation of new controls before EPA or the states completed further analysis and promulgated requirements actually requiring additional emission reductions.

Comment: One commenter states that EPA's finding that implementation of control strategies is not feasible until during or after the 2022 ozone season is false and contradicted by the evidence EPA presents. The commenter contends that EPA's conclusion that 48 months may be necessary to implement emission reductions is contrary to EPA's own experience of pollution control and belied by EPA's own finding that Kentucky will likely outperform its CSAPR Update obligations. Both CSAPR and CSAPR Update were implemented on much shorter timescales, with immediate reductions available in both cases in under one year, and post-combustion controls being required within three years under CSAPR.

Response: EPA has evaluated the feasibility of implementing controls on a region-wide basis, considering markets for labor and materials necessary for implementing controls across multiple sources in multiple states. Thus, examples where individual sources might have installed controls more

[10] *See, e.g.,* Responses to Significant Comments on the State and Tribal Designation Recommendations for the 2008 Ozone National Ambient Air Quality Standards (NAAQS), EPA–HQ–OAR–2008–0476–0675, Section 3.1.2 (April 2012); New York-Northern New Jersey, Long-Island, NY-NJ-CT Nonattainment Area, Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document, at 28–29.

[11] Final Report: Engineering and Economic Factors Affecting the Installation of Control Technologies for Multipollutant Strategies, EPA–600/R–02/073 (October 2002), *available at https://nepis.epa.gov/Adobe/PDF/P1001G0O.pdf.*

quickly do not speak to what is reasonable to require across a state or a region, and therefore do not contradict EPA's analysis.

Moreover, EPA's projections of EGU emission levels in Kentucky in 2023 also do not contradict EPA's conclusion that 48 months should be provided for the region-wide implementation of new NO_X post-combustion controls. Kentucky's CSAPR Update budget is not an emissions floor. It represents emission reductions reflecting control strategies determined to be cost-effective and feasible to implement by the first compliance year in 2017 (*e.g.,* SCR optimization). However, market conditions that did not influence quantification of the budgets can also drive further emission reductions in future years, including variables such as low natural gas prices and new, lower-cost competitor generation in downwind states, and can lead to utility decisions to retire aging assets. In addition, sources may install new controls after the 2017 ozone season that would not have been considered when EPA calculated the budgets.[12] These factors can and do lead to state-emission levels often being significantly lower than its emission budget in future compliance years. EPA's projected emissions level in 2023 captures these types of recently announced and known infrastructure changes and fleet turnover and it is therefore reasonable that the 2023 projected EGU emissions would be below Kentucky's CSAPR Update budget established for a first compliance year of 2017.

While CSAPR and CSAPR Update were implemented more quickly than the four years considered in this action, neither CSAPR nor CSAPR Update anticipated that sources would implement new post-combustion NO_X controls. *See* 76 FR 48302 (August 8, 2011); 81 FR 74541 (October 26, 2016). Rather, the ozone season emission budgets for both rules only considered the near-term emission reductions that could be achieved from implementation of control strategies other than new post-combustion controls, including the optimization of existing post-combustion controls and implementation of new combustion controls. *See* 76 FR 48256 (August 8, 2011); 81 FR 74541 (October 26, 2016).

[12] EPA notes that the only new post-combustion controls assumed in EPA's projection of 2023 EGU emissions in Kentucky were at Shawnee units 1 and 4. Both of these units were required to implement SCR as of December 31, 2017 pursuant to a compliance agreement with EPA finalized in 2011. *See* 76 FR 22095 (April 20, 2011) and *https://www.epa.gov/enforcement/tennessee-valley-authority-clean-air-act-settlement.*

With respect to the 2008 ozone NAAQS, EPA already implemented the near-term emission reductions that were cost-effective in the CSAPR Update. Accordingly, EPA disagrees with the commenter's suggestion that there may be substantial immediate NO_X reductions available that could be implemented on a more immediate timeframe at this time.

EPA notes that it did evaluate post-combustion controls in CSAPR with respect to sulfur dioxide (SO_2) emission reductions necessary to address $PM_{2.5}$ and established emission budgets reflecting the possible implementation of scrubbers three years following rule promulgation. However, to the extent labor and supply markets were a consideration for installation timing requirements for scrubbers in CSAPR in 2011, those variables may have changed over the last seven years. Moreover, EPA established budgets for NO_X in CSAPR based on a cost threshold of $500 per ton, which was not anticipated to drive significant, labor- and resource-intensive SCR installation within that timeframe. *See* 76 FR 48302 (August 8, 2011).

Comment: One commenter asserts that EPA has not explained why it still lacks information on the potential for cost-effective emission reductions from non-EGUs, two years after the CSAPR Update was promulgated. EPA's analysis is lacking any analysis of actual cost-effectiveness numbers for non-EGU controls, relying instead on an ''implication'' from two-year old public comments that non-EGU controls would be relatively less cost-effective than EGU controls. EPA ignores its own framework, which calls for determining the availability and cost-effectiveness of non-EGU controls, despite identifying the need to do so in the CSAPR Update. In a footnote, the commenter notes that EPA represented to the court in a mandatory duty suit that it was taking steps to improve its data to evaluate NO_X reduction potential from non-EGUs, which it expected to complete by November 2017. EPA has not accounted for any of the stakeholder reviewed information on non-EGU emissions reductions and costs that it should have amassed in the last year and a half.

The commenter further contends that EPA has changed its regulatory position without reasonable explanation. In the CSAPR Update, EPA indicated that evaluating full interstate transport obligations is subject to an *evaluation* of the contribution to interstate transport from non-EGUs, but EPA has unexpectedly changed course and stated that no such evaluation is necessary. This is an unexplained, arbitrary and capricious change in policy.

One commenter states that with respect to non-EGU sources, EPA ''has documented multiple cost-effective controls that can be implemented within one year'' in the ''Assessment of Non-EGU NO_X Emissions Controls, Costs of Controls and Time for Compliance Final TSD'' dated August 2016 available in the docket for the final CSAPR Update Rule. The commenter notes that EPA has dismissed these potential benefits as ''uncertain'' and states that EPA ''cannot continue to invoke the prospect of an uncertain future to limit its responsibility to satisfy its statutory mandate.''

Response: EPA first notes that it is not relying on its lack of information with respect to the cost-effectiveness of non-EGUs to support this final action. EPA evaluated the feasibility of implementing various control options, without regard to cost, that had not previously been included in EPA's analysis of cost-effective controls in the CSAPR Update. EPA concluded that additional controls—on either EGUs or non-EGUs—would generally require four years to implement, which would lead to an implementation timeframe associated with the 2023 ozone season. Because the air quality modeling results for 2023 showed that air quality problems in the eastern U.S. would be resolved by 2023, EPA did not further evaluate the cost-effectiveness of the control options considered for the feasibility analysis. This approach is consistent with EPA's four-step framework, and does not rely on the relative cost-effectiveness of controls for non-EGUs.

Because EPA did not need to evaluate either the cost-effectiveness or NO_X reduction potential of either EGU or non-EGU sources, the commenter's concern with whether EPA has completed steps to improve its data on these issues is irrelevant. Nonetheless, EPA notes that the particular efforts outlined in the court filing referred to by the commenter were in support of EPA's request in a mandatory duty suit that the court permit the Agency several years to develop a rulemaking to address the good neighbor obligations with respect to the 2008 ozone NAAQS for Kentucky and 20 other states. In that filing, EPA outlined steps that the Agency believed would be necessary to promulgate a rulemaking *if* EPA's analysis demonstrated that additional emission reductions would be required from sources in upwind states, including what EPA viewed as necessary analysis regarding non-EGUs. EPA acknowledged in that same

declaration that one possible result of the litigation could be a determination that downwind air quality problems would be resolved, in which case a cost-effectiveness analysis would be unnecessary. *See* Decl. of Janet G. McCabe para. 98, *Sierra Club* v. *Pruitt,* No. 3:15–cv–04328–JD (N.D. Cal. Dec. 15, 2016). As EPA could not know the results of any future air quality modeling before it was performed, EPA's proposed timeline assumed that such an analysis could be required. *Id.* para. 170. Ultimately, the court disagreed with EPA's proposed timeline and provided only one year—until June 30, 2018—for promulgation of a rulemaking addressing Kentucky's good neighbor obligation, which was insufficient time to complete all of the steps outlined in EPA's declaration, thereby requiring EPA to prioritize certain steps and eliminate others, including the additional efforts intended to improve data regarding the cost-effectiveness of controls. Nonetheless, because the first step of EPA's analysis demonstrated that there would be no remaining air quality problems in 2023 in the eastern U.S., it was unnecessary for EPA to finalize the efforts to improve its data regarding the cost-effectiveness of controls before finalizing this action. Thus, the representations that EPA made to the court regarding the steps necessary to take this action no longer apply under the present circumstances.

Thus, EPA's analysis is not a change in policy. In the CSAPR Update, EPA only stated it could not conclude, at that time, that additional reductions from NO_X sources (including non-EGUs) would not be necessary to fully resolve these obligations. While EPA did indicate that it anticipated the need to evaluate non-EGUs to fully evaluate the full scope of upwind states' good neighbor obligations, the Agency has done so here. In selecting the appropriate future analytic year in which to evaluate air quality, contributions, and NO_X reduction potential, EPA considered the implementation timeframes for controls at EGUs as well as non-EGUs. As noted in the NPRM and explained further in this action, EPA's analysis showed that there would be no remaining air quality problems in 2023 in the eastern U.S., and thus EPA has concluded that no such additional reductions beyond those on-the-books or on-the-way are necessary, whether from non-EGUs or otherwise, to bring downwind areas into attainment of the 2008 ozone NAAQS.

Finally, the commenter is correct that EPA included preliminary estimates of installation times for some non-EGU NO_X control technologies in a technical support document for the CSAPR Update entitled Assessment of Non-EGU NO_X Emission Controls, Cost of Controls, and Time for Compliance Final Technical Support Document (Final Non-EGU TSD). These preliminary estimates were based on research from a variety of information sources, including:

- *Typical Installation Timelines for NO_X Emissions Control Technologies on Industrial Sources, Institute of Clean Air Companies,* December 2006 (all sources except cement kilns and reciprocating internal combustion engines (RICE));[13]
- *Cement Kilns Technical Support Document for the NO_X FIP,* US EPA, January 2001;[14] and
- *Availability and Limitations of NO_X Emission Control Resources for Natural Gas-Fired Reciprocating Engine Prime Movers Used in the Interstate Natural Gas Transmission Industry,* Innovative Environmental Solutions Inc., July 2014 (prepared for the INGAA Foundation).[15]

EPA's analysis in the Final Non-EGU TSD focused on potential control technologies within the range of costs considered in the final CSAPR Update for EGUs, *i.e.,* those controls available at a marginal cost of $3,400 per ton (2011 dollars) of NO_X reduced or less. EPA's analysis did not evaluate implementation timeframes or potential emissions reductions available from controls at higher cost thresholds. *See* Final Non-EGU TSD at 18. This focus excluded some emissions source groups with emissions reduction potential at a marginal cost greater than $3,400 per ton, including: Industrial/commercial/institutional boilers using SCR and low-NO_X burners (LNB); and catalytic cracking units, process heaters, and coke ovens using LNB and flue gas recirculation. However, while the emissions reduction potential from these source groups is uncertain, the timeframe for these control technologies would be subject to similar considerations and limitations discussed in the following paragraphs.

Among the control technologies that were evaluated in the Final Non-EGU TSD, EPA identified six categories of common control technologies available for different non-EGU emissions source categories. *Id.* at 19. For four of the technology categories (SNCR, SCR, LNB, and mid-kiln firing), EPA preliminarily estimated that such controls could be installed in approximately one year or less in some unit-specific cases. Installation time estimates presented in the Final Non-EGU TSD begin with control technology bid evaluation (bids from vendors) and end with the startup of the control technology.[16] *See* Final Non-EGU TSD at 20. For the other two technology categories (biosolid injection technology (BSI) and OXY-firing) as well as one emissions source category (RICE), EPA had no installation time estimates or uncertain installation time estimates. For example, EPA found that the use of BSI is not widespread, and therefore EPA does not have reliable information regarding the time required to install the technology on cement kilns. The installation timing for OXY-firing is similarly uncertain because the control technology is installed only at the time of a furnace rebuild, and such rebuilds occur at infrequent intervals of a decade or more.

Moreover, for those categories for which preliminary estimates were available, as noted in the Final Non-EGU TSD, the single unit installation time estimates provided do not account for additional important considerations in assessing the full amount of time needed for installation of NO_X control measures at non-EGUs; those considerations include time, labor, and materials needed for programmatic adoption of measures and time required for installing controls on multiple sources in a few to several non-EGU sectors across the region. The preliminary estimates of installation time shown in the Final Non-EGU TSD are for installation at a single source and do not account for the time required for installing controls to achieve sector-wide compliance. When considering installation of control measures on sources regionally and across non-EGU sectors, the time for full sector-wide compliance is uncertain, but it is likely longer than the installation times shown

[13] Institute of Clean Air Companies, Typical Installation Timelines for NO_X Emissions Control Technologies on Industrial Sources, December 2006, *available at https://c.ymcdn.com/sites/icac.site-ym.com/resource/resmgr/ICAC_NOx_Control_Installatio.pdf.*

[14] US EPA, Cement Kilns Technical Support Document for the NO_X FIP, January 2001, *available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0500-0094.*

[15] INGAA Foundation, Availability and Limitations of NO_X Emission Control Resources for Natural Gas-Fired Reciprocating Engine Prime Movers Used in the Interstate Natural Gas Transmission Industry, Innovative Environmental Solutions Inc., July 2014, *available at http://www.ingaa.org/Foundation/Foundation-Reports/NOX.aspx.*

[16] In the Final Non-EGU TSD, we present different installation time estimates for SCRs and non-EGUs than described in the NPRM and in this action for EGUs. These installation times are not inconsistent because: (i) The EGU time estimate of 39 months mentioned in the NPRM is based on multi-boiler installation and factors in a pre-vendor bid engineering study consideration, and (ii) the non-EGU SCR installation time estimates are based on single-unit installation and do not factor in pre-vendor bid evaluation.

for control measures as mentioned above for individual sources in the Final Non-EGU TSD. Regional, sector-wide compliance could be slowed down by limited vendor capacity, limited available skilled labor for manufacturers such as boilermakers (who produce steel fabrications, including those for pollution control equipment), availability of raw materials and equipment (*e.g.,* cranes) for control technology construction, and bottlenecks in delivery and installation of control technologies. Some of the difficulties with control technology installation as part of regional, sector-wide compliance at non-EGUs, such as availability of skilled labor and materials, could also have an impact on monitor installation at such sources. EPA currently has insufficient information on vendor capacity and limited experience with suppliers of control technologies and major engineering firms, which results in uncertainty in the installation time estimates for non-EGU sectors.

In summary, there is significant uncertainty regarding the implementation timeframes for various NO_X control technologies for non-EGUs. While EPA has developed preliminary estimates for some potential control technologies, these estimates do not account for additional considerations such as the impacts of sector- and region-wide compliance. For purposes of this analysis, EPA believes that it is reasonable to assume that it is likely that an expeditious timeframe for installing sector- or region-wide controls on non-EGU sources may collectively require four years or more.

Comment: One commenter adds that the CSAPR Update considered SCR to be optimized if the unit achieves a rate of 0.10 lbs/mmBtu, but EPA did not examine the particular rates that can be achieved by Kentucky's EGUs. The commenter states that EPA should require Kentucky's EGUs to achieve an optimized emissions rate at each EGU based on the past best demonstrated ozone season average rates at the unit. The commenter states that such optimized rates would be reflective of a unit's actual reported data and would be considered well controlled while still allowing for fluctuation in operating conditions, as it would encompass a whole ozone season's worth of reported emission data. The commenter states that its own analysis indicates that, even after CSAPR Update implementation, Kentucky's coal-fired EGUs could have reduced NO_X emissions by an additional 4,100 tons during the 2017 ozone season and could have reduced daily NO_X emissions by up to an additional 35 tons per day by optimizing existing controls at levels the EGUs had previously achieved. The commenter contends that optimization of existing controls is cost-effective and has already been shown to be achievable from past performance. The commenter further asserts that not requiring Kentucky's EGUs to optimize controls by this ozone season, at levels consistent with past best-demonstrated ozone season average rates at each EGU, goes against the intent of the CAA to reduce transported air pollution as expeditiously as practicable. The commenter provides suggested language that could be used to require specific coal-fired EGUs in Kentucky to optimize use of existing control technologies.

Another commenter states that EPA's argument regarding installation of control devices on uncontrolled EGUs being unworkable (based on potential for delays due to shortages in qualified labor and material) ignores the potential for immediate reductions that can be had by optimizing existing EGU controls.

Response: To the extent the commenters take issue with EPA's determination in the CSAPR Update that 0.10 lb/mmBtu was reasonable rate to reflect optimized existing SCR controls regionwide, EPA did not reopen that issue for comment in this rulemaking. EPA has already evaluated and implemented cost-effective NO_X emission reductions associated with the optimization of existing SCRs. In establishing the CSAPR Update EGU ozone season NO_X emissions budgets, the Agency quantified the emissions reductions achievable from all NO_X control strategies that were feasible to implement in less than one year and cost-effective at a marginal cost of $1,400 per ton of NO_X removed.[17] These EGU NO_X control strategies were: Optimizing NO_X removal by existing, operational SCR controls; turning on and optimizing existing idled SCR controls; installing state-of-the-art NO_X combustion controls; and shifting generation to existing units with lower-NO_X emissions rates within the same state. *See* 81 FR 74541 (October 26, 2016). Thus, for the purposes of this action, EPA considers the turning on and optimizing of existing SCR controls to be a NO_X control strategy that has already been evaluated and implemented in the final CSAPR Update. Any concerns regarding whether EPA appropriately considered these controls in the CSAPR Update are not within the scope of this action.

Moreover, the Agency believes that the resulting CSAPR Update emissions budgets are being appropriately implemented under the CSAPR NO_X Ozone Season Group 2 allowance trading program. Preliminary data for the 2017 ozone season, which is the first CSAPR Update compliance period, indicate that power plant ozone season NO_X emissions across the 22-state CSAPR Update region were reduced by 77,420 tons (or 21 percent) from 2016 to 2017.[18] As a result, total 2017 ozone season NO_X emissions from covered EGUs across the 22 CSAPR Update states were approximately 294,478 tons,[19] well below the sum of states' emissions budgets established in the CSAPR Update of 316,464 tons. At the state-level, preliminary 2017 ozone season data indicate power plant emissions within Kentucky were reduced 5,424 tons (also 21 percent) from 2016 to 2017. As a result, emissions were 19,978 tons, well below Kentucky's CSAPR Update budget of 21,115 tons. More specifically, emissions from non-optimized SCR-controlled units (*i.e.,* units with an emission rate greater than 0.10 lb/mmBtu) in the CSAPR Update region were 82,321 tons in 2016. EPA's 2023 emission estimate for these same units post-optimization was 40,590. Actual emissions in 2017 from these units was 41,706 tons, demonstrating that the CSAPR Update has successfully incentivized optimization of controls in Kentucky and across the CSAPR Update region.

To the extent that EPA's NPRM could be interpreted as having invited comment on this issue, EPA further notes that, in the CSAPR Update the Agency reviewed fleet-wide, SCR-controlled coal units from 2009 to 2015 and calculated an average ozone season NO_X emission rate across the fleet of coal-fired EGUs with SCR for each of these seven years, and used the third lowest average ozone season NO_X rate. As described in that rule, EPA determined that it was not prudent to use either the lowest or second-lowest ozone season NO_X rates to represent the optimization of controls because such a rate may reflect new SCR systems that have all new components (*e.g.,* new layers of catalyst). *See* 81 FR 74543 (October 26, 2016). EPA determined that data from these new systems are not representative of ongoing achievable NO_X rates considering broken-in

[17] The CSAPR Update was signed on September 7, 2016—approximately eight months before the beginning of the 2017 ozone season on May 1.

[18] *https://ampd.epa.gov/ampd/* (Data current as of March 1, 2018).

[19] *Id.*

components and routine maintenance schedules. Moreover, there are market conditions, maintenance, and outages (scheduled and unscheduled) that can impact the utilization rates. These factors can fluctuate yearly and provide another set of reasons to not universally assume that the lowest rate for a unit can repeat itself on a yearly basis going forward. EPA determined instead that the third lowest fleet-wide average coal-fired EGU NO_X rate for EGUs with SCR, or 0.10 lbs/mmBtu, would be representative of ongoing achievable emission rates. The commenter has not provided any information to contradict this conclusion.

EPA further notes that this rate was implemented as an upper limit, meaning that EPA did reflect units that had recently operated an a more efficient rate in the budget calculations. EPA considered the latest available data at the time of that rulemaking (*i.e.,* 2015) that captured each unit's operation and performance under the latest fleet and market conditions. EPA used 0.10 lb/mmBtu as a ceiling in its budget calculation to reflect optimization of existing controls that were not achieving that level in 2015. However, the Agency used a rate of less than 0.10 lb/mmBtu if the unit was operating at that level in 2015 and a rate of 0.075 lb/mmBtu for new SCRs. Thus, EPA's budget calculation and consequent emission reduction requirements did reflect the fact that some units can and do operate below 0.10 lb/mmBtu.

Comment: One commenter states that EPA's speculative examination of the timeline required to install and run new EGU controls based on a cost-effectiveness threshold of $1,400 is unreasonable where there are existing EGU controls that EPA admits could be run, only at a higher cost. EPA's focus on its estimated timeline for design and installation of new, cost-effective EGU controls such as SCRs and SNCRs puts cost-effectiveness above all else, and that EPA must take into account other statutory concerns and considerations (such as attainment deadlines for downwind states). The commenter contends that, while cost-effectiveness thresholds have been upheld as a reasonable consideration in prioritizing control of sources, these thresholds cannot conversely be used to justify unreasonable, protracted delay in requiring upwind emission reductions. If there are no EGU controls at a given cost threshold that can be installed in time to permit downwind states to meet their attainment deadlines, then EPA has set the cost-effectiveness threshold too low or has defined the type of controls too narrowly.

The commenter concludes that EPA's refusal to reconsider its cost-effectiveness threshold of $1,400 per ton of NO_X is arbitrary where EPA has concluded that idled SNCR controls are available for immediate emission reductions at a cost of $3,400 per ton. Moreover, EPA dismissed this control strategy without any analysis of whether SNCRs can be run at less than $3,400 per ton, which is arbitrary and capricious when downwind states such as New York are forced to reduce NO_X by implementing RACT controls at costs of more than $5,000 per ton.

One commenter states that the CSAPR Update failed to look at any short-term fixes, such as the operation of idled SNCR, that could now be benefiting downwind areas. The commenter notes that the CSAPR Update also ruled out restarting idled SNCR based on the conclusion that $3,400 per ton was not cost effective, despite the fact that New York and other downwind states commonly apply RACT at a cost threshold of $5,000 per ton and greater.

Another commenter states that the control costs of $1,400 per ton considered in the Kentucky SIP are too low and that EPA should require Kentucky to analyze all options available. The commenter states that Kentucky should not limit its control costs to those in the CSAPR Update since ''EPA considered this rule a partial remedy.'' The commenter provides as an example that ''EPA identified an additional measure that could be undertaken immediately'' in turning on existing idled SNCRs. The commenter states that EPA should also consider evaluating cost effectiveness of controls on an ozone season day rather than an annual basis, in order to address the need to lower emissions on high ozone days.

Response: EPA first notes that the commenters misunderstand EPA's evaluation in this action to the extent they suggest that Kentucky or EPA relied on the cost-effectiveness of controls in order to select an appropriate future analytic year. As explained earlier, EPA evaluated the feasibility of implementing, without regard to cost, various control options that had not previously been included in EPA's analysis of cost-effective controls in the CSAPR Update. EPA concluded that additional controls on either EGUs or non-EGUs would generally require four years to implement, which would lead to an implementation timeframe associated with the 2023 ozone season. Had EPA identified downwind air quality problems to which upwind states continued to be linked in 2023, EPA would have proceeded to the next steps in its four-step analytic framework and evaluated the cost-effectiveness of all available controls, considering the achievable emission reductions and anticipated improvements in downwind air quality at all cost thresholds. However, EPA did not further evaluate the cost-effectiveness of the control options considered for the feasibility analysis because EPA lacks authority to require additional emission reductions in 2023 in light of the modeling results showing that air quality problems in the eastern U.S. would be resolved by that time. *See EME Homer City II,* 795 F.3d at 129–30 (finding emissions budgets for 10 states were invalid because EPA's modeling showed that the downwind air quality problems to which these states were linked when EPA evaluated projected air quality in 2012 would be entirely resolved by 2014).

Similarly, to the extent the commenter suggests cost-effectiveness should be evaluated on particular days, rather than over the ozone season, this comment is not material to this action because EPA's analysis has concluded at step one of the four-step framework.

EPA did not reevaluate the feasibility of near-term control strategies in order to inform the selection of a future analytic year for this action because both the feasibility and cost-effectiveness of those control strategies were already fully evaluated in the CSAPR Update. Thus, EPA acknowledges that the operation of idled SNCR controls could physically be implemented more quickly than four years, but EPA already evaluated whether this control was cost-effective to implement relative to other near-term control strategies in the CSAPR Update and concluded that it was not.[20] In the CSAPR Update, EPA identified a marginal cost of $3,400 per ton as the level of uniform control stringency that represents turning on and fully

[20] EPA notes that this conclusion that the feasibility of implementing SNCR should not inform the potential compliance timeframe and analytic year would not have precluded EPA from considering whether the operation of SNCR would be cost-effective relative to the installation of post-combustion controls. Had EPA, at step one of the four-step framework, identified continued downwind air quality problems in 2023, EPA could have considered in subsequent steps whether to require emission reductions consistent with operation of existing SNCR in addition to considering whether to require emission reductions consistent with implementation of new post-combustion controls. However, because EPA has already concluded that operation of existing SNCR is not cost-effective in the near-term, it would not be reasonable for EPA to select an earlier analytic year that would only be consistent with the timeframe for implementing that non-cost-effective near-term compliance strategy.

operating idled SNCR controls.[21] Ultimately, the CSAPR Update finalized emissions budgets using $1,400 per ton control stringency, finding that this level of stringency represented the control level at which incremental EGU NO_X reductions and corresponding downwind ozone air quality improvements were maximized with respect to marginal cost. In finding that use of the $1,400 control cost level was appropriate, EPA established that the more stringent emissions budget level reflecting $3,400 per ton (representing turning on idled SNCR controls) yielded fewer additional emissions reductions and fewer air quality improvements relative to the increase in control costs. Specifically, EPA's analysis showed that the additional reductions from the operation of idling SNCRs in Kentucky would only result in a 0.5 percent decrease in the Commonwealth's emission budget (from 21,115 to 21,007 tons). *See* 81 FR 74548 (October 26, 2016). In other words, based on the CSAPR Update analysis, establishing emissions budgets at $3,400 per ton, and therefore developing budgets based on operation of idled SNCR controls, was determined not to be cost-effective for addressing downwind air quality problems under the good neighbor provision obligations for the 2008 ozone NAAQS. *See* 81 FR 74550 (October 26, 2016). EPA believes that the strategy of turning on and fully operating idled SNCR controls was appropriately evaluated in the CSAPR Update with respect to addressing interstate ozone pollution transport for the 2008 ozone NAAQS. Accordingly, EPA is not further assessing this control strategy for purposes of identifying an appropriate future analytic year. EPA did not reopen that issue for comment in this rulemaking, and the comments are therefore not within the scope of this action. To the extent that the commenter believes that EPA's analysis of SNCR controls in the CSAPR Update was flawed, the time to contest that analysis was during that rulemaking.

To the extent the commenters suggest that EPA must select a higher cost threshold in order to ''permit downwind states to meet their attainment deadlines,'' the commenters misconstrue the requirements of the good neighbor provision and the applicable legal precedent. The good neighbor provision does not require upwind states to bring that downwind areas into attainment with the NAAQS. Rather, states are required to reduce emissions that ''contribute significantly'' to nonattainment in downwind areas. Once a state has eliminated its significant contribution to downwind nonattainment, it has met the requirements of the good neighbor provision, regardless of whether the downwind area has actually attained. *See, e.g.,* 76 FR 48258–59 (August 8, 2011) (determining in CSAPR that SO_2 emission reductions available at $2,300 per ton represented good neighbor obligation even though some downwind air quality problems would persist). This is distinct from the obligations imposed on downwind states containing designated nonattainment areas, which are directly obligated to demonstrate attainment of the NAAQS. *See, e.g.,* CAA section 182(c)(2)(A) (requiring the state submit a demonstration that the plan will provided for attainment of the ozone NAAQS by the applicable attainment date). Because the statutory obligations imposed on upwind and downwind states with respect to attainment differs, it is also reasonable that the costs of controls implemented in upwind states may also differ from those implemented in downwind states. The Supreme Court has already affirmed EPA's approach to quantifying and apportioning upwind states' significant contribution on the basis of cost. *See EME Homer City,* 134 S. Ct. at 1607. While the Court stated that EPA was prohibited from requiring more emission reductions than necessary to bring downwind areas into attainment of the NAAQS, *id.* at 1608, the Court did not indicate that upwind states were specifically responsible for ensuring the downwind states achieve attainment in all instances. Thus, EPA does not agree that it must require additional emission reductions from upwind states, even if they are not cost-effective, simply because a downwind area has not yet attained the NAAQS.

Comment: One commenter states that EPA's contention that implementation of controls is not feasible until during or after the 2022 ozone season is unfounded for the following reasons:

- SCR installations are typically less time-consuming than 39 months, noting that one of the resources EPA cites indicates 21 months is reasonable.
- SNCR takes less time, 10–13 months, to implement.
- EPA tacitly admits some projects could be completed prior to 2022 when it claims that SCR and SNCR should be ''linked'' at the fleet-level.
- The original CSAPR allowed less than three years for compliance with SO_2 limits that were expected to require installation of flue gas desulfurization controls, which generally are expected to take longer than SCR to install.
- EPA's integrated planning model assumes SO_2 scrubbers can be installed in three years and SCR units in two years.
- Non-EGU controls are widely available on timeframes shorter than 48 months according to EPA's Final Non-EGU TSD. Although EPA insinuates this document questions the availability of non-EGU controls within 48 months, it lists many categories of non-EGU NO_X controls available in about 60 weeks that were also cost-effective.
- EPA did not exhaust readily available EGU control options. Kentucky could require 100 percent operation of already-installed control equipment or insist on optimized performance. Kentucky could discontinue use of ''banked allowances'' in the CSAPR Update. And CSAPR did not require any re-dispatch or shifting power generation from higher-emitting to lower-emitting plants, which is also feasible in the short term.
- EPA's arguments regarding the availability of steel and cranes are tenuous. EPA cites only two documents to support its assertion about crane shortages, only one of which even mentions a shortage. That article only indicates that developers need to book the cranes and operators several months in advance, which is not much of an obstacle.

Another commenter states that—based on its experience—EPA's estimated installation time frames for SCRs are too conservative (short), and provides a range of 28 to 60 months for installation of SCRs at one site.

Response: EPA first notes that responses to comments regarding the following issues are addressed earlier in this document: (1) Timeframes assumed for installation of post-combustion controls in CSAPR; (2) timeframes for installation of controls on non-EGUs; and (3) the optimization of existing post-combustion controls. EPA will address the remaining comments in the following paragraphs.

EPA disagrees that the timeframe for implementation of SNCR and SCR at an individual unit necessarily indicates that the feasibility analysis is flawed. As an initial matter, there are differences between these control technologies with respect to the potential viability of achieving cost-effective regional NO_X reductions from EGUs. SCR controls generally achieve greater EGU NO_X reduction efficiency (up to 90 percent) than SNCR controls (up to 25 percent). Resulting in part from this disparity in NO_X reduction efficiency, when

[21] *See* EGU NO_X Mitigation Strategies Final Rule TSD (docket ID EPA–HQ–OAR–2015–0500–0554, *available at www.regulations.gov* and *https://www.epa.gov/sites/production/files/2017-05/documents/egu_nox_mitigation_strategies_final_rule_tsd.pdf*) (NO_X Mitigation Strategies TSD).

considering both control costs and NO_X reduction potential in developing cost per ton analysis for the CSAPR Update, EPA found new SCR controls to be more cost-effective than SNCR at removing NO_X. Specifically, EPA found that new SCR controls could generally reduce EGU emissions for $5,000 per ton of NO_X removed whereas new SNCR controls could generally reduce EGU emissions at a higher cost of $6,400 per ton of NO_X removed.[22] In other words, the greater NO_X reduction efficiency for SCR controls translates into greater cost-effectiveness relative to SNCR controls. The general cost-effectiveness advantage is consistent with observed installation patterns where SCR controls (62 percent of coal-fired capacity) are more prevalent across the east relative to SNCR (12 percent of coal-fired capacity).[23] In light of the increased NO_X removal efficiency and the relative cost-effectiveness of SCR as compared to SNCR, EPA does not believe that is reasonable to focus its analysis on the implementation of the less-efficient control strategy (SNCR) at the expense of the greater emission reduction potential of SCR controls. Accordingly, EPA believes it is reasonable to select a potential compliance timeframe and therefore a future analytic year that would permit the region-wide installation of both new SCR and new SNCR.

Moreover, the estimated 39 months and 10 to 13 months for implementation of SCR and SNCR, respectively, at an individual unit do not account for factors that would influence this timeframe across the fleet. Installing new SCR or SNCR controls for EGUs generally involves the same steps: Conducting an engineering review of the facility; advertising and awarding a procurement contract; obtaining a construction permit; installing the control technology; testing the control technology; and obtaining or modifying an operating permit.[24]

Scheduled curtailment, or planned outage, for pollution control installation would be necessary to complete either SCR or SNCR projects. Given that peak demand and rule compliance would both fall in the ozone season, sources would likely try to schedule installation projects for the ''shoulder'' seasons (*i.e.,* the spring and/or fall seasons), when electricity demand is lower than in the summer, reserves are higher, and ozone-season compliance requirements are not in effect. If multiple units were under the same timeline to complete the retrofit projects as soon as feasible from an engineering perspective, this could lead to bottlenecks of scheduled outages as each unit attempts to start and finish its installation in roughly the same compressed time period. Thus, any compliance timeframe that would assume installation of new SCR or SNCR controls should encompass multiple shoulder seasons to accommodate scheduling of curtailment for control installation purposes and better accommodate the regional nature of the program.

In addition to the coordination of scheduled curtailment, an appropriate compliance timeframe should accommodate the additional coordination of labor and material supply necessary for any fleet-wide control installation efforts.[25] The total construction labor for an SCR system associated with a 500-megawatt (MW) EGU is in the range of 310,000 to 365,000 man-hours, with boilermakers accounting for approximately half of this time.[26] SNCR installations, while generally having shorter individual project timeframes of 10 to 13 months from bid solicitation to startup, share similar labor and material resources and the timing of SNCR installation planning is therefore linked to the timing of SCR installation planning. In recent industry surveys, one of the largest shortages of union craft workers was for boilermakers. This shortage of skilled boilermakers is expected to rise due to an anticipated nine percent increase in boilermaker labor demand growth by 2026, coupled with expected retirements and comparatively low numbers of apprentices joining the workforce.[27] The shortage of and demand for skilled labor, including other craft workers critical to pollution control installation, is pronounced in the manufacturing industry. The Association of Union Constructors conducted a survey of identified labor shortages and found that boilermakers were the second-most frequently reported skilled labor market with a labor shortage.[28] Moreover, recovery efforts from the natural disasters of Hurricanes Harvey and Irma and wildfires in 2017 are expected to further tighten the labor supply market in manufacturing in the near term.[29] EPA determined that these tight labor market conditions within the relevant manufacturing sectors, combined with fleet-level mitigation initiatives, would likely lead to some sequencing and staging of labor pool usage, rather than simultaneous construction across all efforts. This sector-wide trend supports SCR and SNCR installation timeframes for a fleet-wide program that exceed the demonstrated single-unit installation timeframe.

Moreover, NO_X post-combustion control projects also require materials and equipment such as steel and cranes. Sheet metal workers, necessary for steel production, are also reported as having well above an average supply-side shortage of labor.[30] This, coupled with growth in steel demand estimated at three percent in 2018, and simultaneous global economic growth, suggests that there may be a constricted supply of steel needed for installation of new post-combustion controls.[31] Similarly, cranes are critical for installation of SCRs, components of which must be lifted hundreds of feet in the air during construction. Cranes are also facing higher demand during this period of economic growth, with companies reporting a shortage in both equipment and manpower.[32] [33] The tightening markets in relevant skilled labor, materials, and equipment, combined with the large number of installations that could be required fleet-wide under a regional air pollution transport program, necessitate longer installation

[22] NO_X Mitigation Strategies TSD.

[23] National Electric Energy Data System (NEEDS) v6. EPA, *available at https://www.epa.gov/airmarkets/national-electric-energy-data-system-needs-v6.*

[24] Final Report: Engineering and Economic Factors Affecting the Installation of Control Technologies for Multipollutant Strategies, EPA–600/R–02/073 (October 2002), *available at https://nepis.epa.gov/Adobe/PDF/P1001G0O.pdf.*

[25] EPA considers these additional labor and supply requirements in the context of the already committed labor and supply requirements associated with projects already underway.

[26] *Id.*

[27] Occupational Outlook Handbook, Bureau of Labor Statistics, *available at https://www.bls.gov/ooh/construction-and-extraction/boilermakers.htm.*

[28] Union Craft Labor Supply Survey, The Association of Union Constructors, Exhibit 4–2 at page 29, *available at https://www.tauc.org/files/2017_TAUC_UNION_CRAFT_LABOR_SUPPLY_REVISEDBC_FINAL.pdf.*

[29] Skilled Wage Growth Less Robust, Worker Shortage Still an Issue, Industry Week, October 23, 2017, *available at http://www.industryweek.com/talent/skilled-wage-growth-less-robust-worker-shortage-still-issue.*

[30] Union Craft Labor Supply Survey, The Association of Union Constructors, Exhibit 4–2 at page 29, *available at https://www.tauc.org/files/2017_TAUC_UNION_CRAFT_LABOR_SUPPLY_REVISEDBC_FINAL.pdf.*

[31] Worldsteel Short Range Outlook, October 16, 2017, *available at https://www.worldsteel.org/media-centre/press-releases/2017/worldsteel-Short-Range-Outlook-2017-2018.html.*

[32] *See, e.g.,* Seattle Has Most Cranes in the Country for 2nd Year in a Row—and Lead is Growing, Seattle Times, July 11, 2017, *available at https://www.seattletimes.com/business/real-estate/seattle-has-most-cranes-in-the-country-for-2nd-year-in-a-row-and-lead-is-growing/.*

[33] *See* RLB Crane Index, January 2018, in the docket for this action.

time-tables relative to what has been historically demonstrated at the unit-level.

EPA disagrees with the commenter's assertion that these observations regarding crane and steel markets are tenuous and thus should not influence EPA's analysis. While this is not the sole reason for EPA's conclusion that 48 months would be necessary for region-wide control installation, EPA believes the market for labor and materials is a relevant factor to consider in light of reports from companies that supply the tower cranes that there is a shortage of both equipment and manpower. The crane index, along with quarterly construction costs reports, are metrics regularly used to evaluate construction activity by construction consultancies and can provide information useful to demonstrate the level of equipment demand.[34] Moreover, the commenter provides no evidence to contradict the EPA's finding that these equipment markets are facing periods of higher demand.

The time lag observed between the planning phase and in-service date of SCR and SNCR operations in certain cases also illustrates that site-specific conditions sometimes lead to installation times of four years or longer. For instance, SCR projects for units at Ottumwa Generating Station (Iowa), Columbia Energy Center (Wisconsin), and Oakley Generating Station (California) were all in the planning phase in 2014. However, these projects have estimated in-service dates ranging between 2018 and 2021.[35] Similarly, individual SNCR projects can exceed their estimated 10–13-month time frame. For example, projects such as SNCR installation at Jeffrey Energy Center (Kansas) were in the planning phase in 2013, but not in service until 2015.[36] Completed projects, when large in scale, also illustrate how timelines can extend beyond the bare minimum necessary for a single unit when the project is part of a larger air quality initiative involving more than one unit at a plant. For instance, the Big Bend Power Station in Florida completed a multi-faceted project that involved adding SCRs to all four units as well as converting furnaces, over-fire air changes, and making windbox modifications. The time from the initial planning stages to completion was a decade.[37]

While individual unit-level SCR and SNCR projects can average 39 and 10 months, respectively, from bid to startup, a comprehensive and regional emissions reduction effort also requires more time to accommodate the labor, materials, and outage coordination for these two types of control strategies. Because these post-combustion control strategies share similar resource inputs and are part of regional emissions reduction programs rather than unit-specific technology mandates, the timeframes for one type are inherently linked to the other type. This means that SNCR projects cannot be put on an early schedule in light of their reduced construction timing without impacting the availability of resources for the manufacture and installation of SCRs and thus the potential start dates of those projects.

In short, given the market and regulatory circumstances in which EPA evaluated this effort, we determined that four years would be an expeditious timeframe to coordinate the planning and completion of any mitigation efforts that might be necessary in this instance. In regard to the commenter who noted a range of 28 to 60 months for SCR installation, EPA notes that a period of 48 months falls reasonably within that range, and is consistent with the region-wide evaluation of control feasibility that EPA has conducted in this action.

EPA notes that the commenters' assertions about assumptions in IPM regarding control installation timeframes are unfounded. Post-combustion control installation times are an exogenous assumption in EPA's power sector modeling—*i.e.,* EPA determines the number of years for installation and provides that figure as an input to the model; the figure is not the product of a function that the model performs internally. EPA makes this installation determination independently for each model run. For instance, if EPA is using IPM to model a run year that is three years from a present date, it may choose to allow scrubber installation to occur in that first model run year if the volume of installations is expected to be small (consistent with the notion that some units may be able to install controls more quickly). However, if the volume of scrubber installations is expected to be larger, reflecting more region-wide resource coordination requirements and resource requirements, EPA may not allow the retrofit option in the model until after three years. Thus, the assumption can vary according to the policy context being considered.

Finally, EPA notes that the commenter is incorrect in asserting that the CSAPR Update failed to account for generation shifting. The CSAPR Update budgets accounted for generation shifting that was considered to be available at the $1,400 cost threshold and feasible to implement by the 2017 compliance timeframe. *See* 81 FR 74544–45 (October 26, 2016). The commenter does not otherwise explain whether or how any potential for additional generation shifting should influence EPA's analysis in this action.[38]

Comment: Several commenters advocate for the adoption of short-term NO_X emission rate limits for EGUs. The ozone NAAQS is based on an 8-hour standard and the allowance trading under the CSAPR Update is done over a multi-month ozone season. The commenters believe that the lack of federally enforceable short-term NO_X emission rates in Kentucky will facilitate the continued operation of EGUs with inadequate NO_X emission controls, to include units that have NO_X controls that are not always operated during the ozone season. While the CSAPR Update has encouraged improved utilization of SCR and SNCR controls during the 2017 ozone season, the commenter contends that there are additional cost-effective NO_X reductions that can be achieved by requiring optimization of these existing controls, every day of the ozone season, at coal-fired EGUs. The commenter therefore states that Kentucky should establish emission limits for its EGUs with appropriate magnitudes and averaging periods.

Another commenter also states that EPA should require Kentucky to adopt targeted strategies for reducing emissions on ''high emitting days.''

One commenter contends that compliance with a cap-and-trade program like the CSAPR Update is an

[34] Kalinoski, Gail, North American Construction Trends: RLB Reports, *available at https://www.cpexecutive.com/post/north-america-construction-trends-rlb-reports/.*

[35] 2014 EIA Form 860, Schedule 6, Environmental Control Equipment.

[36] 2013 EIA Form 860, Schedule 6, Environmental Control Equipment.

[37] Big Bend's Multi-Unit SCR Retrofit, Power Magazine, March 1, 2010, *available at http://www.powermag.com/big-bends-multi-unit-scr-retrofit/.*

[38] Because EPA did not evaluate additional generation shifting possibilities in this action, it does not at this time need to revisit the question whether it is within the EPA's authority or otherwise proper to consider generation shifting in implementing the good neighbor provision. The EPA is aware that this has been an issue of contention in the past. *See, e.g.,* 81 FR at 74545 (October 26, 2016) (responding to comments); CSAPR Update Rule—Response to Comment, at 534–50 (EPA–HQ–OAR–2015–0500–0572) (summarizing and responding to comments). The EPA may revisit this question in addressing good neighbor requirements for other NAAQS but is not revisiting this issue with regard to the 2008 ozone NAAQS.

inadequate mechanism to ensure permanent NO_X reductions on high ozone days that determine attainment or nonattainment of the NAAQS. The commenter states that its analysis shows that many coal-fired EGUs in Kentucky were not optimizing their controls in 2017 and failed to operate at rates assumed in EPA's 2023 modeling analysis. The commenter states that a cap and trade program allows emissions to fluctuate above the state-wide budgets if the owners or operators (1) have adequate banked allowances, or (2) can purchase allowances to cover excess emissions. Ozone is an air pollutant to which prevention of short-term exposure to excessive levels over an eight-hour period is critical to protect public health, and compliance with the NAAQS can be negatively impacted by inconsistent day-to-day operation of pollution controls. Allowing a plant to cycle back the efficiency or altogether turn off control equipment is an inappropriate control measure for ozone because this can result in excessive rates on high ozone days, when it is most important to ensure low emission rates.

Response: EPA first notes that it is unnecessary to evaluate what strategy would be appropriate for the implementation of additional emission reductions because EPA has determined that they are unnecessary and unauthorized in light of the modeling data showing that downwind air quality problems will be resolved by 2023, when additional control strategies could be feasibly implemented.

To the extent the commenter is raising concerns with the use of an allowance trading program to implement the emission reductions required by the CSAPR Update to address the 2008 ozone NAAQS, EPA considers it untimely for the commenter to raise such a challenge in this action. Those emission reductions were finalized in a separate rulemaking, and the appropriate venues to raise concerns over the adequacy for reduction implementation of the CSAPR allowance trading program, as compared to other measures such as short-term emission limits, were that rulemaking process and subsequent petitions for judicial review of that final rule. Thus, this issue is outside the scope of the present rulemaking. Similarly, as discussed earlier in this action, to the extent the commenter also disagrees with EPA's determinations regarding the optimization of SCR controls or the cost-effectiveness of SCNR controls in the CSAPR Update, those comments are also outside the scope of this action.

Nonetheless, EPA has examined the hourly NO_X emissions data reported to EPA and observed very few instances of units selectively turning down or turning off their emissions control equipment during hours with high generation.[39] SCR-controlled units generally operated with lower emissions rates on high generation hours, suggesting SCRs generally were in better operating condition—not worse, let alone idling—on those days/hours. In other words, EPA compared NO_X rates on hours with high demand and compared them with seasonal average NO_X rates and found very little difference. The data do not support the notion that units are reducing SCR operation on high demand days (when ozone concentrations often peak). In fact, EPA noticed that SCR performance rates—on average—were better on high demand days. EPA, therefore, concludes that increases in total emissions on days with high generation are a result of additional units coming online and units increasing hourly utilization, rather than units decreasing the functioning of control equipment. Moreover, SCR performance is not purely a matter of operational decisions of the control. EPA's review of hourly 2017 data suggests that SCR performance often decreases as hourly load levels drop below a particular level (*e.g.,* 30 percent of maximum rated hourly heat input rate).[40] [41] A drop in SCR performance at a lower load level is consistent with engineering-based performance challenges associated with minimum operating temperatures (among other factors) for the SCR system.[42] In other words, SCR systems with typical catalyst formulations are not effective at removing NO_X during low-load operations when the unit might not achieve sufficient temperatures to promote the necessary chemical reactions. Decreases in SCR removal efficiency at low load levels appear to be consistent with known engineering limitations. The 2017 data do not provide any indication of broad regional patterns of scaling back SCR operations during particular hours of an ozone season for reasons other than engineering limitations. Thus, EPA does not have any basis, at this time, to believe that short-term emission rates are necessary to address regional SCR operation patterns on high demand days in the context of this action.

Moreover, even if it were appropriate to assess the merits of particular remedies as part of this action, EPA does not agree that an allowance trading program would be an inadequate means of implementing any additional statewide emission reductions that may have been necessary under a scenario where more reductions were required to fully address the good neighbor provision. Implementation mechanisms based on seasonal NO_X requirements have demonstrated success at reducing peak ozone concentrations. For example, over the past decade, there has been significant improvement in ozone across the eastern U.S., in part due to season-long allowance trading programs such as the NO_X Budget Trading Program and the CSAPR NO_X ozone season allowance trading program. As a result, areas are now attaining the 1997 ozone NAAQS. Further, EPA notes that the standard is a 3-year average value of three individual seasonal values. Thus, a seasonal program is harmonious with the form of the standard.

Comment: One commenter states that EPA should require Kentucky to ensure all ''minimum control strategies'' identified in a recent Ozone Transport Commission (OTC) statement regarding ''good neighbor'' SIPs are adopted, along with other points noted in the document.

Another commenter states that other measures should be undertaken to reduce Kentucky's impact on other states, including NO_X RACT on EGUs and other large NO_X sources at the same stringent levels used within the OTR, along with controls on mobile sources (inspection and maintenance, and anti-idling).

One commenter recommends that any full remedy of a state's good neighbor obligations must require, at minimum, RACT on all major NO_X and VOC sources, best available control technology (BACT) on all existing EGUs and large industrial boilers, BACT on all sources with high ozone-day emissions, and regional measures such as those recommended by the OTR.

Response: EPA lacks authority to require control measures or emission reductions unless the Agency first identifies a downwind air quality problem to which an upwind state is contributing. *See EME Homer City,* 134 S. Ct. at 1608 (''If EPA requires an upwind State to reduce emissions by more than the amount necessary to achieve attainment in every downwind State to which it is linked, the Agency will have overstepped its authority, under the Good Neighbor Provision.'');

[39] *See* Discussion of Short-term Emission Limits, available in the docket for this action.

[40] *Id.*

[41] Maximum rated hourly heat input rate is the higher of the manufacturer's maximum rated hourly heat input rate or the highest observed hourly heat input rate.

[42] Gray, Sterling; Jarvis, Jim; Donner Chad, and Estep John, SCR Performance, Power Engineering, March 9, 2017, *available at https://www.power-eng.com/articles/print/volume-121/issue-3/features/scr-performance.html.*

EME Homer City II, 795 F.3d at 129–30 (finding emissions budgets for 10 states were invalid because EPA's modeling showed that the downwind air quality problems to which these states were linked when EPA evaluated projected air quality in 2012 would be entirely resolved by 2014). With respect to the recommended control strategies, the commenters do not explain why they believe the control strategies applicable to the OTR, RACT, BACT, or other measures are necessary to achieve attainment or maintenance of the NAAQS in downwind states. While EPA determined that Kentucky would be linked to downwind air quality problems in 2017, EPA has also determined that those air quality problems would be resolved by 2023. Thus, EPA has no authority to require additional emission reductions—via the control strategies suggested by the commenters or otherwise—from Kentucky or other upwind states in 2023.

Comment: One commenter states that EPA's 2023 modeling is based on numerous flawed assumptions. EPA adjusted projected NO_X emissions for dozens of EGUs based on assumptions of new or optimized controls. However, the Kentucky SIP contains no enforceable mechanisms, schedules, or timetables for compliance to ensure the relied-upon assumptions are valid and will actually occur or remain in place in 2023. The commenter contends that EPA's demonstration or verification of enforceable commitments to support Kentucky's assumptions, as well as EPA's assumptions for all other states, are required by the CAA, citing section 110(a)(2)(A) and (C).

One commenter also contends that Kentucky's SIP fails to satisfy section 110(a)(2)(A) because, even if reliance on 2023 were valid, it lacks any proposed enforceable limitations or compliance timelines.

One commenter states that Kentucky has not shown that the EPA-modeled shutdowns of E.W. Brown Generating Station and Elmer Smith plant will occur in a federally enforceable manner, and that therefore, EPA should not approve Kentucky's SIP since the modeling includes such reductions.

One commenter states that although EPA and Alpine modeling indicate all areas outside California will achieve attainment with the 2008 ozone NAAQS by 2023, some Connecticut monitors will ''only barely'' comply. Commenter states that Kentucky's reliance on the 2023 modeling should be accompanied by enforceable regulations that ensure the lower, modeled 2023 emissions are achieved, including the decrease in EGU emissions.

One commenter includes a table summarizing adjusted projected NO_X emissions for Kentucky EGUs used in EPA's 2023 modeling based on assumptions of new or optimized controls. The commenter states that there are no enforceable commitments in Kentucky's SIP to support these assumptions, which the commenter asserts are required by EPA's own methodology, citing a March 2018 EPA memorandum. Without enforceable measures, the commenter asserts the modeling is not a proper basis for a good neighbor SIP.

One commenter contends that EPA's modeling relies on reductions that are not federally enforceable, and Kentucky failed to demonstrate that the emission reductions EPA relied on across the modeling domain are federally enforceable. The commenter contends that the upwind state good neighbor obligations cannot be deemed satisfied if large portions of their emissions inventory remain poorly controlled.

One commenter states that an approvable good neighbor SIP must include permanent and federally enforceable emissions reductions. The commenter contends that section 110 requires that a SIP (1) include enforceable emission limitations and other control measures, means, or techniques, (2) include a program to provide for the enforcement of the measures, and (3) provide adequate provisions prohibiting emissions activity within the state from emitting any air pollutant in amounts which will contribute significantly to nonattainment in or interfere with maintenance by any other state with respect to the NAAQS. EPA's four-step analysis also requires the adoption of ''permanent and enforceable measures.''

The commenter states that compliance with the rates reflected in the 2023 modeling are not permanent or federally enforceable under the CSAPR Update or any other federal rule, including the assumption that most units will emit at 2016 levels and that 25 units will take additional emission reduction actions, including unit retirement, increased use of post-combustion controls, or addition of new combustion controls. The commenter contends these actions are therefore speculative and cannot be properly considered when determining if a state met its good neighbor obligations. Downwind states cannot rely on speculative reduction, and without federally enforceable limits, there is no guarantee that Maryland will maintain the 2008 ozone NAAQS. The commenter notes that Maryland's section 126(b) petition proposed specific language and NO_X emission rates for EGUs with SCR and SNCR in Kentucky that EPA should consider making federally enforceable as a near-term NO_X reduction strategy. EPA should also modify operating permits for other units to require implementation of specific emission rates, fuel switches, and control installations for EGUs that are not equipped with controls, which were relied on in the modeling.

Response: EPA does not agree that Kentucky is required to adopt permanent and enforceable control measures to ensure that the projected emission levels used in the 2023 modeling will be maintained. Within EPA's four-step interstate transport framework, EPA only requires sources in upwind states to implement enforceable emission limitations if: (1) Downwind air quality problems are identified in at step one, (2) an upwind state is linked to a downwind air quality problem at step two, *and* (3) sources in the linked upwind state are identified at step three as having emissions that significantly contribute to nonattainment and interfere with maintenance of the NAAQS considering cost- and air-quality-based factors. If all three of these steps are not satisfied, then the state is not required to include provisions in its SIP prohibiting any level of reductions because the EPA has determined that the state will not significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind. For the reasons described in the following paragraphs, EPA believes this approach is a reasonable interpretation of the good neighbor provision.

The good neighbor provision instructs EPA and states to apply its requirements ''consistent with the provisions of'' title I of the CAA. EPA is therefore interpreting the requirements of the good neighbor provision, and the elements of its four-step interstate transport framework, to apply in a manner consistent with the designation and planning requirements in title I that apply in downwind states. *See North Carolina,* 531 F.3d at 912 (holding that the good neighbor provision's reference to title I requires consideration of both procedural and substantive provisions in title I). EPA notes that this consistency instruction follows the requirement that plans ''contain adequate provisions prohibiting'' certain emissions in the good neighbor provision. The following paragraphs will therefore explain how EPA's interpretation of the circumstances

under which the good neighbor provision requires that plans ''prohibit'' emissions through enforceable measures is consistent with the circumstances under which downwind states are required to implement emissions control measures in nonattainment areas.

For purposes of this analysis, EPA notes specific aspects of the title I designations process and attainment planning requirements for the ozone NAAQS that provide particularly relevant context for evaluating the consistency of EPA's approach to the good neighbor provision in upwind states. EPA notes that this discussion is not intended to suggest that the specific requirements of designations and attainment planning apply to upwind states pursuant to the good neighbor provision, but rather to explain why EPA's approach to interpreting the good neighbor approach is reasonable in light of relevant, comparable provisions found elsewhere in title I. In particular, these provisions demonstrate that EPA's approach is consistent with other relevant provisions of title I with respect to what data is considered in EPA's analysis and when states are required to implement enforceable measures.

First, areas are initially designated attainment or nonattainment for the ozone NAAQS based on actual measured ozone concentrations. CAA section 107(d) (noting that an area shall be designated attainment where it ''meets'' the NAAQS and nonattainment where it ''does not meet'' the NAAQS). Therefore, a designation of nonattainment does not in the first instance depend on what specific factors have influenced the measured ozone concentrations or whether such levels are due to enforceable emissions limits. If an area measures a violation of the relevant ozone NAAQS, then the area is designated nonattainment. In cases where the nonattainment area is classified moderate or higher, the responsible state is required to develop an attainment plan, which generally includes the application of various enforceable control measures to sources of emissions located in the nonattainment area, consistent with the requirements in Part D of title I of the Act.[43] *See generally* CAA section 182, 42 U.S.C. 7511a. If, however, an area measures compliance with the ozone NAAQS, the area is designated attainment, and sources in that area generally are not subject to any new enforceable control measures under Part D.[44]

Similarly, in determining the boundaries of an ozone nonattainment area, the CAA requires EPA to consider whether ''nearby'' areas ''contribute'' to ambient air quality in the area that does not meet the NAAQS. *See* 42 U.S.C. 7407(d). For each monitor or group of monitors indicating a violation of the ozone NAAQS, EPA assesses information related to five factors, including current emissions and emissions-related data from the areas near the monitor(s), for the purpose of establishing the appropriate geographic boundaries for the designated ozone nonattainment areas. A nearby area may be included within the boundary of the ozone nonattainment area only after assessing area-specific information, including an assessment of whether current emissions from that area contribute to the air quality problem identified at the violating monitor.[45] If such a determination is made, sources in the nearby area are also subject to the applicable Part D control requirements. However, if EPA determines that the nearby area does not contribute to the measured nonattainment problem, then the nearby area is not part of the designated nonattainment area and sources in that area are not subject to such nonattainment control requirements.

EPA's historical approach to addressing the good neighbor provision via the four-step interstate transport framework, and the approach EPA continues to apply here, is consistent with these title I requirements. That is, in steps 1 and 2 of the framework, EPA evaluates whether there is a downwind air quality problem (either nonattainment or maintenance), and whether an upwind state impacts the downwind area such that it contributes to and is therefore ''linked'' to the area. EPA's determination at step one of the good neighbor analysis that it has not identified any downwind air quality problems to which an upwind state could contribute is analogous to EPA's determination in the designation analysis that an area should be designated attainment. Similarly, EPA's determination at step two of the good neighbor analysis that, while it has at step one identified downwind air quality problems, an upwind state does not sufficiently impact the downwind area such that the state is linked is analogous to EPA's determination in the designation analysis that a nearby area does not contribute to a NAAQS violation in another area. Thus, under the good neighbor provision, EPA determines at step one or two, as appropriate, that the upwind state will not significantly contribute to nonattainment or interfere with maintenance of the NAAQS in the downwind area. *See, e.g.,* 81 FR 74506 (October 26, 2016) (determining that emissions from 14 states whose contributions to downwind receptors are below the air quality threshold will not significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS); 76 FR 48236 (August 8, 2011) (finding that states whose contributions to downwind receptors are below the air quality threshold will not significantly contribute to nonattainment or interfere with maintenance of the relevant NAAQS). Under such circumstances, sources in the upwind state are not obligated to implement any control measures under the good neighbor provision, which is consistent with the fact that sources located in attainment areas generally are not required to implement the control measures found in Part D of the Act. *Cf. EME Homer City II,* 795 F.3d at 130 (determining that CSAPR ozone season NO_X budgets for 10 states were invalid based on determination that modeling showed no future air quality problems); 81 FR 74523–24 (October 26, 2016) (removing three states from CSAPR ozone season NO_X program based on determination that states are not linked to any remaining air quality problems for the 1997 ozone NAAQS).

EPA acknowledges that one distinction between the good neighbor and designation analyses: The good neighbor analysis relies on future year projections of emissions to calculate ozone concentrations and upwind state contributions, compared to the designation analysis's use of *current* measured data. As described in more detail earlier, this approach is a reasonable interpretation of the term ''will'' in the good neighbor provision, *see North Carolina,* 531 F.3d at 913–14, and interpreting language specific to that provision does not create an

[43] Nonattainment areas classified as marginal are required to submit emissions inventories and implement a nonattainment new source review permitting program, but are not generally required to implement controls at existing sources. *See* CAA section 182(a), 42 U.S.C. 7511a(a).

[44] CAA section 184 contains the exception to this general rule: States that are part of the OTR are required to provide SIPs that include specific enforceable control measures, similar to those for nonattainment areas, that apply to the whole state, even for areas designated attainment for the ozone NAAQS. *See generally* 42 U.S.C. 7511c.

[45] *See* Memorandum from Robert J. Meyers, Principal Deputy Assistant Administrator, US EPA to Regional Administrators, *Area Designations for the 2008 Ozone National Ambient Air Quality Standards,* at Attachment 2, December 4, 2008, *available at https://archive.epa.gov/ozonedesignations/web/pdf/area_designations_for_the_2008_revised_ozone_naaqs.pdf.*

impermissible inconsistency with other provisions of title I. Moreover, EPA's use of future-year modeling in the good neighbor analysis to identify downwind air quality problems and linked states is consistent with its use of current measured data in the designations process. EPA's future year air quality projections are influenced by a variety of factors, including current emissions data, anticipated future control measures, economic market influences, and meteorology. Many of these same factors, *e.g.,* current control measures, economic market influences, and meteorology, can affect the NO_X emissions levels and consequent measured ozone concentrations that inform the designations process. Like the factors that affect measured ozone concentrations used in the designations process, not all of the factors influencing EPA's modeling projections are or can be enforceable limitations on emissions or ozone concentrations. However, EPA believes that consideration of these factors contributes to a reasonable estimate of anticipated future ozone concentrations. *See EME Homer City II,* 795 F.3d at 135 (declining to invalidate EPA's modeling projections ''solely because there might be discrepancies between those predictions and the real world''); *Chemical Manufacturers Association* v. *EPA,* 28 F.3d 1259, 1264 (D.C. Cir. 1994) (''a model is meant to simplify reality in order to make it tractable''). Thus, EPA believes that consideration of these factors in its future-year modeling projections used at steps 1 and 2 of the good neighbor analysis is reasonable and consistent with the use of measured data in the designations analysis.[46]

EPA notes that there is a further distinction between the section 107(d) designations provision and the good neighbor provision in that the latter provision uses different terms to describe the threshold for determining whether emissions in an upwind state should be regulated (''contribute significantly'') as compared to the standard for evaluating the impact of nearby areas in the designations process (''contribute'').

Thus, at step three of the good neighbor analysis EPA evaluates additional factors, including cost and air-quality considerations, to determine whether emissions from a linked upwind state would violate the good neighbor provision (*i.e.,* cost-effectiveness*).* Only if EPA at step three determines that the upwind state's emissions would violate the good neighbor provision will it proceed to step four, at which point emissions in the upwind state must be controlled so as to address the identified violation, analogous to the trigger for the application of Part D requirements to sources located in designated nonattainment areas. EPA interprets the good neighbor provision to not require the Agency or the upwind state to proceed to step four and implement any enforceable measures to ''prohibit'' emissions unless it identifies a violation of the provision at step three. *See, e.g.,* 76 FR 48262 (August 8, 2011) (finding at step three that the District of Columbia will not violate the good neighbor provision, and therefore will not at step four be subject to any control requirements in CSAPR, because no cost-effective emissions reductions were identified).

For these reasons, EPA also does not agree that either section 110(a)(2)(A) or section 110(a)(2)(C) requires the state to include measures to make the projected emission limitations enforceable in order to address the good neighbor provision. Section 110(a)(2)(A) states that a SIP should ''include enforceable emission limitations and other control measures, means, or techniques . . . *as may be necessary or appropriate* to meet the applicable requirements'' of the CAA (emphasis added). As just described, a finding at step one that there is no air quality problem supports a conclusion that a state simply will not contribute significantly or interfere with maintenance of the NAAQS in another state, and thus that the state need not prohibit any particular level of emissions under the good neighbor provision. Thus, under section 110(a)(2)(A), no emission limitations would be necessary or appropriate to meet the good neighbor provision. Section 110(a)(2)(C) similarly indicates that SIPs should provide for the enforcement of measures cited to support the requirements of section 110(a)(2)(A), but it does not independently require the imposition of additional control measures.

Comment: One commenter states that Kentucky proposes to rely on projections of future emissions based on a current regulatory framework that EPA is actively attempting to dismantle. Actions that the commenter contends EPA has not accounted for in the modeling include EPA's proposed repeal of glider rules, which if finalized would permit vehicles that emit significant amounts of NO_X. In its original rule, EPA estimated that unregulated glider vehicles would increase emissions from heavy-duty highway vehicles by approximately 300,000 tons annually in 2025. Conversely, the CSAPR Update only reduces annual NO_X emissions by 75,000 tons, meaning the proposed regulatory action would swamp multiple times over the emission reductions from the CSAPR Update and undercut the assumptions in EPA's estimates.

The commenter also cites efforts to weaken the Corporate Average Fuel Economy standards, which were anticipated to reduce annual light-duty highway vehicle emissions of NO_X by 904 tons in 2020 and 6,509 tons in 2030, and emissions of VOCs, another ozone precursor, by 11,712 and 123,070 tons in 2020 and 2030, respectively. EPA is also considering rescinding 2016 Control Techniques Guidelines (CTG) for oil and natural gas industry, estimated to reduce emissions by 80,000 tons annually.

The commenter contends that these actions, if finalized, would ensure that the exceedingly narrow compliance margins assumed by its modeling in 2023 are not achieved. To the extent Kentucky stakes good neighbor compliance entirely on an unenforced and actively undercut prediction, the commenter claims its reliance is arbitrary and capricious.

Another commenter states that EPA's 2023 modeling fails to account for potential federal rule repeals and delays, such as those for: ''glider'' vehicles and engines (proposed November 2017); oil and gas CTG guidelines (March 2018); and the NSPS for the oil and gas sector. The commenter also states that relaxation or elimination of control requirements will result in increased ozone concentrations and that the 2023 design values are therefore an underestimate of actual levels that will occur. The commenter states that given EPA predicts a maximum design value of 75.9 ppb in 2023 at the Westport, Connecticut monitor, coupled with the fact that ''Kentucky significantly contributes to this monitor,'' the ''unenforceable commitments'' in Kentucky's SIP, and federal rule repeals and relaxations that EPA ignores, nonattainment can be expected to result at this monitor.

One commenter asserts that the 2023 modeling fails to account for the proposed weakening, repeal, and/or delay of numerous federal rules that directly impact ozone levels, including for glider vehicles, CTGs for oil and gas,

[46] EPA also notes that the consideration of projected *actual* emissions in the future analytic year—as opposed to allowable levels—is also consistent with the statute's instruction that states (or EPA in the states' stead) prohibit emissions that ''will'' impermissibly impact downwind air quality. This term is reasonably interpreted to mean that EPA should evaluate anticipated emissions (what sources *will* emit) rather than potential emissions (what sources *could* emit).

and reconsideration of new source performance standards (NSPS) for the oil and gas sector, which will increase ozone concentrations near and downwind of affected sources. The commenter contends that the Westport, Connecticut monitor (part of the New York metropolitan area (NYMA)) is projected to have design value of 75.9 ppb in 2023, only 0.1 ppb below the standard (and above the 2015 ozone NAAQS), and Kentucky significantly contributes to this monitor. The inevitable increase of ozone levels from EPA's deregulatory activities will drive the Westport monitor above the 2008 ozone NAAQS.

Response: EPA disagrees that its 2023 projections are unreliable because of potential changes to other regulations. EPA first notes any potential regulatory changes to the ''glider'' regulations and the oil and gas CTG have not been finalized, nor have any relevant changes to the NSPS for the oil and gas sector been finalized. EPA's normal practice is to only include changes in emissions from final regulatory actions in its modeling because, until such rules are finalized, any potential changes in NO_X or VOC emissions are speculative. In addition, even if emissions were to change as a result of any such final rules, commenters have not indicated how and whether these additional emissions would affect downwind ozone concentrations. If circumstances change such that EPA's projections may be affected, commenters are free to submit an administrative petition to the Agency.

Comment: One commenter contends that EPA's modeling over-predicts actions taken in compliance with CSAPR. The commenter notes that the 2023 modeling TSD reveals assumptions that facilities that retrofit between 2016 and 2023 to install SCR will achieve an emission rate of 0.075 lb NO_X/mmBtu. The commenter asserts this is unrealistic given the CSAPR Update itself relies on the idea that SCR-equipped units will only achieve 0.10 lb/mmBtu NO_X emission rates. EPA itself considered the 0.075 lb/mmBtu rate to be unachievable fleetwide in the CSAPR Update.

Response: The commenter conflates EPA's assumptions in the CSAPR Update regarding emission rates achievable by units with *existing* SCR controls (*i.e.,* 0.10 lb/mmBtu) that are idled or not being optimized with its assumptions regarding *new* SCR retrofits (*i.e.,* 0.075 lb/mmBtu). As explained in the CSAPR Update, EPA selected a different rate for existing SCRs that were viewed as likely to ''optimize'' than it did for new SCR installations. This difference reflects both differences in historical data values for the two populations sets, and also the increased technology performance expected from more recent technology vintages.[47]

EPA's assumption of 0.075 lb/mmBtu for SCR retrofits is supported by historical data on emission rates for new SCR controlled units, is consistent with its prior engineering and technology assumptions, and is a conservative estimate of new SCR performance.

New SCR controlled units often perform equal to or better than older SCRs reflecting advancements in both technology and installation practices. New SCRs have regularly operated at or below EPA's assumed emission rate of 0.075 lb/mmbtu. For 12 coal units where SCR was installed and operating between 2014 and 2016, the average ozone season NO_X emission rate for 2017 was 0.059 lb/mmBtu. When this time horizon is extended to the 25 SCRs that came online between 2012 and 2016, the 23 that operated in 2017 ozone season operated at a rate of 0.060 lb/mmBtu. Either measure demonstrates that 0.075 lb/mmBtu is not only possible for newly controlled units, but regularly achieved and surpassed. This historical data strongly contradicts the commenters assertion that EPA's assumption that new units would operate at an emission rate of 0.075 lb/mmBtu is unrealistically low, but rather supports EPA performance capability assumption as both reasonable and conservative.

Additionally, the 0.075 lb/mmBtu emission rate assumption for new SCRs is consistent with EPA's historical levels of assumed performance in its power sector modeling and consistent with the engineering assessment by Sargent and Lundy underpinning those performance assumptions.[48]

Comment: One commenter asserts that the modeling predicts that existing units will either install new controls or operate controls at higher efficiencies following the CSAPR Update, despite limited incentives to do so. The commenter cites as an example the Paradise unit 3 in Kentucky that EPA assumed will optimize its SCR (0.10 lb/mmBtu) and reduce its NO_X output to about 1,000 tons per ozone season, but in 2017, the unit emitted over twice that amount (about 2,400 tons or 0.22 lb/mmBtu). Moreover, the Additional Updates to Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform for the Year 2023 TSD generally assumes that facilities that emitted at a rate higher than 0.10 lb/mmBtu in 2016 will come down to 0.10 lb/mmBtu in 2023, which ignores the reality of emission trading under CSAPR. The commenter contends that this effectively assumes that the market for emissions credits will price those credits so highly that no emitter will choose to buy credits rather than reduce emissions, which is belied by purpose and experience of the CSAPR trading scheme.

Response: EPA's assumption of 0.010 lb/mmBtu for optimized SCR performance at units with existing SCRs is both reasonable and consistent with recent historical data.

As explained in the CSAPR Update, EPA evaluated SCR emission rates at existing units from 2009–2015 and found that the third lowest *fleet-wide* yearly ozone season average was an appropriate metric to use for SCR performance. *See* 81 FR 74543 (October 26, 2016). These emission rates were used to calculate states' emissions budgets in the CSAPR Update. In order to project emission levels representing CSAPR Update implementation in 2023, it is reasonable to use the same assumptions regarding the average, fleet-wide emissions rate for affected units, even if individual unit operation may vary. Thus, consistent with that assumption, EPA used a 0.10 lb/mmBtu to represent operation of existing SCRs its 2023 projections as well. While unit-level performance will vary relative to this fleet-wide assumption (with some SCR controlled units operating below and some above), using a fleet-wide average for each unit-level estimate captures aggregate emission impacts to the air shed and minimizes the net residuals between unit-level estimates and the eventual observed unit-level performance.

Data from 2017, the first year of ozone season data that would be influenced by the CSAPR Update compliance requirements, is consistent with this assumption on a fleet-wide level. EPA began its engineering analysis to project 2023 EGU emissions with 2016 monitored and reported data. For the units with existing SCRs that were operating above 0.10 lb/mmBtu in 2016 (totaling 82,321 tons of emissions in that year), EPA assumed that SCRs would be optimized under a CSAPR Update scenario to 0.10 lb/mmBtu on average for 2023. This results in 2023 emissions estimates for these units being adjusted

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[47] *See* NO_X Mitigation Strategy TSD *available at https://www.epa.gov/sites/production/files/2017-05/documents/egu_nox_mitigation_strategies_final_rule_tsd.pdf.*

[48] Sargent & Lundy, IPM Model—Updates to Cost and Performance for APC Technologies, SCR Cost Development Methodology, Final, Project 12847–002 (March 2013), *available at https://www.epa.gov/sites/production/files/2015-08/documents/attachment_5-3_scr_cost_methodology.pdf.*

down to 40,590 tons for these units. In 2017, the very first year of CSAPR Update, collective emissions from these units were 41,706 tons. This 2017 value is already very close to the 2023 estimated value, and supports the assumed behavior of optimized SCR performance to 0.10 lb/mmBtu on average. Some of these units operated above 0.10 lb/mmBtu in 2017 (as the commenter points out), but many operated below 0.10 lb/mmBtu, as well. Relying on the fleet-wide average estimate was very consistent with the fleet-wide observed behavior in 2017.

EPA disagrees with the notion that EGU emissions will increase, rather than decrease, in future years of the CSAPR Update implementation, or that the market for allowances would have to price allowances much higher in order for emission reductions to continue. This is not borne out by historical precedent or any economic models. There are a variety of policy and market forces at work beyond CSAPR allowance prices that are anticipated to continue to drive generation to shift from higher emitting to lower emitting sources. As evidenced in prior EPA allowance trading programs, emissions from covered sources generally trend downwards (regardless of allowance price) as time extends further from the initial compliance year.[49] Both the Acid Rain Program and CSAPR SO_2 allowance banks grew in 2017 from their 2016 levels, indicating that sources are collectively adding to the bank (by emitting below state budgets) rather than drawing down the bank because of the availability of low cost allowances. This illustrates that there are multiple drivers affecting emissions, and it is reasonable for EPA to consider those, in addition to CSAPR update incentives, in its projection of 2023 ozone season NO_X levels for EGUs.

Comment: One commenter states that EPA's 2023 modeling contains aspects that ''deviate from past guidance and have not undergone peer review,'' including a new approach to coastal grid cells. The commenter states that the affected community needs to be afforded the opportunity for review and public comment on such approaches.

Response: EPA released 2023 projected ozone design value data for individual monitoring sites in October 2017.[50] These data include ozone design value projections for each site based on the methodology recommended in EPA's photochemical modeling guidance.[51] In addition, EPA provided a companion set of 2023 design values based on an alternative approach for coastal monitoring sites. The commenter had an opportunity to review and analyze the alternative coastal grid cell approach during the public comment period for this action, as well as when the data were released in October 2017. The commenter did not provide any substantive feedback on the alternative approach including reasons why the approach would not be appropriate. EPA also notes that both methods result in the same outcome that all monitoring sites outside of California are not expected to have problems attaining or maintaining the 2008 NAAQS by 2023.

Comment: One commenter contends that reliance on modeling that predicts future compliance by 0.1 ppb when inherent uncertainties are much larger is arbitrary and capricious. The commenter states that the October 2017 Transport Memo speculatively suggests ozone NAAQS attainment without performance of any sensitivity analyses and through incorporation of a series of dubious assumptions, projecting attainment by only 0.1 ppb. Prediction of near-nationwide compliance by 2023 is the product of thousands of inputs, assumptions, and simplifications related to emissions inventories, future power consumption, meteorological conditions, and chemical reactions. The commenter notes natural gas prices as an example of the huge degree of uncertainty in this prediction. The modeling is based on predictions of 2023 emissions, which is based on predictions of power plant fuel utilization based on a guess of future fuel prices in 2023. If gas prices are higher than predicted, the modeling will predict greater dependence on coal-fired generation, predicting higher NO_X emissions, and ultimately under-predict ozone formation.

Response: EPA's modeling results that show the site the commenter refers to, site 090019003 in Fairfield County, Connecticut, is projected to be in compliance of the 2008 NAAQS by three ppb (*i.e.,* 2023 projected average design value is 73.0 ppb). When considering the effects of meteorological variability this site is still projected to be below the level of the NAAQS (*i.e.,* projected maximum design value is 75.9 ppb). Additionally, continuing ozone reductions are expected in future years at all sites due to an estimated 19 percent reduction in ozone season NO_X emissions expected to occur between 2017 and 2023 in the aggregate for the states covered by the CSAPR Update. The commenter provides no data to substantiate their claim that EPA's projected design values are not technically sound and appropriate for use in this rulemaking.

EPA recognizes that there are inherent uncertainties in modeling the future, but EPA believes that the model platform and inputs selected are well-supported and reasonable. The commenter did not provide information to suggest that there is an overall bias in the modeling-based projections. As it has for every air quality modeling exercise, EPA performed a model evaluation, as described in the Air Quality Modeling Technical Support Document for the final CSAPR Update, which compared ozone predictions for 2011 from the modeling platform to actual measured data from that year, in order to test how well the model characterized reality. The model evaluation indicates that the model's predictions corresponded closely to actual measured concentrations in terms of the magnitude, temporal fluctuations, and spatial differences for 8-hour daily maximum ozone.[52] The commenter is correct that EPA's modeling predictions are the result of thousands of inputs, assumptions, and simplifications; this is by definition the exercise of modeling. Moreover, because of the complexity of air quality modeling, courts are deferential to EPA's with respect to those inputs, assumptions, and simplifications. The D.C. Circuit has declined to ''invalidate EPA's predictions solely because there might be discrepancies between those predictions and the real world.'' *EME Homer City II,* 795 F.3d at 135–36. The fact that a ''model does not fit every application perfectly is not criticism; a model is meant to simplify reality in order to make it tractable.'' *Chemical Manufacturers Association* v *EPA,* 28 F.3d 1259, 1264, 307 U.S. App. DC 392 (D.C. Cir. 1994). The court has held that ''it is only when the model bears no rational relationship to the characteristics of the data to which it is applied that we will hold that the use of the model was arbitrary and capricious.'' *Appalachian Power Co.* v. *EPA,* 135 F.3d 791, 802 (D.C. Cir. 1998).

[49] 2014 Program Progress, Clean Air Interstate Rule, Acid Rain Program, and Former NO_X Budget Trading Program. EPA, *available at https://www.epa.gov/sites/production/files/2017-09/documents/2014_full_report.pdf.*

[50] *https://www.epa.gov/airmarkets/october-2017-memo-and-supplemental-information-interstate-transport-sips-2008-ozone-naaqs.*

[51] Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze, U.S. Environmental Protection Agency, Research Triangle Park, NC, *available at http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.*

[52] Air Quality Modeling TSD, *available at https://www.epa.gov/airmarkets/air-quality-modeling-technical-support-document-final-cross-state-air-pollution-rule.*

As demonstrated by EPA's model performance evaluation, the modeling platform used in this rulemaking and EPA's choices as to inputs and assumptions provide reasonable projections of expected future year ozone concentrations and contributions, and is thus an appropriate basis on which to base the findings made in this action.

EPA further disagrees with the commenter's assertion that EGU projections are too uncertain because natural gas fuel prices may be different than those underlying EPA's projections, resulting in greater coal-fired generation and consequently higher emissions. First, EPA notes that power plant emissions are a small portion (approximately 15 percent) of the 2023 eastern states total NO_X emission inventory used to inform the air quality modeling.[53] Relative to mobile sources and other emission categories, EGU emissions projections are a smaller segment of the inventory and just a portion of the impact on the Connecticut modeled attainment status.

Moreover, EPA believes its EGU projections are reasonable and conservative. In developing the 2023 EGU emissions projections, EPA relied on 2016 monitored and reported data and only made emissions adjustments to account for (1) control optimization expected in response to the CSAPR Update implementation beginning in 2017, and (2) any known (*e.g.,* planned and under construction) power plant infrastructure changes, including new builds, retirements, coal-to-gas switching, and SCR retrofit project underway and reported by the owner or operators to the Department of Energy's (DOE) Energy Information Administration (EIA) in EIA Form 860.[54] No adjustments were made for projected, but unannounced, fleet changes estimated to occur by 2023 in response to market conditions and an aging fleet. Because these projected fleet wide changes would have resulted in lower 2023 EGU emission estimates, the EGU emission projections EPA actually used in the modeling were conservative.

EPA also does not agree with the commenter that gas prices are likely to be higher in future years. Average annual natural gas prices ranged from $2.52/mmBtu to $4.37/mmBtu between 2009 and 2016.[55] EPA and other independent analysts expect future natural gas prices to remain low and within this 2009 to 2016 range due both to supply and distribution pipeline build-out. For example, the EIA's 2018 Annual Energy Outlook (AEO) natural gas price projections for Henry Hub spot price range from $3.06/mmBtu in 2018 to $3.83/mmBtu in 2023.[56] Moreover, the AEO short-term energy outlook and New York Mercantile Exchange futures further support the estimates of a continued low-cost natural gas supply.[57] These independent analyses of fuel price data and projections lead to EPA's expectation that fuel-market economics will continue to support natural gas consumption during future ozone seasons through at least 2023 in a manner similar to recent historical levels. These lower natural gas price outlooks suggest, if anything, lower emissions projections, not higher. Consistent with this outlook, industry has announced significant new waves of coal retirements since 2016—which is also consistent with a less emissions-intensive outlook than that captured by EPA's use of 2016 EGU data as its starting point for emissions inventory purposes in this action. EPA agrees that there is some uncertainty in fuel prices that consequently casts uncertainty on future emissions projections. However, for the reasons discussed herein, EPA believes its assumptions are both reasonable and conservative. Moreover, EPA notes that many of the assumptions factored into its 2023 projections are firm (*e.g.,* retirements) and therefore not sensitive to future fuel price changes.

The reasonableness, conservativeness, and feasibility of EPA assumptions are illustrated by the first year of CSAPR compliance emission levels in 2017. Emissions in 2017 dropped (in just one year) by 21 percent from 2016 levels and were 7 percent below the CSAPR budget for the 22 affected states. EPA 2023 projections for the same set of states were 10 percent below the CSAPR budget, meaning in just one-year states have already achieved the majority of the EGU reduction anticipated by EPA and are well above pace to be at or below that level by 2023. For Kentucky specifically, ozone season NO_X EGU emissions dropped from 25,402 tons in 2016 to 19,978 tons in 2017 for EGUs greater than 25 MW. This reflects a 21 percent reduction in just one year of the total 33 percent reduction assumed for the state by 2023.[58]

Comment: One commenter provided 2017, 2020, and 2023 projected design values based on air quality modeling by the Ozone Transport Commissions (OTC) using the Community Multi-scale Air Quality Model (CMAQ) and design values for 2023 using the Comprehensive Air Quality Model with Extensions (CAMx) in conjunction with emissions inventory projections from the Mid-Atlantic Regional Air Management Association (MARAMA). The commenter also included the 2023 projected design values based on EPA's CAMx modeling. The commenter includes a sample of the results and points to predicted 2023 design values based on CMAQ that are above the NAAQS at the Westport, Connecticut and Susan Wagner, New York monitors. The commenter states that the CMAQ results are ''considerably different'' from EPA's CAMx modeling.

Another commenter states that EPA's modeling as well as modeling conducted by Alpine produce overly optimistic projection of future year ozone levels. The commenter includes a table that the commenter characterizes as indicating 2017 measured design values considerably higher than those projected at all Connecticut monitoring sites as well as indicating Kentucky contributions of greater than 1 percent at two Connecticut monitors after contributions are scaled relative to 2017 measured air quality levels. The commenter states that Kentucky's proposed SIP fails to address the underprediction of the modeling.

Response: EPA does not agree that the modeling provided by commenters should affect EPA's reliance on its own 2023 modeling. The first commenter provided projected design values at 41 monitoring sites along the Northeast Corridor for each model run. Of these 41 sites, all but two had base year design values that exceeded the 2008 NAAQS. The modeling results show that the EPA and OTC CAMx-based 2023 design value projections are consistent on an individual site basis for all 41 sites. Both sets of CAMx modeling indicate that the 41 sites will be below the 2008 NAAQS by 2023.

In addition, the CMAQ 2023 design values are consistent with both sets of CAMx-based 2023 projections at nearly

[53] *Available at ftp://newftp.epa.gov/Air/emismod/2011/v3platform/reports/2011en_and_2023en/2023en_cb6v2_v6_11g_state_sector_totals.xlsx.*

[54] Additional Updates to Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform for the Year 2023 Technical Support Document, EPA, October 2017, *available at https://www.epa.gov/sites/production/files/2017-11/documents/2011v6.3_2023en_update_emismod_tsd_oct2017.pdf.*

[55] *http://tonto.eia.gov/dnav/ng/hist/rngwhhda.htm.*

[56] In the 2018 reference case AEO released February 6, 2018, created by the U.S. EIA, natural gas prices for the power sector for 2018 through 2023. *Available at https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2018&cases=ref2018&sourcekey=0.*

[57] AEO short-term energy outlook, *available at https://www.eia.gov/outlooks/steo/report/natgas.php.*

[58] *See* Engineering Analysis—Unit File, *available at ftp://ftp.epa.gov/EmisInventory/2011v6/v3platform/reports/2011en_and_2023en/.*

all sites. That is, CMAQ modeling indicates that all but two of the 41 sites will be below the 2008 NAAQS by 2023. The two sites projected to exceed the 2008 NAAQS in 2023 with CMAQ, but not the OTC and EPA CAMx modeling, are the Westport site in Connecticut and the Susan Wagner High School site in New York.

The CMAQ projections for these two sites are not only inconsistent with the CAMx modeling, but they are also inconsistent with the CMAQ modeling for other nearby sites in Connecticut, New York, and New Jersey. For example, based on the CMAQ modeling, ozone at the Susan Wagner site is projected to decline by only five percent between 2011 and 2023, whereas at a site in nearby Bayonne, New Jersey, ozone is projected to decline by 13 percent over this same period. Similarly, ozone at the Westport site is projected to decline by only three percent between 2011 and 2023 with CMAQ, but at other sites along the Connecticut coastline (*i.e.,* sites in Greenwich, Stratford, and Madison) ozone is projected to decline by 10 to 19 percent. In addition, the CMAQ results for these two sites are inconsistent with ozone reductions predicted by CMAQ at other sites in the New York City area which range from 11 to 18 percent. While it is possible ozone levels in 2023 at the Westport and/or Susan Wagner sites may be higher than at other sites in the New York City area, the commenter fails to provide any explanation regarding the large difference in the CMAQ-based model response to emissions reductions at these two sites compared to nearby sites and to other sites in the New York area. Based on the complicated photochemistry in the New York City area, it is possible that ozone monitoring sites closest to the New York City NO_X emissions plume may be less responsive to NO_X controls compared to sites further downwind. Due to non-linear chemistry, sites very close to the city may experience increases in ozone or less reduction than other nearby sites on some days in response to local emissions reductions in NO_X. Thus, we might expect that monitoring sites in Connecticut that are closer to New York City would show less reduction in ozone than sites in Connecticut that are further downwind. However, as noted above, in the OTC CMAQ modeling, the closest downwind Connecticut site (Greenwich) has a 10-percent modeled ozone reduction, while the Westport site, which is further downwind, has only a 3-percent modeled ozone reduction. The commenter did not provide any information to explain why the OTC CMAQ modeling results for the Westport, Connecticut and Susan Wagner, New York monitoring sites are dissimilar to other near-by sites or why the CMAQ modeling provides a more representative ozone projection for these two sites compared to the EPA and OTC CAMx-based modeling results.

The second commenter contends that modeling by EPA and Alpine for 2023 is overly optimistic because EPA's modeled ozone design values for 2017 are higher than the preliminary 2017 design values for certain monitoring sites in Connecticut. The results of the air quality modeling performed by the OTC show that the results of the CAMx modeling by EPA and Alpine are consistent with the OTC's 2023 CAMx modeling results. Specifically, the EPA, Alpine, and OTC CAMx modeling all project that all sites identified by the commenter as having preliminary 2017 measured design values exceeding the 2008 NAAQS will be in compliance with that NAAQS by 2023. These CAMx results are also consistent with the OTC CMAQ modeling, except for one site in Westport, Connecticut, that CMAQ predicts will still violate the 2008 NAAQS in 2023. However, the CMAQ modeling for this site is inconsistent with other available modeling from EPA, the OTC, and Alpine, as described in the paragraph above.

In addition, the commenter compared the preliminary 2017 measured design values to EPA's projected 2017 average design values, but did not demonstrate that the modeling was generally biased. In particular, the commenter ignored EPA's projected maximum design values. The projected maximum design values are intended to represent future ozone concentrations when meteorological conditions are more favorable to ozone formation than the average. Comparing both the 2017 modeled average design values and maximum projected design values to the preliminary 2017 measured design values indicates that the projected maximum design values are, in most cases, closer in magnitude to the 2017 preliminary measured design values than the 2017 model-projected average design values listed in the comments.

Further, while the modeling-based projections may have understated observed design values at certain monitoring sites in Connecticut, this was not the case for other 2017 receptor sites in the Northeast Corridor. For example, at other receptor sites in the New York area in Suffolk and Richmond counties, New York, the measured 2017 design values were within 0.2 ppb of the model-predicted average design values. At the site in Philadelphia County, Pennsylvania the modeled 2017 maximum design value was 1.1 ppb lower than the corresponding measured value and at the site in Harford County, Maryland, the modeled value was higher, not lower, than the measured 2017 design value. It is not unreasonable that there may be some differences between the modeling-based projections for a future year in part because the meteorology of the future year cannot be known in advance. While EPA recognizes that there are uncertainties in the modeling, the results for the 2017 receptor sites in the Northeast do not, on balance, show a consistent bias.

Even though the preliminary 2017 measured design values at the eight sites identified by the commenter are still measuring violations of the 2008 NAAQS, it is entirely reasonable to project that these sites will be in attainment by 2023 as a result of the roughly 19 percent reduction in aggregate ozone season NO_X emissions that is expected to occur between 2017 and 2023 for the states covered by the CSAPR Update. As mentioned earlier, because of the high NO_X emissions in the New York City area and the non-linear chemistry associated with ozone formation, the benefits of NO_X emissions reductions may not have been fully realized to date at downwind sites in Connecticut. More notable reductions in ozone at these sites are expected as NO_X emissions decline further, in response to existing control programs and other factors influencing emissions. A large short-term reduction in ozone is not unprecedented at historically high ozone sites in other parts of the Northeast Corridor. Specifically, the measured design values at the Edgewood monitoring site in Harford County, Maryland, which is downwind of the Baltimore/Washington, DC urban area, declined by nearly 20 percent between 2012 and 2014 and have been below the level of the 2008 NAAQS since 2014, as shown by the data in the table below. Thus, EPA disagrees that the monitored data cited by the commenter indicates that the modeling projections are unreliable.

DESIGN VALUES (PPB) AT EDGEWOOD SITE IN HARFORD COUNTY, MD, 2007 THROUGH 2017

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Preliminary 2017
Design Value	94	91	87	89	92	93	85	75	71	73	75

Comment: One commenter asserts that the 2023 modeling provided by EPA does not provide a ''full remedy'' because it shows that Kentucky still significantly contributes to ozone levels (which the commenter contends is defined by a contribution greater than 1 percent of the NAAQS, or 0.75 ppb) across Delaware between 1.10 and 2.53 ppb in 2023. Although the modeling shows attainment in Delaware in 2023, the commenter contends that Kentucky should not presume Delaware or any other state will be attaining the 2008 ozone NAAQS in 2023. The commenter notes that monitors in Delaware are currently meeting the 2008 ozone NAAQS, but that other monitors in the Philadelphia nonattainment area are exceeding the NAAQS (noting the Bristol, Pennsylvania monitor with a 2014–2016 design value of 77 ppb), despite the fact that EPA officially declared the nonattainment area had attained.

Another commenter states that the CSAPR Update ''clearly established'' Kentucky's significant contribution to the Richmond County monitor, and disagrees with EPA's proposed amendment to reflect that the CSAPR Update provides a full remedy to Kentucky's transport obligation because in EPA's 2023 modeling ''Kentucky is still shown to be significantly contributing to monitors'' in the New York City metropolitan area, the area currently exceeds the NAAQS ''by a significant margin,'' and the area will likely continue to exceed the NAAQS in 2023 ''once the issues with EPA's projection modeling are addressed.

Response: EPA disagrees with the commenters' assertion that an impact in a downwind area above the 1 percent threshold necessarily indicates that an upwind state significantly contributes to nonattainment or interferes with maintenance of the NAAQS in a downwind state. The good neighbor provision first requires the identification of a downwind nonattainment or maintenance problem before emission reductions may be required, regardless of the upwind state impact on downwind ozone concentrations. *See EME Homer City II,* 795 F.3d at 129–30 (finding emission budgets invalid where air quality modeling showed downwind nonattainment and maintenance problems would be resolved). As the commenter notes, EPA's modeling shows that no areas in the East will have downwind air quality problems with respect to the 2008 ozone NAAQS in 2023, and thus EPA's analysis is complete at step one of the four-step framework. As discussed earlier, although monitors may currently measure exceedances of the NAAQS, EPA interprets the term ''will'' in the good neighbor provision to permit consideration of projected air quality in an appropriate future year. *See North Carolina,* 531 F.3d at 913–14.

Moreover, even if a downwind air quality problem had been identified, the fact that an upwind state would contribute at or above the 1 percent threshold to downwind nonattainment and maintenance receptors in step two of EPA's framework does not by itself indicate that the state would be considered to ''contribute significantly'' or ''interfere with maintenance'' of the NAAQS. The finding that a state's downwind impact would meet or exceed this threshold only indicates that further analysis is appropriate to determine whether any of the upwind state's emissions meet the statutory criteria of significantly contributing to nonattainment or interfering with maintenance. This further analysis in step three of EPA's four-step framework considers cost, technical feasibility and air quality factors to determine whether any emissions deemed to contribute to the downwind air quality problem must be controlled pursuant to the good neighbor provision.

Thus, the commenter is incorrect to assert that EPA's 2023 modeling shows that Kentucky significantly contributes to ozone levels in Delaware.

Comment: One commenter points to the 2023 modeling performed by Alpine indicating greater than a 1 percent contribution by Kentucky to New Jersey. The commenter points specifically to the Ocean County and Colliers Mill monitoring sites in New Jersey as receiving 1.48 ppb of ozone from Kentucky.

Response: There is only one ozone monitoring site in Ocean County New Jersey and that site is located in Colliers Mills.[59] This site is currently monitoring attainment of the 2008 ozone NAAQS based on a 2014–2016 design value of 73 ppb, and preliminary data indicates that the 2015–2017 design value remains at 73 ppb. This site is also projected to be in attainment of the 2008 ozone NAAQS in 2023. That is, this site is not expected to have a problem attaining or maintaining the 2008 NAAQS in 2023 that would warrant consideration of further upwind reductions in Kentucky.

Comment: One commenter states that EPA's 2023 contribution assessment methodology, which uses average exceedance day ozone contribution, does not capture what happens on a daily basis for ozone formation and is inconsistent with how the states are required to use ''peak'' ozone days when they demonstrate attainment of the ozone standard. Ozone episodes are dependent on variation in daily weather patterns and energy generation dispatch.

The commenter notes that Maryland has recently conducted modeling that shows that certain meteorological regimes will show very large contribution while other meteorological regimes show lower contribution. The commenter states that the days when Kentucky's contribution in the model is very high are generally the same type of days that Maryland expects will drive the attainment process, where peak days are used to calculate design values using measured, not modeled data. The commenter states that this can be resolved by requiring the largest emitters of ozone precursors, coal-fired EGUs with SCR and SNCR, to optimize those controls every day of the ozone season.

Response: EPA does not believe the methodology used to evaluate upwind state contributions to downwind air quality problems is relevant to this action, because, as noted in the NPRM and earlier this action, EPA's modeling shows that there are projected to be no remaining air quality problems identified in the East in 2023. Accordingly, EPA's analysis concludes at step one of the four-step framework, and as discussed earlier in this action, the level of Kentucky's contribution to any downwind monitoring cites in 2023, which would not be addressed until step two of the four-step

[59] *See* Figure 4–5 in the 2016 New Jersey Air Quality Report, New Jersey Department of Environmental Protection, Bureau of Air Monitoring, December 7, 2017, *available at http://www.njaqinow.net/.*

framework, is therefore irrelevant. Moreover, to the extent the commenter refers to Kentucky's contribution to downwind air quality problems in EPA's 2017 modeling conducted for the CSAPR Update, EPA has already acknowledged that Kentucky was linked to the ozone monitoring site in Harford County, Maryland. Thus, whether or not Kentucky's contribution would have been higher in 2017 based on examining impacts on ''peak'' ozone days is also irrelevant because EPA already quantified and implemented emission reductions for Kentucky in the CSAPR Update based on this linkage.

Nonetheless, EPA disagrees that its method for calculating contribution from upwind states to downwind receptors is inconsistent with how the states are required to demonstrate attainment of the ozone NAAQS. EPA's modeling guidance recommends that states calculate future year ozone projections based on 5-year weighted *average* design values and on the *average* base year and future year concentrations across the highest base year concentration days.[60] Similarly, EPA's method for calculating the *average* contribution metric in the CSAPR Update was based on the *average* contribution across the days with the highest future year concentrations.

Comment: One commenter states that the CSAPR Update, by its own terms, does not fully satisfy section 110(a)(2)(D) for the 2008 ozone NAAQS. Rather than rely on the CSAPR Update, Kentucky's SIP revision must evaluate the Commonwealth's expected contribution to downwind nonattainment and include provisions to prevent those contributions in a timely fashion. The commenter cites *North Carolina's* conclusion that ''a complete remedy to section 110(a)(2)(D)(i)(I) . . . must do more than achieve something measurable; it must actually require elimination of emissions from sources that contribute significantly and interfere with maintenance in downwind nonattainment areas.'' 531 F.3d at 908.

The commenter notes that, in the final CSAPR Update, EPA explained that downwind air quality problems would remain after implementation, and that the rule was limited by EPA's focus on ''immediately available reductions'' that could be implemented by the 2017 ozone season. The commenter further states that EPA's October 2017 Transport Memo conceded that the CSAPR update only partially addressed the requirements of the good neighbor provision, noting in a footnote that the memo indicates continued nonattainment in Philadelphia, which is linked to Kentucky in the CSAPR Update.

The commenter contends that Kentucky has undertaken no independent analysis of whether any emission reductions that have occurred as a result of its implementation of the CSAPR Update have actually eliminated the Commonwealth's significant contribution to nonattainment or maintenance monitors in linked downwind states. Given Kentucky's largest downwind contribution was 10.8 ppb to ozone concentrations at a maintenance monitor in Ohio in 2017, the commenter asserts that it is highly improbable that the modest reductions in NO_X emissions from Kentucky plants that have occurred since the implementation of the CSAPR Update have eliminated this significant linkage. The commenter notes in a footnote that Kentucky reduced NO_X emissions during the ozone season by about a third in implementing the CSAPR Update, and accordingly retained a similar majority of its downwind impacts, well above the 0.75 ppb threshold of ''significant contributions.''

Response: While EPA indicated that the CSAPR Update FIPs ''*may* not be sufficient to fully address these states' [including Kentucky's] good neighbor obligations'' for the 2008 ozone NAAQS (emphasis added), EPA did not definitely determine that additional reductions were required. 81 FR 74521. Rather, EPA acknowledged that additional analysis would be required to determine the full extent of the good neighbor obligation. Kentucky's SIP submission and EPA's review in this action conduct this additional assessment by analyzing downwind ozone concentrations relative to the 2008 ozone NAAQS in a future analytic year, considering downwind attainment dates and anticipated compliance timeframes for potential, additional emission reductions. The results of this analysis show that the downwind air quality problems to which Kentucky was linked in 2017 are resolved by 2023, and thus concludes that the emission reductions required by the CSAPR Update provide a complete remedy under the good neighbor provision for the 2008 ozone NAAQS. EPA therefore disagrees that EPA's approval of Kentucky's SIP is inconsistent with the court's holding in *North Carolina,* because EPA has in fact required meaningful emission reductions from sources in Kentucky via the CSAPR Update FIP.

Moreover, as explained earlier in this action, an impact in a downwind area above the 1 percent threshold does not necessarily indicate that an upwind state significantly contributes to nonattainment or interferes with maintenance of the NAAQS in a downwind state. The good neighbor provision first requires the identification of a downwind nonattainment or maintenance problem before emission reductions may be required, regardless of the upwind state impact on downwind ozone concentrations. *See EME Homer City II,* 795 F.3d at 129–30 (finding emission budgets invalid where air quality modeling showed downwind nonattainment and maintenance problems would be resolved). Thus, although emissions from Kentucky may continue to impact air quality in other states in 2023, this impact is not impermissible under the good neighbor provision given EPA has projected that there will be no air quality problems that could trigger upwind control obligations.

Comment: One commenter contends that EPA takes two contradictory positions regarding its application of the four-step framework designed to assist states in determining good neighbor SIP obligations under the CAA, citing the January 2015 Transport Memo. The commenter notes that, based on 2017 modeling conducted for the CSAPR Update, EPA acknowledged that Kentucky is linked to Maryland's Harford County monitor, which will continue to have maintenance problems in the near future. However, instead of completing the analysis at steps 3 and 4 using 2017 as a baseline, EPA returned to step one, performed new modeling for 2023, and used that modeling to determine that there will be no remaining air quality problems outside of California.

The commenter further contends that reliance on 2023 modeling is inappropriate because the attainment deadline for Harford County is July 2018, and Maryland must continue to maintain thereafter. The commenter states that EPA should have completed all steps of the four-step framework using a consistent base year since EPA's own modeling identified Kentucky as currently linked to the Harford County receptor. EPA should have identified the emissions reductions necessary to prevent Kentucky from significantly contributing to nonattainment or interfering with maintenance in Maryland, and required Kentucky to

[60] Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze, U.S. Environmental Protection Agency, Research Triangle Park, NC, *available at http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.*

adopt permanent and enforceable measures needed to achieve identified emission reductions as expeditiously as practicable. The commenter asserts that Kentucky's obligation to reduce its current contribution to Maryland's 2017 maintenance monitor cannot properly be offset based on projections about future air quality which may or may not occur in 2023.

Response: The commenter misunderstands EPA's analysis in this rule and the operation of the four-step framework. EPA agrees that Kentucky was linked to the Harford County receptor in step two of EPA's four-step framework based on the 2017 modeling conducted for the CSAPR Update. Based on that determination, EPA already evaluated and quantified, at step three, feasible and cost-effective emission reductions that were required to address Kentucky's good neighbor obligation with respect to that receptor in the CSAPR Update, and implemented those emission reductions at step four through the requirement that EGUs in Kentucky participate in the CSAPR NO_X Ozone Season Group 2 allowance trading program. Thus, EPA has completed steps 3 and 4 with respect to the 2017 modeling analysis.

However, as explained in the CSAPR Update, EPA could not conclude that the rule fully addressed CAA section 110(a)(2)(D)(i)(I) obligations for 21 of the 22 CSAPR Update states, including Kentucky. Specifically, EPA determined that downwind air quality problems would remain after implementation of the CSAPR Update, including at the Harford County monitor, and EPA could not conclude at that time whether additional EGU and non-EGU reductions implemented on a longer timeframe than 2017 would be feasible, necessary, and cost-effective to address states' good neighbor obligations for this NAAQS.

Given that any additional emission reductions, if necessary, would be implemented at some point after 2017, it is reasonable for Kentucky and EPA to evaluate air quality (at step one of the framework) in a future year that is aligned with feasible control installation timing in order to ensure that the upwind states continue to be linked to downwind air quality problems when any potential emissions reductions would be implemented and to ensure that such reductions do not over-control relative to the identified downwind ozone problem. *See EME Homer City,* 134 S. Ct. at 1608. Here, EPA has determined that the air quality problems identified at the Harford receptor with respect to the 2008 ozone NAAQS will be resolved by 2023. Accordingly, EPA does not have the authority to require additional emission reductions from sources in Kentucky in that year. *See EME Homer City II,* 795 F.3d at 130 (determining that CSAPR ozone season budgets for 10 states are invalid based on determination that modeling showed no future air quality problems).

Comment: One commenter asserts that the good neighbor provision does not permit a state to delay its elimination of significant downwind contribution indefinitely. EPA made nonattainment designations for areas where Kentucky is making a significant contribution and therefore EPA's proposal to delay enforcing Kentucky's good neighbor obligations for another five years violates the good neighbor provision. Kentucky's SIP fails to address Kentucky's present and ongoing significant contribution to nonattainment or interference with maintenance of the NAAQS in downwind areas including the New York-Northern New Jersey-Long Island, NY-NJ-CT nonattainment area in the NYMA.

The commenter states that the CSAPR Update established Kentucky's significant contribution to the Richmond County monitor in 2017, which is part of the NYMA that measured nonattainment for the 2008 ozone NAAQS during 2017. The commenter contends that EPA's proposed approval provides no modeling or monitoring data showing that Kentucky's significant contribution to NYMA nonattainment has presently ceased or that it will cease at any time prior to 2023. Therefore, the commenter opposes the modification of EPA regulations to reflect that the CSAPR Update fully addresses Kentucky's transport obligation.

The commenter states that Kentucky's significant contribution to nonattainment and/or maintenance problems for New York under the 2008 ozone NAAQS are present nearly 10 years after EPA promulgated the NAAQS, seven years after the SIP was due, and five years after EPA's FIP was due. Yet Kentucky's SIP looks out another five years before concluding it is feasible for Kentucky to comply with its good neighbor obligations. EPA's 2023 modeling is 15 years after promulgation of the NAAQS and delays compliance without statutory authority, effectively permitting Kentucky's continuing violation of the good neighbor provision.

Response: EPA disagrees that it has allowed Kentucky to delay addressing its good neighbor obligation indefinitely. Rather, EPA promulgated a FIP for the Kentucky in the CSAPR Update that has required EGUs in the Commonwealth to limit their collective emissions beginning 2017. As discussed earlier, EPA could not conclude whether or not the FIP was sufficient to address the state's good neighbor obligation for Kentucky without further analysis, and EPA therefore further disagrees with the commenter's assertion that Kentucky has continued to violate its obligation after implementation of the CSAPR Update. As discussed earlier, the fact that emissions from the Commonwealth may continue to impact air quality in other states does not conclude the question of whether that impact constitutes a significant contribution or interference with maintenance of the NAAQS under the good neighbor provision.

In order to determine whether Kentucky had any remaining emission reduction obligations with respect to the 2008 ozone NAAQS, additional analysis was necessary. EPA explained in the NPRM and earlier in this action why it was appropriate to evaluate air quality in a future analytic year to determine whether the Commonwealth would have any further emission reduction after implantation of the CSAPR Update and how the choice of a 2023 analytic year was consistent with legal precedent. Thus, EPA does not agree that its approval of Kentucky's SIP improperly delays compliance with the good neighbor provision for the 2008 ozone NAAQS.

Comment: One commenter states that EPA must issue a FIP for the Commonwealth of Kentucky consistent with the obligations of CAA section 110(a)(2)(D) as well as the court's order in *Sierra Club* v. *Pruitt,* No. 3:15–cv–04328–JD (N.D. Cal. May 23, 2017), directing EPA ''to promulgate the Kentucky FIP by June 30, 2018.''

Another commenter contends that EPA's proposed approval of the Kentucky SIP does not obviate its duty to issue a fully compliant FIP for Kentucky by the June 30, 2018 deadline in accordance with the court's order.

A further commenter states that states were required to submit SIPs addressing the good neighbor provision for the 2008 ozone NAAQS by March 2011, and that EPA disapproved Kentucky's SIP on March 4, 2013. This finding triggered EPA's mandatory duty under CAA section 110(c)(1) to promulgate a FIP for Kentucky within two years: By March 7, 2015. When EPA failed to act, Sierra Club and New York sued EPA in the United States District Court for the Northern District of California to require EPA to adopt a FIP addressing Kentucky's good neighbor obligations. The commenter notes that the Supreme

Court found that section 110(c)(1) ''impose[s] an absolute duty on EPA to issue [a] FIP within two years of Kentucky's failure to adopt an adequate state implementation plan,'' *EME Homer City,* 134 S. Ct. at 1600, and that EPA did not contest its liability to issue a FIP for Kentucky based on the SIP disapproval. The District Court ordered EPA ''to promulgate the Kentucky FIP by June 30, 2018.''

The commenter contends that the Kentucky SIP cannot be approved because it requires insufficient action to reduce Kentucky's significant contribution to nonattainment in the NY-NJ-CT multistate nonattainment area by the CAA's mandatory attainment deadlines of July 2018 (moderate areas) and July 2021 (serious areas). The commenter asserts that EPA's failure to propose a FIP by June 30, 2018, is another instance of EPA's failure to carry out its mandatory duty under section 110(c) with respect to Kentucky's transport obligations, and a clear violation of the District Court's order.

Response: EPA disagrees that this action fails to satisfy the requirements of the court's order in *Sierra Club* v. *Pruitt.* While the commenters are correct that section 110(c)(1)(B) requires the Administrator to promulgate a FIP within two years after the Administrator disapproves a SIP in whole or in part, the provision further qualifies this obligation. The Administrator is to promulgate a FIP ''*unless* the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such [FIP].'' Thus, once EPA has approved a SIP that EPA determines addresses the deficiency that was the subject of the prior SIP disapproval, the Administrator no longer has the authority (much less the obligation) to promulgate a FIP.

As to the requirements of the good neighbor provision for the 2008 ozone NAAQS, EPA has promulgated a FIP for Kentucky in the CSAPR Update. While EPA indicated that the CSAPR Update FIPs ''*may* not be sufficient to fully address these states' [including Kentucky's] good neighbor obligations'' for the 2008 ozone NAAQS (emphasis added), EPA did not definitely determine that additional reductions were required. *See* 81 FR 74521 (October 26, 2016). Rather, EPA acknowledged that additional analysis would be required to determine the full extent of the good neighbor obligation. Thus, the only remaining deficiency after promulgation of the CSAPR Update FIP was to determine what, if any remaining emission reduction obligation would apply to the states, including Kentucky. EPA has determined, in this SIP action, that no further emission reductions are required for the 2008 ozone NAAQS, and thus, that the CSAPR Update FIP fully addresses Kentucky's good neighbor obligation. Accordingly, EPA lacks authority to issue any further FIP since the CSAPR Update has fully addressed the deficiency identified in the initial SIP disapproval that triggered EPA's FIP obligation.

Moreover, to the extent the commenters contend that the court's citation to the Supreme Court's decision in *EME Homer City,* 134 S. Ct. at 1600, precludes EPA's use of a SIP approval to address the remaining deficiency, the commenters misrepresent the holding of the Court. Importantly, the Court was emphasizing the ''absolute'' nature of EPA's mandate in order to counter arguments from the respondents and the lower court that EPA's FIP authority was contingent on an obligation to take some action other than to find that the state has failed to submit an approvable SIP. While the Court did state that EPA has an absolute mandate to promulgate a FIP upon a SIP disapproval, the court also acknowledged, repeatedly, that the state could first ''correct the deficiency'' through submission of a SIP. *Id.* at 1600–01 (emphasizing twice that EPA's obligation to issue a FIP can be affected if the state ''correct[s] the deficiency'' on its own). That is precisely what has occurred here with respect to the portion of the good neighbor deficiency not already addressed by the CSAPR Update. Thus, EPA's action is consistent with section 110(c) and therefore consistent with the Northern District of California's order that EPA address its obligation under section 110(c) as it pertains to Kentucky's good neighbor obligation for the 2008 ozone NAAQS.

Comment: Several commenters contend that EPA is inappropriately parallel processing the Kentucky SIP in light of the ''significant number and scope'' of public comments raised during the state public comment process. The commenters state that Kentucky should have been required to address comments prior to EPA's proposed approval. One commenter contends that EPA's proposed approval of the Kentucky SIP on the condition that the final SIP contain no substantial changes removes any incentive for Kentucky to address the public comments by making necessary changes. The commenter further asserts that Kentucky's SIP is controversial and contested, and thus, parallel processing is inappropriate. To support this assertion, the commenter notes that EPA denied a petition brought under section 176A, which is currently subject to review in the D.C. Circuit, that involves claims of transported ozone pollution from Kentucky and other upwind states. The commenter further states that EPA's only apparent reason for parallel processing is the court-ordered deadline to promulgate a FIP by June 30, 2018, and that EPA's own inaction is no excuse for taking rushed, unreasonable, arbitrary and capricious action to approve a deficient SIP.

Response: EPA disagrees with the commenters' assertions that parallel processing is inappropriate in these circumstances. Parallel processing is a well-established procedure for acting on SIP submissions that is allowed under long-standing EPA regulations. Appendix V to 40 CFR part 51 (Appendix V) provides the criteria for determining the completeness of SIP submittals and the procedures for parallel processing. These procedures, set forth in paragraph 2.3 of Appendix V, allow a state to request parallel processing as the state is accepting comments and finalizing its SIP revision. Under parallel processing, the state submits a copy of a draft SIP submittal to EPA before conducting its public hearing. EPA reviews the draft submittal and, if EPA believes it is approvable, publishes an NPRM during the same timeframe that the state is holding its public hearing. The state and EPA then provide for concurrent public comment periods on both the state action and the federal action, respectively.

Although parallel processing expedites action on SIP submissions, it does not limit EPA's substantive review. EPA evaluates the draft submittal against the same approvability criteria as any other SIP submission, and the final submission must meet all of the necessary SIP completeness criteria, including the requirement that the submission contain a ''[c]ompilation of public comments and the State's response thereto.'' *See* Appendix V, paragraphs 2.1(h) and 2.3.2. Therefore, a state must respond to comments received during the state public comment period. Parallel processing does not remove the incentive for a state to revise its SIP submission in response to comments that raise valid approvability concerns because ultimately EPA cannot approve a submission that fails to meet all approvability criteria.

EPA is not taking a rushed, unreasonable, or arbitrary and capricious action by using parallel processing to act on Kentucky's SIP submission. Kentucky submitted a

parallel processing request, as allowed under paragraph 2.3.1 of Appendix V, and EPA is following the criteria set forth in Appendix V to approve the Commonwealth's final submittal. These criteria do not exclude certain types of SIP submissions from parallel processing because all SIP submissions reviewed through this process must ultimately meet all completeness and approvability criteria regardless of the number of comments received or the degree of controversy. Furthermore, EPA provided the public with a full opportunity to comment on the draft submittal and has fully evaluated all of the submitted comments. If these comments had identified specific issues that would not allow EPA to approve the draft SIP submission, EPA could not have taken this final action.

Comment: One commenter suggests that a declaration filed in another pending lawsuit demonstrates that EPA has prejudged its approval of Kentucky's proposed SIP submission, by noting that the declaration states EPA has proposed an ''unconditional approval.'' This appears to be contrary to what was stated in EPA's proposed approval, wherein EPA stated that the approval is contingent on Kentucky addressing any comments in the state-level process. The declaration further states that ''EPA intends to finalize an appropriate action for Kentucky'' by the court-ordered deadline. The commenter contends that, because of the public notice and hearing requirements under CAA section 307(d), and because EPA has not yet proposed a FIP, the only action EPA has left itself is to approve Kentucky's deficient SIP regardless of any public comments it receives.

Response: The commenter misinterprets the reference to proposed ''unconditional approval'' of Kentucky's SIP made in the declaration of Reid Harvey filed in *New York* v. *Pruitt,* No. 18–cv–406 (S.D.N.Y.). Section 110(k)(4) permits the Administrator to issue a ''conditional'' approval of a SIP based on a commitment of a state to adopt specific measures within one year of the final action. If the state fails to meet this commitment, the conditional approval is treated as a disapproval. Mr. Harvey's declaration used the term ''unconditional approval'' to indicate that the proposed approval was *not* made pursuant to section 110(k)(4). The use of this term is unrelated to the contingencies associated with the parallel processing requirements, which are laid out in Appendix V to 40 CFR part 51 rather than in section 110.

Moreover, EPA does not agree that the Agency has been forced to approve a deficient SIP based on the court-ordered deadline and the procedural requirements for the promulgation of a FIP. For the reasons explained in the NRPM and in this action, EPA finds that Kentucky's SIP submission, together with the CSAPR Update, fully satisfies the requirements of the good neighbor provision with respect to the 2008 ozone NAAQS. However, had EPA determined that it could not finalize approval of Kentucky's SIP and would instead need to promulgate a FIP, EPA would have filed an appropriate motion with the district court requesting an extension of the court-ordered deadline.

Comment: One commenter contends that approving the Kentucky SIP and putting the October 2017 Transport Memo into effect will effectively foreclose any further good neighbor activities under the 2008 ozone NAAQS and EPA will have reversed its position in the CSAPR Update that more NO_X controls were necessary. EPA deferred action under section 176A of the CAA by indicating it would enforce good neighbor obligations through other mechanisms like the transport rule framework. The commenter asserts that EPA effectively shifts the burden onto downwind states to cope with upwind pollution sources while denying downwind state any means to enforce good neighbor obligations.

The commenter continues that EPA's failure is forcing downwind states to attempt to address Kentucky's and other upwind states' contributions to ozone concentrations via other, resource-intensive CAA mechanisms. The commenter cites a recent petition submitted by Maryland under CAA section 126 identifying three coal-fired units in Kentucky to which EPA has to date failed to respond. The commenter also cites a petition submitted pursuant to CAA section 176A to expand the OTR, which EPA denied. The commenter claims it is arbitrary and capricious for EPA to point to separate CAA provisions as an excuse for inaction on the ozone transport problem, and to reverse itself without confronting its prior position.

Another commenter states that New York's recent submittal of a section 126 petition to EPA buttresses Connecticut's claims and that notes that such petition names stationary sources in Kentucky as ''interfer[ing] with attainment'' of the New York-New Jersey-Connecticut nonattainment area. The commenter states that EPA has referred to section 126 petitions as one of the tools available to states seeking attainment with the ozone NAAQS, yet they would not be required if upwind states and EPA satisfied their obligations in a timely matter.

Response: EPA disagrees that it has changed its position in the CSAPR Update regarding the need for additional emission reductions. In that rulemaking, EPA only stated it could not conclude, without further analysis, whether additional reductions from NO_X sources would be necessary to fully resolve these obligations. This conclusion is not inconsistent with EPA's action on the section 176A petition seeking to expand the OTR. EPA denied the section 176A petition because it concluded that any remaining interstate transport problems could be better addressed via the good neighbor provision, which EPA and the states can use to make decisions regarding which precursor pollutants to address, which sources to regulate, and what amount of emission reductions to require, flexibilities that are not available with respect to control requirements applicable to sources in the OTR. *See* 82 FR 51244–46 (November 3, 2017). EPA has subsequently completed further analysis that shows that there will be no remaining air quality problems in 2023 in the eastern U.S., and thus EPA has concluded that no additional reductions from upwind states, beyond those required by the CSAPR Update and other on-the-books or on the way measures, are necessary to bring downwind areas into attainment of the 2008 ozone NAAQS. While downwind states may continue to have current planning obligations associated with designated nonattainment areas, EPA lacks the authority to require additional emissions reductions from upwind states under the good neighbor provision in a future year where EPA's analysis shows that current nonattainment problems will be resolved.

While EPA is concluding in this action that Kentucky has no remaining good neighbor obligation with respect to the 2008 ozone NAAQS after implementation of the CSAPR Update, EPA disagrees that this action necessarily forecloses all further good neighbor activities with respect to that NAAQS. This action does not address remaining good neighbor obligations for any other states, and EPA will address any such obligations in a separate rulemaking. Moreover, the commenters acknowledge and EPA agrees that section 126 provides a process for states to bring claims to the Agency if the petitioning state can present information demonstrating that sources in upwind states will have impacts on downwind air quality in violation of the good neighbor provision. However, the right to submit such petitions does not

presuppose that any pending or future petitions will necessarily make the requisite demonstration. To the extent that the commenters invokes separate, pending section 126 petitions, EPA will address those claims in separate actions.

IV. Final Action

For the reasons discussed above, EPA is taking final action to approve Kentucky's May 10, 2018, SIP submission and find that Kentucky is not required to make any further reductions, beyond those required by the CSAPR Update, to address its statutory obligation under CAA section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. EPA's final approval of Kentucky's submission means that Kentucky's obligations under 110(a)(2)(D)(i)(I) are fully addressed through the combination of the CSAPR Update FIP and the SIP demonstration showing that no further reductions are necessary. EPA is also amending the regulatory text at 40 CFR 52.940(b)(2) to reflect that the CSAPR Update represents a full remedy with respect to Kentucky's transport obligation for the 2008 ozone NAAQS.

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, 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 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

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 Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 17, 2018. Under section 307(b)(2) of the Act, the requirements of this final action may not be challenged later in civil or criminal proceedings for enforcement.

List of Subjects in 40 CFR Part 52

Environmental protection, Administrative practice and procedure, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements.

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

Dated: June 28, 2018.

Onis ''Trey'' Glenn, III,

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(e) is amended by adding an entry for ''110(a)(2)(D)(i)(I) Infrastructure Requirement for the 2008 8-Hour Ozone National Ambient Air Quality Standards'' at the end of the table to read as follows:

§ 52.920 Identification of plan.

(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
* *	*	*	* *	*
110(a)(2)(D)(i)(I) Infrastructure Requirement for the 2008 8-Hour Ozone National Ambient Air Quality Standards.	Commonwealth of Kentucky ..	05/10/2018	07/17/2018, [Insert **Federal Register** citation].	

■ 3. Section 52.940 is amended by revising paragraph (b)(2) to read as follows:

§ 52.940 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b) * * *

(2) The owner and operator of each source and each unit located in the State of Kentucky and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements will be eliminated by the promulgation of an approval by the Administrator of a revision to Kentucky's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b), except to the extent the Administrator's approval is partial or conditional.

* * * * *

[FR Doc. 2018–15143 Filed 7–16–18; 8:45 am]

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