the Administrator intends to exercise the complete discretion afforded to him under the CAA to make and publish a finding that the final action (to the extent a court finds the action to be locally or regionally applicable) is based on a determination of ''nationwide scope or effect'' within the meaning of CAA section 307(b)(1). Through this rulemaking action (in conjunction with a series of related actions on other SIP submissions for the same CAA obligations), the EPA interprets and applies section 110(a)(2)(d)(i)(I) of the CAA for the 2015 ozone NAAQS based on a common core of nationwide policy judgments and technical analysis concerning the interstate transport of pollutants throughout the continental U.S. In particular, the EPA is applying here (and in other proposed actions related to the same obligations) the same, nationally consistent 4-step framework for assessing good neighbor obligations for the 2015 ozone NAAQS. The EPA relies on a single set of updated, 2016-base year photochemical grid modeling results of the year 2023 as the primary basis for its assessment of air quality conditions and contributions at Steps 1 and 2 of that framework. Further, the EPA proposes to determine and apply a set of nationally consistent policy judgments to apply the 4-step framework. The EPA has selected a nationally uniform analytic year (2023) for this analysis and is applying a nationally uniform approach to nonattainment and maintenance receptors and a nationally uniform approach to contribution threshold analysis.[61] For these reasons, the Administrator intends, if this proposed action is finalized, to exercise the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on one or more determinations of nationwide scope or effect for purposes of CAA section 307(b)(1).[62]

[61] A finding of nationwide scope or effect is also appropriate for actions that cover states in multiple judicial circuits. In the report on the 1977 Amendments that revised section 307(b)(1) of the CAA, Congress noted that the Administrator's determination that the ''nationwide scope or effect'' exception applies would be appropriate for any action that has a scope or effect beyond a single judicial circuit. See H.R. Rep. No. 95–294 at 323, 324, reprinted in 1977 U.S.C.C.A.N. 1402–03.

[62] The EPA may take a consolidated, single final action on all the proposed SIP disapproval actions with respect to obligations under CAA section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS. Should EPA take a single final action on all such disapprovals, this action would be nationally applicable, and the EPA would also anticipate, in the alternative, making and publishing a finding that such final action is based on a determination of nationwide scope or effect.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Ozone.

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

Dated: January 31, 2022.

Lisa Garcia,

Regional Administrator, Region 2.

[FR Doc. 2022–02946 Filed 2–18–22; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R04–OAR–2021–0841; EPA–HQ–OAR–2021–0663; FRL–9423–01–R4]

Air Plan Disapproval; Kentucky; Interstate Transport Requirements for the 2015 8-Hour Ozone National Ambient Air Quality Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA or Agency) is proposing to disapprove a State Implementation Plan (SIP) submittal from the Kentucky Energy and Environment Cabinet, Department of Environmental Quality (DAQ) (herein after referred to as Kentucky or the Commonwealth) regarding the interstate transport requirements for the 2015 8-hour ozone national ambient air quality standards (NAAQS or standard). The ''Good Neighbor'' or ''Interstate Transport'' provision requires that each state's implementation plan contain adequate provisions to prohibit emissions from within the state from significantly contributing to nonattainment or interfering with maintenance of the NAAQS in other states. This requirement is part of the broader set of ''infrastructure'' requirements, which are designed to ensure that the structural components of each state's air quality management program are adequate to meet the state's responsibilities under the CAA. This disapproval, if finalized, will establish a 2-year deadline for EPA to promulgate a Federal Implementation Plan (FIP) to address the relevant interstate transport requirements, unless EPA approves a subsequent SIP submittal that meets these requirements. Disapproval does not start a mandatory sanctions clock.

DATES: Comments must be received on or before April 25, 2022.

Withdrawals: As of February 22, 2022, the proposed rule published in December 30, 2019, at 84 FR 71854, is withdrawn.

ADDRESSES: You may submit comments, identified by Docket No. EPA–R04–OAR–2021–0841, through the Federal eRulemaking Portal at *https://www.regulations.gov* following the online instructions for submitting comments.

Instructions: All submissions received must include the Docket No. EPA–R04–OAR–2021–0841 for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/,* including any personal information provided. For detailed instructions on submitting comments and additional information on the rulemaking process, see the ''Public Participation'' heading of the **SUPPLEMENTARY INFORMATION** section of this document. Out of an abundance of caution for members of the public and staff, the EPA Docket Center and Reading Room are open to the public by appointment only to reduce the risk of transmitting COVID–19. The Docket Center staff also continues to provide remote customer service via email, phone, and webform. For further information on EPA Docket Center services and the current status, please visit EPA online at *https://www.epa.gov/dockets.*

FOR FURTHER INFORMATION CONTACT: Evan Adams of the Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street SW, Atlanta, Georgia 30303–8960. Mr. Adams can be reached by telephone at (404) 562–9009, or via electronic mail at *adams.evan@epa.gov.*

SUPPLEMENTARY INFORMATION: *Public Participation:* Submit your comments, identified by Docket No. EPA–R04–OAR–2021–0841, at *https://www.regulations.gov.* Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit to EPA's docket at *https://www.regulations.gov* any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system).

There are two dockets supporting this action, EPA–R04–OAR–2021–0841 and EPA–HQ–OAR–2021–0663. Docket No. EPA–R04–OAR–2021–0841 contains information specific to Kentucky, including this notice of proposed rulemaking. Docket No. EPA–HQ–OAR–2021–0663 contains additional modeling files, emissions inventory files, technical support documents, and other relevant supporting documentation regarding interstate transport of emissions for the 2015 8-hour ozone NAAQS which are being used to support this action. All comments regarding information in either of these dockets are to be made in Docket No. EPA–R04–OAR–2021–0841. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.* Due to public health concerns related to COVID–19, the EPA Docket Center and Reading Room are open to the public by appointment only. The Docket Center staff also continues to provide remote customer service via email, phone, and webform. For further information and updates on EPA Docket Center services, please visit EPA online at *https://www.epa.gov/dockets.*

EPA continues to carefully and continuously monitor information from the Centers for Disease Control and Prevention (CDC), local area health departments, and Federal partners so that EPA can respond rapidly as conditions change regarding COVID–19.

The indices to Docket No. EPA–R04–OAR–2021–0841 and Docket No. EPA–HQ–OAR–2021–0663 are available electronically at *www.regulations.gov.* While all documents in each docket are listed in their respective index, some information may not be publicly available due to docket file size restrictions or content (*e.g.,* CBI).

Table of Contents

I. Background

The following provides background for EPA's proposed action related to the interstate transport requirements for the 2015 8-hour ozone NAAQS for the Commonwealth of Kentucky.

A. Description of Statutory Background

On October 1, 2015, EPA promulgated a revision to the ozone NAAQS (2015 8-hour ozone NAAQS), lowering the level of both the primary and secondary standards to 0.070 parts per million (ppm).[1] Section 110(a)(1) of the CAA requires states to submit, within 3 years after promulgation of a new or revised standard, SIP submissions meeting the applicable requirements of section 110(a)(2).[2] One of these applicable requirements is found in CAA section 110(a)(2)(D)(i)(I), otherwise known as the ''good neighbor'' or ''interstate transport'' provision, which generally requires SIPs to contain adequate provisions to prohibit in-state emissions activities from having certain adverse air quality effects on other states due to interstate transport of pollution. There are two so-called ''prongs'' within CAA section 110(a)(2)(D)(i)(I). A SIP for a new or revised NAAQS must contain adequate provisions prohibiting any source or other type of emissions activity within the state from emitting air pollutants in amounts that will significantly contribute to nonattainment of the NAAQS in another state (prong 1) or interfere with maintenance of the NAAQS in another state (prong 2). EPA and states must give independent significance to prong 1 and prong 2 when evaluating downwind air quality problems under CAA section 110(a)(2)(D)(i)(I).[3]

B. Description of EPA's Four Step Interstate Transport Regulatory Process

EPA is using the 4-step interstate transport framework (or 4-step framework) to evaluate the states' implementation plan submittals addressing the interstate transport provision for the 2015 8-hour ozone NAAQS. EPA has addressed the interstate transport requirements of CAA section 110(a)(2)(D)(i)(I) with respect to prior ozone NAAQS in several regional regulatory actions, including the Cross-State Air Pollution Rule (CSAPR), which addressed interstate transport with respect to the 1997 ozone NAAQS as well as the 1997 and 2006 fine particulate matter standards,[4] the Cross-State Air Pollution Rule Update (CSAPR Update) [5] and the Revised CSAPR Update, both of which addressed the 2008 ozone NAAQS.[6]

Through the development and implementation of the CSAPR rulemakings and prior regional rulemakings pursuant to the interstate transport provision,[7] EPA, working in partnership with states, developed the following 4-step interstate transport framework to evaluate a state's obligations to eliminate interstate transport emissions under the interstate transport provision for the ozone NAAQS: (1) Identify monitoring sites that are projected to have problems attaining and/or maintaining the NAAQS (*i.e.,* nonattainment and/or maintenance receptors); (2) identify

[1] National Ambient Air Quality Standards for Ozone, Final Rule, 80 FR 65292 (October 26, 2015). Although the level of the standard is specified in the units of ppm, ozone concentrations are also described in parts per billion (ppb). For example, 0.070 ppm is equivalent to 70 ppb.

[2] SIP revisions that are intended to meet the applicable requirements of section 110(a)(1) and (2) of the CAA are often referred to as infrastructure SIPs and the applicable elements under section 110(a)(2) are referred to as infrastructure requirements.

[3] *See North Carolina* v. *EPA,* 531 F.3d 896, 909–11 (D.C. Cir. 2008).

[4] *See* Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 FR 48208 (August 8, 2011).

[5] Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 81 FR 74504 (October 26, 2016).

[6] In 2019, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) remanded the CSAPR Update to the extent it failed to require upwind states to eliminate their significant contribution by the next applicable attainment date by which downwind states must come into compliance with the NAAQS, as established under CAA section 181(a). *Wisconsin* v. *EPA,* 938 F.3d 303, 313 (D.C. Cir. 2019). The Revised CSAPR Update for the 2008 Ozone NAAQS, 86 FR 23054 (April 30, 2021), responded to the remand of the CSAPR Update in *Wisconsin* and the vacatur of a separate rule, the ''CSAPR Close-Out,'' 83 FR 65878 (December 21, 2018), in *New York* v. *EPA,* 781 F. App'x. 4 (D.C. Cir. 2019).

[7] In addition to CSAPR rulemakings, other regional rulemakings addressing ozone transport include the ''NO_X SIP Call,'' 63 FR 57356 (October 27, 1998), and the ''Clean Air Interstate Rule'' (CAIR), 70 FR 25162 (May 12, 2005).

states that impact those air quality problems in other (*i.e.,* downwind) states sufficiently such that the states are considered ''linked'' and therefore warrant further review and analysis; (3) identify the emissions reductions necessary (if any), applying a multifactor analysis, to eliminate each linked upwind state's significant contribution to nonattainment or interference with maintenance of the NAAQS at the locations identified in Step 1; and (4) adopt permanent and enforceable measures needed to achieve those emissions reductions.

C. Background on EPA's Ozone Transport Modeling Information

In general, EPA has performed nationwide air quality modeling to project ozone design values which are used in combination with measured data to identify nonattainment and maintenance receptors. To quantify the contribution of emissions from specific upwind states on 2023 ozone design values for the identified downwind nonattainment and maintenance receptors, EPA performed nationwide, state-level ozone source apportionment modeling for 2023. The source apportionment modeling provided contributions to ozone at receptors from precursor emissions of anthropogenic nitrogen oxides (NO_X) and volatile organic compounds (VOCs) in individual upwind states.

EPA has released several documents containing projected design values, contributions, and information relevant to evaluating interstate transport with respect to the 2015 8-hour ozone NAAQS. First, on January 6, 2017, EPA published a notice of data availability (NODA) in which the Agency requested comment on preliminary interstate ozone transport data including projected ozone design values and interstate contributions for 2023 using a 2011 base year platform.[8] In the NODA, EPA used the year 2023 as the analytic year for this preliminary modeling because that year aligns with the expected attainment year for Moderate ozone nonattainment areas for the 2015 8-hour ozone NAAQS.[9] On October 27, 2017, EPA released a memorandum (October 2017 memorandum) containing updated modeling data for 2023, which incorporated changes made in response to comments on the NODA, and noted that the modeling may be useful for states developing SIPs to address interstate transport obligations for the 2008 ozone NAAQS.[10] On March 27, 2018, EPA issued a memorandum (March 2018 memorandum) noting that the same 2023 modeling data released in the October 2017 memorandum could also be useful for identifying potential downwind air quality problems with respect to the 2015 8-hour ozone NAAQS at Step 1 of the 4-step interstate transport framework.[11] The March 2018 memorandum also included the then newly available contribution modeling data for 2023 to assist states in evaluating their impact on potential downwind air quality problems for the 2015 8-hour ozone NAAQS under Step 2 of the 4-step interstate transport framework.[12] EPA subsequently issued two more memoranda in August and October 2018, providing additional information to states developing interstate transport SIP submissions for the 2015 8-hour ozone NAAQS concerning, respectively, potential contribution thresholds that may be appropriate to apply in Step 2 of the 4-step interstate transport framework, and considerations for identifying downwind areas that may have problems maintaining the standard at Step 1 of the 4-step interstate transport framework.[13]

Since the release of the modeling data shared in the March 2018 memorandum, EPA performed updated modeling using a 2016-based emissions modeling platform (*i.e.,* 2016v1). This emissions platform was developed under the EPA/Multi-Jurisdictional Organization (MJO)/state collaborative project.[14] This collaborative project was a multi-year joint effort by EPA, MJOs, and states to develop a new, more recent emissions platform for use by EPA and states in regulatory modeling as an improvement over the dated 2011-based platform that EPA had used to project ozone design values and contribution data provided in the 2017 and 2018 memoranda. EPA used the 2016v1 emissions to project ozone design values and contributions for 2023. On October 30, 2020, in the Notice of Proposed Rulemaking for the Revised CSAPR Update, EPA released and accepted public comment on 2023 modeling that used the 2016v1 emissions platform.[15] Although the Revised CSAPR Update addressed transport for the 2008 ozone NAAQS, the projected design values and contributions from the 2016v1 platform are also useful for identifying downwind ozone problems and linkages with respect to the 2015 8-hour ozone NAAQS.[16]

Following the Revised CSAPR Update final rule, EPA made further updates to the 2016 emissions platform to include mobile emissions from EPA's Motor Vehicle Emission Simulator (MOVES) model [17] and updated emissions projections for electric generating units (EGUs) that reflect the emissions reductions from the Revised CSAPR Update, recent information on plant closures, and other sector trends. The construct of the updated emissions platform, 2016v2, is described in the Preparation of Emissions Inventories for the 2016v2 North American Emissions Modeling Platform technical support document (TSD) for this proposed rule and is included in Docket No. EPA–HQ–OAR–2021–0663. EPA performed air quality modeling of the 2016v2 emissions using the most recent public release version of the Comprehensive Air Quality Modeling with Extensions (CAMx) photochemical modeling,

[8] *See* Notice of Availability of the Environmental Protection Agency's Preliminary Interstate Ozone Transport Modeling Data for the 2015 8-hour Ozone National Ambient Air Quality Standard (NAAQS), 82 FR 1733 (January 6, 2017).

[9] *See* 82 FR 1733, 1735 (January 6, 2017).

[10] *See* Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), October 27, 2017 (''October 2017 memorandum''), available in Docket No. EPA–HQ–OAR–2021–0663 or at *https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices.*

[11] *See* Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), March 27, 2018 (''March 2018 memorandum''), available in Docket No. EPA–HQ–OAR–2021–0663 or at *https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices.*

[12] The March 2018 memorandum, however, provided, ''While the information in this memorandum and the associated air quality analysis data could be used to inform the development of these SIPs, the information is not a final determination regarding states' obligations under the good neighbor provision. Any such determination would be made through notice-and-comment rulemaking.''

[13] *See* Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, August 31, 2018) (''August 2018 memorandum''), and Considerations for Identifying Maintenance Receptors for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, October 19, 2018 (''October 2018 memorandum''), available in Docket No. EPA–HQ–OAR–2021–0663 for this action or at *https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs.*

[14] The results of this modeling, as well as the underlying modeling files, are included in Docket No. EPA–HQ–OAR–2021–0663.

[15] *See* 85 FR 68964, 68981 (October 30, 2020).

[16] See the Air Quality Modeling Technical Support Document for the Final Revised Cross-State Air Pollution Rule Update, included in Docket No. EPA–HQ–OAR–2021–0663.

[17] Additional details and documentation related to the MOVES3 model can be found at *https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves.*

version 7.10.[18] EPA proposes to primarily rely on modeling based on the updated and newly available 2016v2 emissions platform in evaluating these submissions with respect to Steps 1 and 2 of the 4-step interstate transport framework. By using the updated modeling results, EPA is using the most current and technically appropriate information for this proposed rulemaking. Section III of this notice and the Air Quality Modeling TSD included in Docket No. EPA–HQ–OAR–2021–0663 for this proposal contain additional detail on the modeling performed using the 2016v2 emissions modeling.

In this notice, EPA is accepting public comment on this updated 2023 modeling, which uses the 2016v2 emissions platform. Details on the air quality modeling and the methods for projecting design values and determining contributions in 2023 are described in the Air Quality Modeling TSD for 2015 8-hour Ozone NAAQS Transport SIP Proposed Actions. Comments on EPA's air quality modeling should be submitted in Docket No. EPA–R04–OAR–2021–0841. Comments are not being accepted in Docket No. EPA–HQ–OAR–2021–0663.

States may have chosen to rely on the results of EPA modeling and/or alternative modeling performed by states or Multi-Jurisdictional Organizations (MJOs) to evaluate downwind air quality problems and contributions as part of their submissions. In section III, EPA evaluates how Kentucky used air quality modeling information in its submission.

D. EPA's Approach to Evaluating Interstate Transport SIPs for the 2015 8-Hour Ozone NAAQS

EPA proposes to apply a consistent set of policy judgments across all states for purposes of evaluating interstate transport obligations and the approvability of interstate transport SIP submittals for the 2015 8-hour ozone NAAQS. These policy judgments reflect consistency with relevant case law and past Agency practice as reflected in CSAPR and related rulemakings. Nationwide consistency in approach is particularly important in the context of interstate ozone transport, which is a regional-scale pollution problem involving many smaller contributors. Effective policy solutions to the problem of interstate ozone transport going back to the NO_X SIP Call have necessitated the application of a uniform framework of policy judgments in order to ensure an ''efficient and equitable'' approach. *See EME Homer City Generation, LP* v. *EPA,* 572 U.S. 489, 519 (2014).

In the March, August, and October 2018 memoranda, EPA recognized that states may be able to establish alternative approaches to addressing their interstate transport obligations for the 2015 8-hour ozone NAAQS that vary from a nationally uniform framework. EPA emphasized in these memoranda, however, that such alternative approaches must be technically justified and appropriate in light of the facts and circumstances of each particular state's submittal. In general, EPA continues to believe that deviation from a nationally consistent approach to ozone transport must be substantially justified and have a well-documented technical basis that is consistent with relevant case law. Where states submitted SIPs that rely on any such potential concepts as may have been identified or suggested in the past, EPA will evaluate whether the state adequately justified the technical and legal basis for doing so.

EPA notes that certain potential concepts included in an attachment to the March 2018 memorandum require unique consideration, and these ideas do not constitute Agency guidance with respect to transport obligations for the 2015 8-hour ozone NAAQS. Attachment A to the March 2018 memorandum identified a ''Preliminary List of Potential Flexibilities'' that could potentially inform SIP development.[19] However, EPA made clear in that attachment that the list of ideas were not suggestions endorsed by the Agency but rather ''comments provided in various forums'' on which EPA sought ''feedback from interested stakeholders.'' [20] Further, Attachment A stated, ''EPA is not at this time making any determination that the ideas discussed below are consistent with the requirements of the CAA, nor [is EPA] specifically recommending that states use these approaches.'' [21] Attachment A to the March 2018 memorandum, therefore, does not constitute agency guidance, but was intended to generate further discussion around potential approaches to addressing ozone transport among interested stakeholders. To the extent states sought to develop or rely on these ideas in support of their SIP submittals, EPA will thoroughly review the technical and legal justifications for doing so.

The remainder of this section describes EPA's proposed framework with respect to analytic year, definition of nonattainment and maintenance receptors, selection of contribution threshold, and multifactor control strategy assessment.

1. Selection of Analytic Year

In general, the states and EPA must implement the interstate transport provision in a manner ''consistent with the provisions of [title I of the CAA].'' *See* CAA section 110(a)(2)(D)(i). This requires, among other things, that these obligations are addressed consistently with the timeframes for downwind areas to meet their CAA obligations. With respect to ozone NAAQS, under CAA section 181(a), this means obligations must be addressed ''as expeditiously as practicable'' and no later than the schedule of attainment dates provided in CAA section 181(a)(1).[22] Several D.C. Circuit court decisions address the issue of the relevant analytic year for the purposes of evaluating ozone transport air-quality problems. On September 13, 2019, the D.C. Circuit issued a decision in *Wisconsin* v. *EPA,* remanding the CSAPR Update to the extent that it failed to require upwind states to eliminate their significant contribution by the next applicable attainment date by which downwind states must come into compliance with the NAAQS, as established under CAA section 181(a). *See* 938 F.3d 303, 313.

On May 19, 2020, the D.C. Circuit issued a decision in *Maryland* v. *EPA* that cited the *Wisconsin* decision in holding that EPA must assess the impact of interstate transport on air quality at the next downwind attainment date, including Marginal area attainment dates, in evaluating the basis for EPA's denial of a petition under CAA section 126(b). *Maryland* v. *EPA,* 958 F.3d 1185, 1203–04 (D.C. Cir. 2020). The court noted that ''section 126(b) incorporates the Good Neighbor Provision,'' and, therefore, ''EPA must find a violation [of section 126] if an upwind source will significantly contribute to downwind nonattainment at the *next downwind attainment deadline.* Therefore, the agency must evaluate downwind air quality at that deadline, not at some later date.'' *Id.* at 1204 (emphasis added). EPA interprets the court's holding in *Maryland* as requiring the states and the Agency, under the good neighbor provision, to assess downwind air quality as expeditiously as practicable and no later than the next

[18] Ramboll Environment and Health, January 2021, *www.camx.com.*

[19] March 2018 memorandum, Attachment A.

[20] *Id.* at A–1.

[21] *Id.*

[22] For attainment dates for the 2015 8-hour ozone NAAQS, refer to CAA section 181(a), 40 CFR 51.1303, and Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, 83 FR 25776 (June 4, 2018, effective August 3, 2018).

applicable attainment date,[23] which is now the Moderate area attainment date under CAA section 181 for ozone nonattainment. The Moderate area attainment date for the 2015 8-hour ozone NAAQS is August 3, 2024.[24] EPA believes that 2023 is now the appropriate year for analysis of interstate transport obligations for the 2015 8-hour ozone NAAQS, because the 2023 ozone season is the last relevant ozone season during which achieved emissions reductions in linked upwind states could assist downwind states with meeting the August 3, 2024, Moderate area attainment date for the 2015 8-hour ozone NAAQS.

EPA recognizes that the attainment date for nonattainment areas classified as Marginal for the 2015 8-hour ozone NAAQS was August 3, 2021. Under the *Maryland* holding, any necessary emissions reductions to satisfy interstate transport obligations should have been implemented by no later than this date. At the time of the statutory deadline to submit interstate transport SIPs (October 1, 2018), many states relied upon EPA modeling of the year 2023, and no state provided an alternative analysis using a 2021 analytic year (or the prior 2020 ozone season). However, EPA must act on SIP submittals using the information available at the time it takes such action. In this circumstance, EPA does not believe it would be appropriate to evaluate states' obligations under CAA section 110(a)(2)(D)(i)(I) as of an attainment date that is wholly in the past, because the Agency interprets the interstate transport provision as forward looking. *See* 86 FR 23054, 23074; *see also Wisconsin,* 938 F.3d at 322. Consequently, in this proposal EPA will use the analytical year of 2023 to evaluate each state's CAA section 110(a)(2)(D)(i)(I) SIP submission with respect to the 2015 8-hour ozone NAAQS.

2. Step 1 of the 4-Step Interstate Transport Framework

In Step 1, EPA identifies monitoring sites that are projected to have problems attaining and/or maintaining the NAAQS in the 2023 analytic year. Where EPA's analysis shows that a site does not fall under the definition of a nonattainment or maintenance receptor, that site is excluded from further analysis under EPA's 4-step interstate transport framework. For sites that are identified as a nonattainment or maintenance receptor in 2023, EPA proceeds to the next step of the 4-step interstate transport framework by identifying the upwind state's contribution to those receptors.

EPA's approach to identifying ozone nonattainment and maintenance receptors in this action is consistent with the approach used in previous transport rulemakings. EPA's approach gives independent consideration to both the ''contribute significantly to nonattainment'' and the ''interfere with maintenance'' prongs of CAA section 110(a)(2)(D)(i)(I), consistent with the D.C. Circuit's direction in *North Carolina* v. *EPA.*[25]

For the purpose of this proposal, EPA identifies nonattainment receptors as those monitoring sites that are projected to have average design values that exceed the NAAQS and that are also measuring nonattainment based on the most recent monitored design values. This approach is consistent with prior transport rulemakings, such as the CSAPR Update, where EPA defined nonattainment receptors as those areas that both currently measure nonattainment and that EPA projects will be in nonattainment in the future analytic year (*i.e.,* 2023).[26]

In addition, in this proposal, EPA identifies a receptor to be a ''maintenance'' receptor for purposes of defining interference with maintenance, consistent with the method used in CSAPR and upheld by the D.C. Circuit in *EME Homer City Generation, L.P.* v. *EPA,* 795 F.3d 118, 136 (D.C. Cir. 2015).[27] Specifically, EPA identified maintenance receptors as those receptors that would have difficulty maintaining the relevant NAAQS in a scenario that takes into account historical variability in air quality at that receptor. The variability in air quality was determined by evaluating the ''maximum'' future design value at each receptor based on a projection of the maximum measured design value over the relevant period. EPA interprets the projected maximum future design value to be a potential future air quality outcome consistent with the meteorology that yielded maximum measured concentrations in the ambient data set analyzed for that receptor (*i.e.,* ozone conducive meteorology). EPA also recognizes that previously experienced meteorological conditions (*e.g.,* dominant wind direction, temperatures, air mass patterns) promoting ozone formation that led to maximum concentrations in the measured data may reoccur in the future. The maximum design value gives a reasonable projection of future air quality at the receptor under a scenario in which such conditions do, in fact, reoccur. The projected maximum design value is used to identify upwind emissions that, under those circumstances, could interfere with the downwind area's ability to maintain the NAAQS.

Recognizing that nonattainment receptors are also, by definition, maintenance receptors, EPA often uses the term ''maintenance-only'' to refer to those receptors that are not nonattainment receptors. Consistent with the concepts for maintenance receptors, as described above, EPA identifies ''maintenance-only'' receptors as those monitoring sites that have projected average design values above the level of the applicable NAAQS, but that are not currently measuring nonattainment based on the most recent official design values. In addition, those monitoring sites with projected average design values below the NAAQS, but with projected maximum design values above the NAAQS are also identified as ''maintenance-only'' receptors, even if they are currently measuring nonattainment based on the most recent official design values.

3. Step 2 of the 4-Step Interstate Transport Framework

In Step 2, EPA quantifies the contribution of each upwind state to each receptor in the 2023 analytic year. The contribution metric used in Step 2 is defined as the average impact from each state to each receptor on the days with the highest ozone concentrations at the receptor based on the 2023 modeling. If a state's contribution value does not equal or exceed the threshold of 1 percent of the NAAQS (*i.e.,* 0.70 ppb for the 2015 8-hour ozone NAAQS), the upwind state is not ''linked'' to a

[23] EPA notes that the court in *Maryland* did not have occasion to evaluate circumstances in which EPA may determine that an upwind linkage to a downwind air quality problem exists at Steps 1 and 2 of the interstate transport framework by a particular attainment date, but for reasons of impossibility or profound uncertainty the Agency is unable to mandate upwind pollution controls by that date. *See Wisconsin,* 938 F.3d at 320. The D.C. Circuit noted in *Wisconsin* that upon a sufficient showing, these circumstances may warrant flexibility in effectuating the purpose of the interstate transport provision.

[24] *See* CAA section 181(a); 40 CFR 51.1303; Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, 83 FR 25776 (June 4, 2018, effective August 3, 2018).

[25] *See North Carolina* v. *EPA,* 531 F.3d 896, 910–11 (D.C. Cir. 2008) (holding that EPA must give ''independent significance'' to each prong of CAA section 110(a)(2)(D)(i)(I)).

[26] *See* 81 FR 74504 (October 26, 2016). This same concept, relying on both current monitoring data and modeling to define nonattainment receptor, was also applied in CAIR. *See* 70 FR at 25241, 25249 (January 14, 2005); *see also North Carolina,* 531 F.3d at 913–14 (affirming as reasonable EPA's approach to defining nonattainment in CAIR).

[27] *See* 76 FR 48208 (August 8, 2011). The CSAPR Update and Revised CSAPR Update also used this approach. *See* 81 FR 74504 (October 26, 2016) and 86 FR 23054 (April 30, 2021).

downwind air quality problem, and EPA, therefore, concludes that the state does not significantly contribute to nonattainment or interfere with maintenance of the NAAQS in the downwind states. However, if a state's contribution equals or exceeds the 1 percent threshold, the state's emissions are further evaluated in Step 3, considering both air quality and cost as part of a multi-factor analysis, to determine what, if any, emissions might be deemed ''significant'' and, thus, must be eliminated under CAA section 110(a)(2)(D)(i)(I).

EPA is proposing to rely in the first instance on the 1 percent threshold for the purpose of evaluating a state's contribution to nonattainment or maintenance of the 2015 8-hour ozone NAAQS (*i.e.,* 0.70 ppb) at downwind receptors. This is consistent with the Step 2 approach that EPA applied in CSAPR for the 1997 ozone NAAQS, which has subsequently been applied in the CSAPR Update when evaluating interstate transport obligations for the 2008 ozone NAAQS. EPA continues to find 1 percent to be an appropriate threshold. For ozone, as EPA found in the CAIR, CSAPR, and the CSAPR Update, a portion of the nonattainment problems from anthropogenic sources in the U.S. result from the combined impact of relatively small contributions from many upwind states, along with contributions from in-state sources and, in some cases, substantially larger contributions from a subset of particular upwind states. EPA's analysis shows that much of the ozone transport problem being analyzed in this proposed rule is still the result of the collective impacts of contributions from many upwind states. Therefore, application of a consistent contribution threshold is necessary to identify those upwind states that should have responsibility for addressing their contribution to the downwind nonattainment and maintenance problems to which they collectively contribute. Continuing to use 1 percent of the NAAQS as the screening metric to evaluate collective contribution from many upwind states also allows EPA (and states) to apply a consistent framework to evaluate interstate emissions transport under the interstate transport provision from one NAAQS to the next. *See* 81 FR at 74518 (August 8, 2011); *see also* 86 FR at 23085 (April 30, 2021) (reviewing and explaining rationale from CSAPR, 76 FR at 48237–38 (August 8, 2011), for selection of 1 percent threshold).

EPA's August 2018 memorandum recognized that in certain circumstances, a state may be able to establish that an alternative contribution threshold of 1 ppb is justifiable. Where a state relies on this alternative threshold, and where that state determined that it was not linked at Step 2 using the alternative threshold, EPA will evaluate whether the state provided a technically sound assessment of the appropriateness of using this alternative threshold based on the facts and circumstances underlying its application in the particular SIP submission.

4. Step 3 of the 4-Step Interstate Transport Framework

Consistent with EPA's longstanding approach to eliminating significant contribution or interference with maintenance, at Step 3, states linked at Steps 1 and 2 are generally expected to prepare a multifactor assessment of potential emissions controls. EPA's analysis at Step 3 in prior Federal actions addressing interstate transport requirements has primarily focused on an evaluation of cost-effectiveness of potential emissions controls (on a marginal cost-per-ton basis), the total emissions reductions that may be achieved by requiring such controls (if applied across all linked upwind states), and an evaluation of the air quality impacts such emissions reductions would have on the downwind receptors to which a state is linked; other factors may potentially be relevant if adequately supported. In general, where EPA's or alternative air quality and contribution modeling establishes that a state is linked at Steps 1 and 2, it will be insufficient at Step 3 for a state merely to point to its existing rules requiring control measures as a basis for approval. In general, the emissions-reducing effects of all existing emissions control requirements are already reflected in the air quality results of the modeling for Steps 1 and 2. If the state is shown to still be linked to one or more downwind receptor(s), states must provide a well-documented evaluation determining whether their emissions constitute significant contribution or interference with maintenance by evaluating additional available control opportunities by preparing a multifactor assessment. While EPA has not prescribed a particular method for this assessment, EPA expects states at a minimum to present a sufficient technical evaluation. This would typically include information on emissions sources, applicable control technologies, emissions reductions, costs, cost effectiveness, and downwind air quality impacts of the estimated reductions, before concluding that no additional emissions controls should be required.[28]

5. Step 4 of the 4-Step Interstate Transport Framework

At Step 4, states (or EPA) develop permanent and federally enforceable control strategies to achieve the emissions reductions determined to be necessary at Step 3 to eliminate significant contribution to nonattainment or interference with maintenance of the NAAQS. For a state linked at Steps 1 and 2 to rely on an emissions control measure at Step 3 to address its interstate transport obligations, that measure must be included in the state's implementation plan so that it is permanent and federally enforceable. *See* CAA section 110(a)(2)(D) (''Each such [SIP] shall . . . contain adequate provisions. . . .''). *See also* CAA section 110(a)(2)(A); *Committee for a Better Arvin* v. *EPA,* 786 F.3d 1169, 1175–76 (9th Cir. 2015) (holding that measures relied on by a state to meet CAA requirements must be included in the SIP).

II. Summary of Kentucky's 2015 8-Hour Ozone Interstate Transport SIP Submission

On January 11, 2019, Kentucky submitted a SIP revision, a portion of which addressed the CAA section 110(a)(2)(D)(i)(I) interstate transport requirements for the 2015 8-hour ozone NAAQS. The Commonwealth's SIP submission provided Kentucky's analysis of its impact to downwind states and concluded that the Commonwealth had met the requirements of CAA section l10(a)(2)(D)(i)(I) (*i.e.,* prongs 1 and 2) because Kentucky's SIP contains adequate provisions to prevent sources and other types of emissions activities within the Commonwealth from significantly contributing to nonattainment, or interfering with the maintenance, of downwind states with respect to the 2015 8-hour ozone NAAQS.

The Commonwealth's submission relied on the results of EPA's modeling of the year 2023, contained in the March 2018 memorandum, to identify downwind nonattainment and

[28] As examples of general approaches for how such an analysis could be conducted for their sources, states could look to the CSAPR Update, 81 FR 74504, 74539–51; CSAPR, 76 FR 48208, 48246–63; CAIR, 70 FR 25162, 25195–229; or the NO_X SIP Call, 63 FR 57356, 57399–405. *See also* Revised CSAPR Update, 86 FR 23054, 23086–23116. Consistently across these rulemakings, EPA has developed emissions inventories, analyzed different levels of control stringency at different cost thresholds, and assessed resulting downwind air quality improvements.

maintenance receptors that may be ''linked'' to emissions from sources in Kentucky (which correlates to Step 1 of the 4-step framework).[29] The March 2018 modeling indicates that the Commonwealth was linked to four nonattainment receptors and one maintenance monitor above 1% of the NAAQS. The largest impact from Kentucky sources on any downwind nonattainment receptor in the East was projected to be 0.89 ppb at the Fairfield County, Connecticut (ID: 90013007) site. The other nonattainment receptors to which Kentucky was linked are: a second site in Fairfield County (ID: 90019003); Milwaukee, Wisconsin (ID: 550790085); and Sheboygan, Wisconsin (ID: 551170006). The impact from Kentucky sources on the one downwind maintenance-only receptor to which it was linked in that modeling was 1.52 ppb at the Harford County, Maryland monitor (ID: 240251001).

The Commonwealth reviewed EPA's August 2018 memorandum as it related to the use of a potential alternative contribution threshold of 1 ppb and agreed that use of a 1 ppb contribution threshold is comparable to the amount of collective contribution captured using a threshold equivalent to 1 percent of the NAAQS. Based on the March 2018 modeling and application of a 1 ppb alternative contribution threshold, the Commonwealth found that it would not be linked as a significant contributor to the four nonattainment receptors in Connecticut and Wisconsin (which correlates to EPA's Step 2), and therefore concluded that no further controls were required to address its contribution to those four receptors. Thus, the Commonwealth concluded that Kentucky's SIP contains adequate provisions to prevent sources and other types of emissions activities within the Commonwealth from contributing significantly to nonattainment in any other state (*i.e.,* ''prong 1'' of CAA section l10(a)(2)(D)(i)(I)) for the 2015 8-hour ozone NAAQS.

After application of the 1 ppb contribution threshold, Kentucky remained linked to the downwind maintenance-only receptor at Harford County, Maryland (ID: 240251001) because the Commonwealth's contribution of 1.52 ppb to this receptor was greater than the 1 ppb alternative threshold. Kentucky's SIP submission asserted that the amount of NO_X emission reductions required for an upwind state should not be the same for a monitor that is already attaining the NAAQS as they are for a nonattainment monitor. The Commonwealth further asserted that local controls should be implemented before requiring upwind states to control their sources. Thus, Kentucky concluded that no further reductions other than on-the-books and on-the-way measures are required to address the Commonwealth's interstate transport obligation to eliminate its contribution to the Harford County, Maryland maintenance receptor.

In addition, Kentucky provided information intended to demonstrate that Kentucky's SIP contains adequate provisions to prevent sources and other types of emissions activities within the Commonwealth from significantly contributing to nonattainment, or interfering with the maintenance, of downwind states with respect to the 2015 8-hour ozone NAAQS, and thus, no additional emissions reductions from Kentucky are necessary. Specifically, Kentucky listed existing state, SIP-approved regulations and Federal programs for sources in the Commonwealth that it concluded address the requirements of CAA 110(a)(2)(D)(i)(I) for the 2015 8-hour ozone NAAQS.[30] Kentucky provided more detailed analyses related to several specific topics, which are summarized in sections below.

The Commonwealth also included documents attached as appendices to its submittal. The March 2018 memorandum and the August 2018 memorandum were attached at appendices A and B, respectively.[31] As Appendix C, the Commonwealth appended several documents developed and/or submitted by the Midwest Ozone Group (a consortium of upwind industries with emitting facilities).[32] This included a modeling analysis developed by Alpine Geophysics titled ''Good Neighbor Modeling Technical Support Document for the 8-hour Ozone State Implementation Plans,'' dated June 2018 (Alpine TSD). The Alpine TSD contains alternative modeling of 2023 performed by Alpine Geophysics sponsored by MOG, as well as additional policy suggestions that MOG suggested states could consider in developing good neighbor SIP submissions (see section 9 of the Alpine TSD).[33] The Alpine TSD also appended a separate set of MOG comments on EPA's March 2018 memorandum.[34] These comments and Alpine's modeling analysis were further summarized in a Microsoft PowerPoint Presentation titled ''MOG's Preview of 2015 Ozone NAAQS Good Neighbor SIPs.'' EPA also summarizes the materials developed by MOG that the Commonwealth included as Appendix C to its submittal, although it is unclear that Kentucky intended to rely on all aspects of these materials.

A. Information Related to Emission Trends From Kentucky Sources

With respect to ozone precursors emitted from Kentucky sources, Kentucky focused its analysis on NO_X emissions, as it found that ozone is far more sensitive to NO_X emissions than VOC emissions in the Southeastern United States and that controlling NO_X emissions is a more effective strategy in reducing ozone. Kentucky reviewed NO_X emissions trends in the Commonwealth, comparing annual NO_X emissions from 2008 to 2016, finding that NO_X emissions in Kentucky have significantly decreased since 2008. The Commonwealth asserted that it has significantly lowered NO_X emissions between 2008 and 2017 [35] and contended that planned shutdowns and

[29] EPA notes that Kentucky's SIP submission is not organized around EPA's 4-step framework for assessing good neighbor obligations, but EPA summarizes the submission using that framework for clarity here.

[30] See Kentucky's January 11, 2019, SIP submission, at pages 20 through 30 for the list of state, SIP-approved regulations and Federal programs identified by Kentucky.

[31] See the following Appendices to Kentucky's January 11, 2019, submission: Appendix A—Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), March 27, 2018 (''March 2018 memorandum''); Appendix B—Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, August 31, 2018; and Appendix D—Public Hearing & Statement of Consideration.

[32] See Appendix C to Kentucky's January 11, 2019, submission—Midwest Ozone Group Technical Support Document: ''Good Neighbor Modeling Technical Support Document for 8-Hour Ozone Implementation Plans.''

[33] It is unclear whether Kentucky intends to rely on all of the data and policy approaches in Appendix C as included in its submittal, or if these documents were appended solely to support specific policy and technical arguments relied on by Kentucky in its submittal.

[34] See the following Appendices to Appendix C—Midwest Ozone Group Technical Support Document: ''Good Neighbor Modeling Technical Support Document for 8-Hour Ozone Implementation Plans of Kentucky's January 11, 2019: Appendix A—4km Modeling Results for Mid-Atlantic and Lake Michigan Domains Compared to EPA 12 km ''No Water'' Design Value Calculations from March 2018 Memorandum; Appendix B—Midwest Ozone Group Comments on EPA's March 27, 2018 Memorandum Entitled ''Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I); Appendix C—Presentation—Midwest Ozone Group Preview of 2015 Ozone NAAQS Good Neighbor SIPs.

[35] Table 2 in Kentucky's SIP provides historic annual NO_X emissions data for point sources in the state from 2008 through 2016, however, the associated graph at Chart 1 indicates annual NO_X emissions from 2008 through 2017.

conversion to natural gas, along with the implementation of Federal and State programs, ensure Kentucky's emissions will continue to decrease. Based on the 2014 national emission inventory (NEI), Kentucky indicated that the major contributor of NO_X emissions in the Commonwealth are point sources, mainly comprised of electric generating units (EGUs).

Kentucky asserted that NO_X emissions from EGUs in the Commonwealth have decreased and would continue to decrease based, in part, on the implementation of CAIR, CSAPR, and the CSAPR Update, as well as retirements of several EGUs in the Commonwealth. The Commonwealth compared Kentucky's NO_X ozone season allocations to actual EGU emissions in the Commonwealth, concluding that Kentucky's NO_X ozone season budgets have decreased since the implementation of CSAPR and the CSAPR Update and actual ozone season NO_X emissions are significantly lower than the trading program budgets.[36] The SIP submission summarized coal-fired unit retirements, shutdowns, and repowering from 2015 through 2017 as well as on-the-way reductions from natural gas conversions and retirements from 2017 through 2023.[37] Kentucky stated that it expected emissions will continue to decline in the future due to continued implementation of CSAPR, the CSAPR Update, and scheduled shutdowns, fuel switches, and retirements of facilities in the Commonwealth.

B. Information Related to Connecticut Monitors Provided by Kentucky

EPA's March 2018 modeling showed Kentucky linked to the two receptors located in Fairfield County, Connecticut, which is part of the New York-Northern New Jersey-Long Island, NY-NJ-CT (New York Metro Area) core based statistical area (CBSA).[38] Kentucky applied an alternative contribution threshold of 1 ppb, and thus determined that Kentucky was no longer linked to the Connecticut receptors. In addition, Kentucky provided information intended to demonstrate that emissions from local sources in the area surrounding the monitors contribute significantly to the continued nonattainment issues, and thus, that local controls should be implemented before requesting upwind states to control facilities.

In particular, Kentucky's SIP submission claims that the Westport Sherwood, Fairfield, Connecticut (ID: 90019003) and Stratford Point Lighthouse, Fairfield County (ID: 90013007) monitors are located less than three miles from the I–95 interstate highway corridor and over 500 miles from Kentucky. Kentucky asserted these monitors have a consistent pattern of violating the 2015 8-hour ozone NAAQS from 2007 to 2016. Kentucky also pointed out that it is not linked in the modeling to two other nonattainment receptors (the Greenwich Point Park and Criscuolo Park monitoring sites) that are in relatively close proximity to the Westport and Stratford monitors. Kentucky compared the distances between these sites with the distances of the sites to Kentucky's nearest border.

Kentucky's SIP submission also provided information related to the New York Metro Area, citing the 2014 NEI to state that the on-road source sector contributed the highest amount of NO_X emissions and that the nonpoint source sector contributed the highest amount of VOC emissions in that area. The Commonwealth further provided information about high vehicle miles traveled (VMT) and commuting patterns in the New York Metro Area, as well as information regarding violating monitors along the I–95 corridor and outlying monitors that show attainment.

Additionally, Kentucky's SIP submission includes Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) model back trajectory analysis to the two Connecticut receptors,[39] asserting that the HYSPLIT analysis indicates that the monitors are downwind of nonattainment areas in New York, New Jersey, Pennsylvania, and Maryland. The Commonwealth also asserted there is a consistent pattern of violating monitors located along the I–95 corridor. In addition, Kentucky asserted that pollutants are trapped in the marine boundary layer and then transported inland to coastal Connecticut receptors due to conditions on Long Island Sound.

The Commonwealth's SIP submission also discussed point sources in the New York Metro Area, providing information regarding the largest point sources in that area. In addition, Kentucky provided NO_X and VOC emission information for 13 counties in the New York Metro Area that have NO_X and VOC emission totals above 10,000 tpy, finding that three counties that surround Fairfield County (Suffolk, Queens, and Nassau Counties) had the highest NO_X emissions.

Kentucky further evaluated high electric demand days in New York, discussing a New York Department of Environmental Conservation (NYDEC) determination that peaking units operating on peak electricity demand days are a major contributor of NO_X (particularly units installed before 1987), and that such units can contribute 4.8 ppb of ozone on high ozone days.[40] Kentucky concluded NO_X emission reductions from these EGUs point sources would have a significant impact on ozone levels in the New York Metro Area.

C. Information Related to the Harford, Maryland Monitor Provided by Kentucky

Kentucky acknowledged that EPA's March 27, 2018 modeling shows the potential for Kentucky emissions to significantly contribute to the Edgewood, Harford County, Maryland (ID: 240251001) maintenance-only monitor (Edgewood monitor) in 2023. However, Kentucky provided air quality data designed to demonstrate that emissions from local sources in the area surrounding the monitors contribute significantly to the continued air quality issues and concluded that there are local controls that should be implemented before requesting upwind states to control facilities.

Kentucky provided additional information with respect to the Edgewood Monitor, which is located 3 miles from the I–95 corridor and approximately 350 miles from Kentucky. Kentucky provided data to show that the Edgewood monitor consistently violated the 2015 8-hour ozone standard from 2007 to 2016. Kentucky also provided information related to other nonattainment monitors located in Baltimore County and Harford County.

The Commonwealth's SIP submission provided data related to the Baltimore-

[36] Kentucky's SIP acknowledged that the CSAPR trading program does not address interstate transport for the 2015 standard but nonetheless provides NO_X emission reductions.

[37] See Kentucky's January 11, 2019, submittal located in Docket No. EPA–R04–OAR–2021–0841, at pages 32–33 for discussion on implementation of CSAPR, the CSAPR Update, EGU retirements, and EGU fuel switches.

[38] EPA's designations for the 2015 8-hour ozone standard divided the state into two areas, Greater Connecticut, CT, with a marginal classification, and New York-Northern New Jersey-Long Island, NY-NJ-CT (New York Metro Area), with a moderate classification. *See https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards.*

[39] According to Kentucky, the HYSPLIT analysis were generated using EPA's 2015 Ozone Designation Mapping Tool, available at *https://www.epa.gov/ozone-designations/ozone-designations-guidance-and-data#:~:text=The%20ozone%20designations%20mapping%20tool,for%20the%202015%20Ozone%20NAAQS.*

[40] Kentucky references NYDEC emission analysis entitled ''Background, High Electric Demand Day (HEDD) Initiative'', New York Department of Environmental Conservation.

Columbia-Towson, MD CBSA (Baltimore Area), citing to the 2014 NEI to state that the on-road source sector contributed the highest amount of NO_X emissions and that the nonpoint source sector contributed the highest amount of VOC emissions in that area. Kentucky further provided information about VMTs and commuting patterns in the Baltimore Area, as well as information regarding violating monitors along the I–95 corridor and outlying monitors that show attainment. The SIP submission asserted that local mobile emissions are a key contributor to the Edgewood monitor, which is also located in close proximity to the 1–95 corridor. Kentucky further cited to a presentation and remarks by Maryland officials, discussing programs to reduce emissions from local sources, specifically focusing on mobile source NO_X reduction programs.

Kentucky cited a 2010 case study in the Chesapeake Bay that suggests the transport of pollution from nearby urban areas accumulates over the Bay and becomes stagnant, creating a bay breeze which is pushed by southerly winds northward towards the Edgewood monitor. Additionally, Kentucky's SIP submission also provided HYSPLIT model back trajectory analysis to the Edgewood receptor,[41] asserting that the HYSPLIT indicates that the monitors are downwind of nonattainment areas in Baltimore County, Baltimore City, Arlington County, and the District of Columbia. Kentucky also asserted that higher altitude particles from the northwest of Baltimore combine with lower-level particles from the south and southeast.

Kentucky's submission used information on local mobile emissions along the I–95 corridor and coastal air pollution formation and accumulation along the Maryland coast to support its conclusion that local air quality problems are the source of ozone violations at these monitors.

Additionally, Kentucky asserted that the implementation of local programs to reduce emissions should be sufficient for monitors in the Maryland area to attain the 2015 8-hour ozone NAAQS. Kentucky cited claims by MOG (appended to the submittal in Appendix C) that the modeling in EPA's March 2018 memorandum does not account for additional retirements, conversions, and modifications or emission control programs expected to be implemented before 2023. Kentucky concluded that because the Edgewood monitor is a maintenance receptor, the Commonwealth believes that no further reductions from Kentucky sources other than on-the-books controls should be required because maintenance receptors should be treated differently than nonattainment receptors in terms of upwind requirements. The Commonwealth also asserted that states linked to maintenance receptors should be held to less stringent standards of emissions reductions as compared to states linked to a nonattainment receptor.

The Commonwealth also asserted that local emission controls should be implemented before upwind states are required to control their facilities, which is based on Kentucky's concurrence with statements from MOG. The Commonwealth cited MOG's comments on local controls stating: ''When an area is measuring nonattainment of a NAAQS, as is the case with the areas linked to Kentucky, the CAA requires that the effects and benefits of local controls on all source sectors be considered first, prior to pursuing controls of sources in upwind states.'' [42] The Commonwealth concluded that the emissions reductions resulting from on-the-books and on-the-way measures are adequate to prohibit emissions within Kentucky from interfering with the maintenance of downwind states with respect to the 2015 8-hour ozone NAAQS.

D. Summary of Conclusions From Kentucky

In summary, based on Kentucky's reliance on the modeling results in EPA's March 2018 memorandum, the Commonwealth found that emissions from Kentucky sources were potentially linked to four nonattainment monitors in Connecticut and Wisconsin and one maintenance receptor in Harford County, Maryland. However, after utilizing a 1 ppb alternative contribution threshold, the Commonwealth concluded that it was no longer linked to the four nonattainment monitors, and thus, that the Kentucky SIP contains adequate provisions to prevent sources and other types of emissions activities within the State from contributing significantly to nonattainment in any other state (*i.e.,* ''prong 1'' of CAA section 110(a)(2)(D)(i)(I)) for the 2015 8-hour ozone NAAQS. Although modeling results indicated that Kentucky remained linked to the maintenance-only receptor in Harford County, Maryland, even after the application of the 1 ppb alternative threshold, Kentucky asserted that states should not be required to apply the same degree of reductions for maintenance receptors as nonattainment areas, and determined that additional NO_X emission reductions other than those that are on-the-books or on-the-way are not required to address its downwind contribution to that receptor. Kentucky further provided an assessment of local sources in the vicinity of the Connecticut and Maryland monitors and concluded that local (particularly mobile) emissions, high VMTs and commuting patterns, and weather patterns are the primary cause of violating monitors in these areas. Therefore, Kentucky concluded that its SIP has adequate provisions to prohibit emissions from interfering with maintenance in another state (*i.e.,* ''prong 2'' of CAA section 110(a)(2)(D)(i)(I)) with respect to the 2015 8-hour ozone NAAQS.

E. Summary of Midwest Ozone Group TSD Appended to Kentucky's Submittal

Kentucky attached several materials developed by MOG to its submittal as Appendix C, which included a document titled '' 'Good Neighbor' Modeling Technical Support Document for 8-Hour Ozone State Implementation Plans'' prepared by Alpine Geophysics.[43] The Alpine Geophysics document also attached the following documents: 4 kilometer (km) modeling results for mid-Atlantic and Lake Michigan domains compared to EPA 12 km ''No Water'' Design Value Calculations from March 2018 memorandum (Appendix A); MOG comments on EPA's March 2018 memorandum (Appendix B); and a Microsoft PowerPoint presentation from MOG previewing 2015 8-hour ozone NAAQS good neighbor SIPs (Appendix C). EPA notes a number of modeling results and technical and policy arguments provided in the MOG attachments are not explicitly discussed in Kentucky's SIP submission narrative. Therefore, it is unclear whether Kentucky intended to rely on Alpine's modeling or MOG's policy argument to support the Commonwealth's overall transport SIP conclusions. To ensure review of all potentially relevant technical and policy issues identified in Kentucky's SIP package, this section summarizes key arguments presented in

[41] According to Kentucky, the HYSPLIT analysis were generated using EPA's 2015 Ozone Designation Mapping Tool, available at *https://www.epa.gov/ozone-designations/ozone-designations-guidance-and-data#:~:text=The%20ozone%20designations%20mapping%20tool,for%20the%202015%20Ozone%20NAAQS.*

[42] Kentucky's SIP references MOG's comments that cite CAA sections 107(a) and 110(a)(1).

[43] *See* Appendix C of Kentucky's January 11, 2019, transport SIP submission.

Appendix C. However, in EPA's evaluation of the SIP submittal in section III, EPA will differentiate between those positions clearly adopted by the Commonwealth and those where it is unclear and therefore a position espoused by MOG cannot be attributed to Kentucky.

Appendix C included modeling results performed by Alpine Geophysics as presented in the Alpine TSD. The Alpine modeling results identified the Harford, Maryland receptor as a nonattainment receptor, with Kentucky emissions contributing 2.07 ppb. In addition, the Alpine modeling results identified Kentucky linkages above 1 percent to the following maintenance-only receptors: Gloucester, New Jersey (ID: 340150002), with a Kentucky contribution of 1.69 ppb; Richmond, New York (ID: 360850067), with a Kentucky contribution of 0.93; and Philadelphia, Pennsylvania (ID: 421010024), with a Kentucky contribution of 1.53. (While MOG asserts in separate comments that emission reductions not accounted for in EPA's modeling suggests there will be no receptors by 2023, this is not consistent with Alpine's modeling.)

The Alpine TSD also evaluated additional approaches and flexibilities that states could apply in SIP revisions, based on the potential concepts provided in Appendix A of EPA's March 2018 memorandum.[44] These included reliance on alterative modeling data, evaluation of international contributions (both anthropogenic contribution and as an additional percentage of boundary conditions), alternate contribution thresholds, proportional control of upwind emissions by level of upwind state contribution, and addressing interference with maintenance obligations through use of 10-year projections.

MOG suggested states should be allowed to select multiple sources of modeling data rather than a single modeling simulation if such information is considered equally credible when making policy decisions related to the development of good neighbor SIPs.

With respect to international emissions, MOG cited to an attachment to EPA's 2018 memorandum and asserts that EPA's and Alpine's contribution modeling tracks and reports the relative impact contributions of anthropogenic emissions located within the 36 km modeling domain. Considering this information, MOG concluded that states seeking to avoid overcontrol may wish to consider removing that portion of the projected design value that is explicitly attributed to international anthropogenic contribution, which may be enough to demonstrate attainment with the 2008 or 2015 8-hour ozone NAAQS at multiple monitors in the U.S.

With respect to potential use of alternative contribution thresholds, MOG pointed to states raising concerns that the 1 percent threshold is more stringent than the 2016 EPA Significant Impact level (SIL) guidance of 1 ppb, which is designed as an individual source or group of sources' contribution limit (in the context of prevention of significant deterioration (PSD) permitting).[45] MOG suggested that states could submit SIP revisions citing the SIL of 1 ppb as an acceptable total state anthropogenic contribution threshold under Step 2 of the 4-step process, and request relief from the 1 percent threshold in lieu of using an alternate value.

MOG presented an alternative approach to how upwind-state emission reduction obligations could be allocated. Specifically, MOG proposed that upwind reductions could be allocated in proportion to the size of their contribution to downwind nonattainment. To illustrate this approach, MOG determined a proportional reduction requirement associated with the relative contribution from each upwind state to the Harford County, Maryland monitor. Under this analysis, MOG's approach indicated that Kentucky would be responsible for a 0.02 ppb reduction at the monitor and ''would then need to craft a [good neighbor SIP] revision to generate reductions associated with this proportional amount.''

With respect to ''interference with maintenance'' obligations, MOG suggested that an upwind state could choose to indicate that no additional controls would be needed to address a maintenance monitor if the upwind state can show that either the monitor is likely to remain in attainment for a period of 10 years or that the upwind state's emissions will not increase for 10 years after the attainment date.

III. EPA's Evaluation of Kentucky's 2015 8-Hour Ozone Interstate Transport SIP Submission

EPA is proposing to find that Kentucky's January 11, 2019, SIP submission does not meet the Commonwealth's obligations with respect to prohibiting emissions that contribute significantly to nonattainment or interfere with maintenance of the 2015 8-hour ozone NAAQS in any other state based on EPA's evaluation of the SIP submission using the 4-step interstate transport framework, and therefore EPA is proposing to disapprove Kentucky's SIP submission.

A. Results of EPA's Step 1 and Step 2 Modeling and Findings for Kentucky

As described in section I, EPA performed updated air quality modeling to project design values and contributions for 2023. These data were examined to determine if Kentucky contributes at or above the threshold of 1 percent of the 2015 8-hour ozone NAAQS (0.70 ppb) to any downwind nonattainment or maintenance receptor. As shown in Table 1, the data[46] indicate that in 2023, emissions from Kentucky contribute greater than 1 percent of the standard to nonattainment or maintenance-only receptors in Bucks County, Pennsylvania (ID: 420170012), New Haven County, Connecticut (ID: 90099002), and Fairfield County, Connecticut (ID: 90019003 and 90013007).[47]

[44] *See* Section 9.0—Selected SIP Revision Approaches in Appendix C—MOG's TSD of Kentucky's January 11, 2019 transport SIP submission.

[45] MOG cited to the Georgia Environmental Protection Division's comment on EPA's March 2018 Memorandum to support this claim. *See* Section 9.0—Selected SIP Revision Approaches in Appendix C—MOG's TSD of Kentucky's January 11, 2019 transport SIP submission, *citing* Boylan, J. W. (May 4, 2018). Georgia EPD Comments on EPA's March 27, 2018 Interstate Transport Memo [Memorandum].

[46] The ozone design values and contributions at individual monitoring sites nationwide are provided in the file ''2016v2_DVs_state_contributions.xlsx'' which is included in Docket No. EPA–HQ–OAR–2021–0663.

[47] These modeling results are consistent with the results of a prior round of 2023 modeling using the 2016v1 emissions platform which became available to the public in the fall of 2020 in the Revised CSAPR Update, as noted in section I. That modeling showed that Kentucky had a maximum contribution greater than 0.70 ppb to at least one nonattainment or maintenance-only receptor in 2023. These modeling results are included in the file ''Ozone Design Values And Contributions Revised CSAPR Update.xlsx'' in Docket No. EPA–HQ–OAR–2021–0663.

TABLE 1—KENTUCKY LINKAGE RESULTS BASED ON EPA UPDATED 2023 MODELING

Receptor ID	Location	County	Nonattainment/ maintenance	2023 average design value (ppb)	2023 maximum design value (ppb)	Kentucky contribution (ppb)
420170012	Pennsylvania	Bucks	Maintenance	70.7	72.2	0.88
90099002	Connecticut	New Haven	Nonattainment	71.8	73.9	0.83
90019003	Connecticut	Fairfield	Nonattainment	76.1	76.4	0.82
90013007	Connecticut	Fairfield	Nonattainment	74.2	75.1	0.77

B. Evaluation of Information Provided by Kentucky Regarding Step 1

At Step 1 of the 4-step interstate transport framework, Kentucky relied on EPA modeling released in the March 2018 memorandum to identify nonattainment and maintenance receptors in 2023 and also included results from modeling performed by Alpine. As described previously in this notice, EPA has recently updated its 2023 modeling using the most current and technically appropriate information. EPA proposes to rely on EPA's most recent modeling to identify nonattainment and maintenance receptors in 2023. However, even using EPA modeling available to Kentucky at the time of its SIP submittal, three nonattainment receptors and one maintenance-only receptor were projected in 2023 to which Kentucky was linked above 1 percent of the NAAQS. In addition, the Alpine modeling that Kentucky appended to its submittal also indicated that Kentucky was linked to several receptors in 2023.[48] Kentucky appended comments from MOG arguing that states should be allowed to select multiple sources of modeling data rather than a single modeling simulation if such information is considered equally credible when making policy decisions related to the development of good neighbor SIPs. Whether EPA's most recent 2023 modeling is relied on, or whether it is considered in conjunction with its older 2023 modeling and/or the Alpine modeling, the results consistently identify several nonattainment or maintenance receptors to which Kentucky is linked above 1 percent of the 2015 8-hour ozone NAAQS.

As discussed in section II.E, Kentucky attached documents from MOG that discussed international transport of emissions and their contribution to U.S. ozone monitors, and argued that states could remove that portion of the projected design value explicitly attributed to international anthropogenic contribution. MOG asserted that excluding the international anthropogenic contributions could result in attainment with the 2008 or 2015 8-hour ozone NAAQS at ozone monitors in the United States, thus potentially eliminating 2023 receptors. Kentucky did not explicitly discuss in its SIP submittal MOG's arguments regarding contributions from international emissions and therefore it is unclear if the Commonwealth intended to rely on this argument to support their conclusion, however, EPA is providing its analysis related to these arguments.

EPA disagrees that excluding international contribution (whether from North American international anthropogenic, boundary conditions, or other international sources) from the projected design value of receptors is acceptable under the CAA.[49] The good neighbor provision requires states and EPA to address interstate transport of air pollution that *contributes to* downwind states' ability to attain and maintain NAAQS. Whether emissions from other states or other countries also contribute to the same downwind air quality issue is irrelevant in assessing whether a downwind state has an air quality problem, or whether an upwind state is significantly contributing to that problem. States are not obligated under CAA section 110(a)(2)(D)(i)(I) to reduce emissions sufficient on their own to resolve downwind receptors' nonattainment or maintenance problems. Rather, states are obligated to eliminate their own ''significant contribution'' or ''interference'' with the ability of other states to attain or maintain the NAAQS.

Indeed, the D.C. Circuit in *Wisconsin* specifically rejected petitioner arguments suggesting that upwind states should be excused from good neighbor obligations on the basis that some other source of emissions (whether international or another upwind state) could be considered the ''but-for'' cause of downwind air quality problem. *See* 938 F.3d at 323–324. The court viewed petitioners' arguments as essentially an argument ''that an upwind State 'contributes significantly' to downwind nonattainment only when its emissions are the sole cause of downwind nonattainment.'' *See* 938 F.3d at 324. The court explained that ''an upwind State can 'contribute' to downwind nonattainment even if its emissions are not the but-for cause.'' *Id.* at 324–325. *See also Catawba County* v. *EPA,* 571 F.3d 20, 39 (D.C. Cir. 2009) (rejecting the argument ''that 'significantly contribute' unambiguously means 'strictly cause' '' because there is ''no reason why the statute precludes EPA from determining that [an] addition of [pollutant] into the atmosphere is significant even though a nearby county's nonattainment problem would still persist in its absence''); *Miss. Comm'n on Envtl. Quality* v. *EPA,* 790 F.3d 138, 163 n.12 (D.C. Cir. 2015) (observing that the argument that ''there likely would have been no violation at all . . . if it were not for the emissions resulting from [another source]'' is ''merely a rephrasing of the but-for causation rule that we rejected in *Catawba County*.''). Therefore, a state is not excused from eliminating its significant contribution on the basis that international emissions also contribute some amount of pollution to the same receptors to which the state is linked.

C. Evaluation of Information Provided by Kentucky Regarding Step 2

At Step 2 of the 4-step interstate transport framework, Kentucky relied on EPA modeling released in the March 2018 memorandum to identify upwind state linkages to nonattainment and maintenance receptors in 2023 and included results from modeling run by

[48] The Alpine modeling results identified the Harford, Maryland receptor as a nonattainment receptor, with Kentucky emissions contributing 2.07 ppb. In addition, the Alpine modeling results identified Kentucky linkages above 1 percent to the following maintenance-only receptors: Gloucester, New Jersey (ID: 340150002), with a Kentucky contribution of 1.69 ppb; Richmond, New York (ID: 360850067), with a Kentucky contribution of 0.93; and Philadelphia, Pennsylvania (ID: 421010024), with a Kentucky contribution of 1.53.

[49] To the extent that MOG cited Attachment A to EPA's March 2018 memorandum as suggesting support for this approach, this is incorrect. As discussed in section I.D, the attachment summarized ideas from outside stakeholders, and EPA did not endorse such approaches as technically or legally appropriate. Further, nothing in Attachment A suggested that international contribution could simply be subtracted from a downwind receptor's projected design value.

Alpine. Both EPA's modeling released in the March 2018 memorandum as well as Alpine's modeling indicate that Kentucky is linked to downwind monitors.[50] As Kentucky attached Alpine's modeling without discussing it in the narrative of the submittal, it is unclear whether Kentucky intended to rely on Alpine's modeling in its submittal.

As described in section I.C of this notice, EPA has recently updated modeling to identify upwind state contributions to nonattainment and/or maintenance receptors in 2023. In this notice, EPA proposes to rely on the Agency's most recently available modeling to identify upwind contributions and ''linkages'' to downwind air quality problems in 2023 using a threshold of 1 percent of the NAAQS. *See* section I.D for a general explanation of the use of 1 percent of the NAAQS.

As shown in Table 1, updated EPA modeling identifies Kentucky's maximum contribution to a downwind nonattainment or maintenance receptor is greater than 1 percent of the standard (i.e., 0.70 ppb).

Kentucky, however, argued in its SIP submittal for the use of an alternative 1 ppb contribution threshold at Step 2 to attempt to demonstrate that it was no longer ''linked'' to projected downwind nonattainment receptors. Specifically, Kentucky cited EPA's August 2018 memorandum as supporting the use of a 1 ppb alternative contribution threshold at Step 2 to assert that the Commonwealth was no longer ''linked'' to projected downwind nonattainment receptors, while conceding that even under this alternative threshold, it was linked above 1 ppb to the projected Harford, Maryland maintenance-only receptor. EPA's most recent modeling of 2023 no longer identifies the Harford, Maryland monitoring site as either a maintenance or nonattainment receptor. Nonetheless, Kentucky is linked above 1 percent of the NAAQS but less than 1 ppb to the four receptors in EPA's most recent modeling. Therefore, whether Kentucky's use of an alternative 1 ppb contribution threshold is approvable is potentially a dispositive question in EPA's evaluation.

EPA proposes to find that Kentucky's reliance on an alternative contribution threshold of 1 ppb at Step 2 is not approvable. EPA acknowledges that the August 2018 memorandum generally recognized that a 1 ppb threshold may be appropriate for states to use, but also made clear that this guidance would be applied under the facts and circumstances of each particular SIP submittal.[51] However, Kentucky did not provide a technical analysis to sufficiently justify use of an alternative 1 ppb threshold at the linked, downwind monitors. Kentucky's SIP submission simply stated that the Commonwealth agrees with EPA's rationale set out in the August 2018 memorandum that the amount of upwind collective contribution captured with the 1 percent and 1 ppb thresholds was generally comparable. But the guidance anticipated that states would evaluate whether the alternative threshold was appropriate under their specific facts and circumstances, not that the use of the alternative threshold would be automatically approvable.[52] With respect to the assertion that 1 ppb was generally comparable to 1 percent, Kentucky did not provide discussion or analysis containing information specific to Kentucky or a receptor analysis for the affected monitors, as anticipated in the 2018 memorandum, to evaluate whether the alternative threshold was appropriate to apply with respect to the monitors to which Kentucky was linked. Such state-specific information is necessary to thoroughly evaluate the state-specific circumstances that could support approval. Given the absence of technical analysis to support the use of a 1 ppb threshold under the facts and circumstances relevant to Kentucky and its linked receptors, EPA proposes that the use of 1 ppb as a contribution threshold is not approvable.[53] (As discussed in section III.C.1 below, EPA no longer intends to dedicate resources to supplement state submittals with insufficient analysis in this regard, and also has identified other policy and programmatic concerns with attempting to recognize alternative thresholds at Step 2 or otherwise deviating from its historical, consistent practice since CSAPR of applying a threshold of 1 percent of the NAAQS at Step 2.)

The MOG materials appended to Kentucky's submission argued that a 2016 EPA SIL guidance could be cited as acceptable to support a 1 ppb contribution threshold. As an initial matter, Kentucky appears not to have relied on this rationale. In EPA's comments on Kentucky's draft SIP submittal, EPA stated, ''EPA has not made a determination that the SIL, developed for source-specific (PSD) purposes, could be considered an appropriate threshold to use when assessing contribution from an entire state.'' [54] Kentucky stated in response that it ''concurs with the comment'' and had adjusted its SIP submittal accordingly.[55] Further, even if the State had attempted to rely on the SIL as support for a 1 ppb threshold, the basis supplied by MOG is inadequate. The SIL is an analytical metric used in the context of PSD permitting, a part of the CAA's ''prevention of significant deterioration'' program, which generally is applicable in areas that designated attainment [56] or unclassifiable for the NAAQS. Good neighbor analysis for the ozone NAAQS, by contrast, addresses the degree of significant contribution to nonattainment and interference with maintenance of the NAAQS resulting at downwind receptors from the collective contribution of many upwind sources. Further, it is not correct to conflate the

[50] Although the various modeling runs (EPA's March 2018 modeling, Alpine's modeling and EPA's updated modeling) indicate that Kentucky is linked to different receptors and with differing amounts of contribution, all three sets of modeling are consistent in that each indicates linkages between Kentucky and downwind receptors.

[51] *See* August 2018 memorandum at 1.

[52] As an example of the type of analysis that EPA anticipated states might conduct under the guidance, in one instance, EPA itself attempted to conduct a state- and receptor-specific analysis that could support approval of the use of a 1 ppb threshold. *See* Air Plan Approval; Iowa; Infrastructure State Implementation Plan Requirements for the 2015 Ozone National Ambient Air Quality Standard, 85 FR 12232 (March 2, 2020). The Agency received adverse comment on this proposed approval and has not taken final action with respect to this proposal.

[53] Kentucky applied the 1 ppb contribution threshold to the Connecticut, Wisconsin, and Maryland receptors, as the Commonwealth found that Kentucky was linked to these receptors based on the modeling released with the March 2018 memorandum. Under EPA's updated modeling, Kentucky is no longer linked to the Wisconsin and Maryland receptors and is linked to receptors in Pennsylvania and New Haven, Connecticut. *See* Table 1. However, as Kentucky did not provide any state-specific information, the rationale is also applicable to the Pennsylvania and New Haven, Connecticut linkages.

[54] *See* Kentucky's January 11, 2019, submission, Appendix D, Summary of Comments and Responses, at 6–7.

[55] *Id.* at 7. EPA directed Kentucky instead to the August 2018 memorandum if it wished to rely on a 1 ppb threshold; however, EPA's comments noted that this memorandum was only a ''part'' of the rationale the Commonwealth should develop. *Id.* at 6.

[56] Pursuant to section 107(d) of the CAA, EPA must designate areas as either ''nonattainment,'' ''attainment,'' or ''unclassifiable.'' Historically for ozone, the EPA has designated most areas that do not meet the definition of nonattainment as ''unclassifiable/attainment.'' This category includes areas that have air quality monitoring data meeting the NAAQS and areas that do not have monitors but for which the EPA has no evidence that the areas may be violating the NAAQS or contributing to a nearby violation. In the designations for the 2015 ozone NAAQS, the EPA reversed the order of the label to be ''attainment/unclassifiable'' to better convey the definition of the designation category and so that the category is more easily distinguished from the separate unclassifiable category. An ''attainment'' designation is reserved for a previous nonattainment area that has been redesignated to attainment as a result of the EPA's approval of a CAA section 175A maintenance plan submitted by the state air agency.

use of the term ''significance'' as used in the SIL guidance, with the term ''contribution,'' which is the appliable statutory term that EPA applies at Step 2 of the 4-step interstate transport framework. (''Significance'' within the 4-step framework is evaluated at Step 3 through a multifactor analysis, for those states that are determined to ''contribute'' to downwind receptors at Steps 1 and 2. See section I.D.4.) Given the fundamentally different statutory objectives and context, EPA disagrees with MOG's contention that the SIL guidance is applicable in the good neighbor context.

1. EPA's Experience With Alternative Step 2 Thresholds

EPA here shares further evaluation of its experience since the issuance of the August 2018 memorandum regarding use of alternative thresholds at Step 2. This experience leads the Agency to now believe it may not be appropriate to continue to attempt to recognize alternative contribution thresholds at Step 2. The August 2018 memorandum stated that ''it may be reasonable and appropriate'' for states to rely on an alternative threshold of 1 ppb threshold at Step 2.[57] (The memorandum also indicated that any higher alternative threshold, such as 2 ppb, would likely not be appropriate.) However, EPA also provided that ''air agencies should consider whether the recommendations in this guidance are appropriate for each situation.'' Following receipt and review of 49 good neighbor SIP submittals for the 2015 8-hour ozone NAAQS, EPA's experience has been that nearly every state that attempted to rely on a 1 ppb threshold did not provide sufficient information and analysis to support a determination that an alternative threshold was reasonable or appropriate for that state.

For instance, in nearly all submittals, the states did not provide EPA with analysis specific to their state or the receptors to which its emissions are potentially linked. In one case, the proposed approval of Iowa's SIP submittal, EPA expended its own resources to attempt to supplement the information submitted by the state, in order to more thoroughly evaluate the state-specific circumstances that could support approval.[58] It was at EPA's sole discretion to perform this analysis in support of the state's submittal, and the Agency is not obligated to conduct supplemental analysis to fill the gaps whenever it believes a state's analysis is insufficient. The Agency no longer intends to undertake supplemental analysis of SIP submittals with respect to alternative thresholds at Step 2 for purposes of the 2015 8-hour ozone NAAQS.

Furthermore, EPA's experience since 2018 is that allowing for alternative Step 2 thresholds may be impractical or otherwise inadvisable for a number of additional policy reasons. For a regional air pollutant such as ozone, consistency in requirements and expectations across all states is essential. Based on its review of submittals to-date and after further consideration of the policy implications of attempting to recognize an alternative Step 2 threshold for certain states, the Agency now believes the attempted use of different thresholds at Step 2 with respect to the 2015 8-hour ozone NAAQS raises substantial policy consistency and practical implementation concerns.[59] The availability of different thresholds at Step 2 has the potential to result in inconsistent application of good neighbor obligations based solely on the strength of a state's implementation plan submittal at Step 2 of the 4-step interstate transport framework. From the perspective of ensuring effective regional implementation of good neighbor obligations, the more important analysis is the evaluation of the emissions reductions needed, if any, to address a state's significant contribution after consideration of a multifactor analysis at Step 3, including a detailed evaluation that considers air quality factors and cost. Where alternative thresholds for purposes of Step 2 may be ''similar'' in terms of capturing the relative amount of upwind contribution (as described in the August 2018 memorandum), nonetheless, use of an alternative threshold would allow certain states to avoid further evaluation of potential emission controls while other states must proceed to a Step 3 analysis. This can create significant equity and consistency problems among states.

Further, it is not clear that national ozone transport policy is best served by allowing for less stringent thresholds at Step 2. EPA recognized in the August 2018 memorandum that there was some similarity in the amount of total upwind contribution captured (on a nationwide basis) between 1 percent and 1 ppb. However, EPA notes that while this may be true in some sense, that is hardly a compelling basis to move to a 1 ppb threshold. Indeed, the 1 ppb threshold has the disadvantage of losing a certain amount of total upwind contribution for further evaluation at Step 3 (*e.g.,* roughly 7 percent of total upwind state contribution was lost according to the modeling underlying the August 2018 memorandum;[60] in EPA's updated modeling, the amount lost is 5 percent). Considering the core statutory objective of ensuring elimination of all significant contribution to nonattainment or interference of the NAAQS in other states and the broad, regional nature of the collective contribution problem with respect to ozone, there does not appear to be a compelling policy imperative in allowing some states to use a 1 ppb threshold while others rely on a 1 percent of the NAAQS threshold.

Consistency with past interstate transport actions such as CSAPR, and the CSAPR Update and Revised CSAPR Update rulemakings (which used a Step 2 threshold of 1 percent of the NAAQS for two less stringent ozone NAAQS), is also important. Continuing to use a 1 percent of NAAQS approach ensures that as the NAAQS are revised and made more stringent, an appropriate increase in stringency at Step 2 occurs, so as to ensure an appropriately larger amount of total upwind-state contribution is captured for purposes of fully addressing interstate transport. *See* 76 FR 48208, 48237–38 (August 8, 2011).

Therefore, notwithstanding the August 2018 memorandum's recognition of the potential viability of alternative Step 2 thresholds, and in particular, a potentially applicable 1 ppb threshold, EPA's experience since the issuance of that memorandum has revealed substantial programmatic and policy difficulties in attempting to implement this approach. Nonetheless, EPA is not at this time rescinding the August 2018 memorandum. The basis for disapproval of Kentucky's SIP submission with respect to the Step 2 analysis is, in the Agency's view, warranted even under the terms of the August 2018 memorandum. EPA invites comment on this broader discussion of issues associated with alternative thresholds at Step 2. Depending on comment and further evaluation of this issue, EPA may determine to rescind the August 2018 memorandum in the future.

[57] *See* August 2018 memorandum at 4.

[58] *Air Plan Approval; Iowa; Infrastructure State Implementation Plan Requirements for the 2015 Ozone National Ambient Air Quality Standard,* 85 FR 12232 (March 2, 2020). The Agency received adverse comment on this proposed approval and has not taken final action with respect to this proposal.

[59] EPA notes that Congress has placed on EPA a general obligation to ensure the requirements of the CAA are implemented consistently across states and regions. *See* CAA section 301(a)(2). Where the management and regulation of interstate pollution levels spanning many states is at stake, consistency in application of CAA requirements is paramount.

[60] *See* August 2018 memorandum at 4.

In summary, EPA's updated modeling indicates that emissions from Kentucky sources are linked to downwind receptors identified in Table 1, and application of 1 ppb alternative threshold is not supported by Kentucky's SIP submission. Thus, EPA preliminarily finds that Kentucky is linked to downwind nonattainment and maintenance receptors, and proceeds to Step 3 of the 4-step framework.

D. Evaluation of Information Provided by Kentucky Regarding Step 3

At Step 3 of the 4-step interstate transport framework, a state's emissions are further evaluated, in light of multiple factors, including air quality and cost considerations, to determine what, if any, emissions significantly contribute to nonattainment or interfere with maintenance and, thus, must be eliminated under CAA section 110(a)(2)(D)(i)(I).

To effectively evaluate which emissions in the state should be deemed ''significant'' and therefore prohibited, states generally should prepare an accounting of sources and other emissions activity for relevant pollutants and assess potential, additional emissions reduction opportunities and resulting downwind air quality improvements. EPA has consistently applied this general approach (*i.e.,* Step 3 of the 4-step interstate transport framewor46k) when identifying emissions contributions that the Agency has determined to be ''significant'' (or interfere with maintenance) in each of its prior Federal, regional ozone transport rulemakings, and this interpretation of the statute has been upheld by the Supreme Court. *See EME Homer City,* 572 U.S. 489, 518–520 (2014). While EPA has not directed states that they must conduct a Step 3 analysis in precisely the manner EPA has done in its prior regional transport rulemakings, state implementation plans addressing the obligations in CAA section 110(a)(2)(D)(i)(I) must prohibit ''any source or other type of emissions activity within the State'' from emitting air pollutants which will contribute significantly to downwind air quality problems. Thus, states must complete something similar to EPA's analysis (or an alternative approach to defining ''significance'' that comports with the statute's objectives) to determine whether and to what degree emissions from a state should be ''prohibited'' to eliminate emissions that will ''contribute significantly to nonattainment in, or interfere with maintenance of'' the NAAQS in any other state. Kentucky did not conduct such an analysis in its SIP submission.

Kentucky did not include a comprehensive accounting of facilities in the Commonwealth and did not include a sufficient analysis of potential NO_X emissions control technologies, their associated costs, estimated emissions reductions, and downwind air quality improvements for the purpose of identifying what additional emission controls may be necessary to eliminate their significant contribution. Rather, Kentucky's SIP included air quality analysis related to downwind receptors and relied on existing NO_X emission measures in the Commonwealth without any rationale to show how or why existing measures would eliminate the Kentucky's downwind contribution. Further, the Commonwealth provided information related to programs that it asserted were responsible for a 10-year decline in ozone season NO_X emissions in Kentucky, such as regulations and Federal programs (including the CSAPR Update), EGU shutdowns, retirements, and fuel switches. However, Kentucky did not quantify the NOx emission reduction potential of on-the-books regulations or Federal programs or on-the-way measures for 2023, nor does the submission consider cost-effectiveness of potential emissions controls, the total emissions reductions that may be achieved by requiring these controls, or an evaluation of the air quality impacts such emissions reductions would have on the downwind receptors to which Kentucky is linked. Identifying a range of on-the-books emissions control measures that have been or may be enacted at the state or local level, without analysis of the impact of those measures on the downwind receptors, is not a sufficient analysis.

Furthermore, the emissions-reducing effects of on-the-books emissions control requirements are already reflected in the air quality results of EPA's modeling under Steps 1 and 2 of the 4-step framework. Kentucky, and MOG in the materials it submitted to Kentucky, maintain that there were additional emission reductions that have occurred that were not accounted for in EPA's 2023 modeling as presented in the March 2018 memorandum. Kentucky cites the 2019 retirement of units 1 and 2 at the E.W. Brown coal-fired power plant (see Appendix D, Response to Comments, at 5), and MOG claims a variety of unidentified changes not accounted for in EPA's emissions inventory at the time of the modeling in the March 2018 memorandum, as well as certain downwind state measures apparently under consideration but not adopted, and certain changes in the Wisconsin EGU fleet (*see* Alpine TSD, Appendix B, at pages B–5, B–6). In general, any changes in the emissions inventory and on-the-books controls relevant to emissions in 2023 have now been incorporated into EPA's most recent modeling of 2023. This includes changes in Kentucky EGU emissions.

As previously discussed, EPA's updated modeling indicates sources in Kentucky are linked to downwind air quality problems for the 2015 8-hour ozone standard. However, Kentucky's SIP submittal did not include a sufficient accounting of emissions sources or activity in the Commonwealth, along with an analysis of potential NO_X emissions control technologies, associated costs, estimated emissions reductions, and downwind air quality improvements to eliminate the Kentucky's downwind contribution.

EPA therefore propose to find that Kentucky was required to analyze emissions from the sources and other emissions activity from within the Commonwealth to determine whether its contributions were significant, and EPA proposes to disapprove its submission because Kentucky failed to do so.

The subsections below contain additional detail with respect to arguments made by the Commonwealth in its SIP submission.[61]

1. Evaluation of Kentucky's Reliance on Existing and Future NO_X Emission Reductions

The Commonwealth's SIP submission does not contain a Step 3 analysis regarding future emissions reduction opportunities beyond pointing to NO_X emission reductions from expected retirements, fuel switching, and shutdowns. While the Commonwealth claimed there would be an estimated 471 tons of NO_X emissions from potential shutdown of units at the E.W. Brown Generating Station facility in Harrodsburg, Kentucky, the Commonwealth did not clarify how these planned reductions would resolve the Commonwealth's downwind contribution to the Harford County, Maryland maintenance-only receptor by 2023. (Nor did the Commonwealth evaluate whether emissions may increase at other sources whose generation would replace that lost at E. W. Brown.) Further, the E.W. Brown facility retired coal-fired units 1 and 2

[61] These subsections provide brief summaries of the issues as presented in Kentucky's SIP as context; please see section II of this notice for additional detail on the contents of Kentucky's SIP.

in February 2019,[62] the units' retirement is included in the recently updated modeling for Steps 1 and 2, and yet emissions from Kentucky sources remain linked to one or more downwind receptors.

While the Commonwealth generally asserted that on-the-books or on-the-way regulations and programs may provide future emissions reductions, Kentucky did not quantify these reductions in a meaningful way or demonstrate that the downwind improvements from these regulations and programs would be sufficient to eliminate the Commonwealth's significant contribution or interference with maintenance. In addition, the SIP submission did not evaluate or even attempt to identify additional control measures for EGUs or non-EGUs, nor did it include a determination of emission reduction potential for these potential additional controls or consider their cost-effectiveness or downwind air quality effects. This is not a sufficient Step 3 analysis.

2. Evaluation of Kentucky's Reliance on Prior Transport FIPs

The 10-year emission reductions discussed by Kentucky relies in part on the implementation of CAIR, CSAPR, and the CSAPR Update. Kentucky's SIP relied on its EGUs being subject to the CSAPR Update (which reflected a stringency at the nominal marginal cost threshold of $1,400/ton (in 2011 dollars) for the 2008 8-hour ozone NAAQS) to argue that it has already implemented all cost-effective emissions reductions to support its conclusion that additional NO_X emission reductions are not necessary from sources in Kentucky. Kentucky did not conduct a comprehensive Step 3 analysis or provide any justification for reliance on the CSAPR Update beyond identifying the NO_X emission reductions that the Commonwealth believes are the source of the 10-year decline in NO_X emissions at EGUs in the Commonwealth and noting that the actual emissions from EGUs in the Commonwealth are well below the CSAPR Update NO_X ozone season trading budget.

EPA disagrees with the Commonwealth. Reliance on the CSAPR Update (or the subsequent Revised CSAPR Update, which fully resolved Kentucky's good neighbor obligations for the 2008 ozone NAAQS, 86 FR 23056–57), is insufficient because those policies addressed section 110(a)(2)(D)(i)(I) only for the *2008* ozone NAAQS. Additionally, reliance on an alleged cost-threshold stringency from the CSAPR Update is insufficient without additional Step 3 analysis and justification. First, the CSAPR Update did not regulate non-EGUs, and thus this analysis would have been incomplete, even with respect to obligations under the 2008 ozone NAAQS. *See Wisconsin,* 938 F.3d at 318–20. Second, relying on the CSAPR Update's (or any other CAA program's) determination of cost-effectiveness without further Step 3 analysis is not approvable. Cost-effectiveness must be assessed in the context of the specific CAA program; assessing cost-effectiveness in the context of ozone transport should reflect a more comprehensive evaluation of the nature of the interstate transport problem under the relevant NAAQS, the total emissions reductions available at alternative cost thresholds, and the air quality impacts of the reductions at downwind receptors. While EPA has not established a benchmark cost-effectiveness value for 2015 8-hour ozone NAAQS interstate transport obligations, because the 2015 8-hour ozone NAAQS is a more stringent and more protective air quality standard, it is reasonable to expect control measures or strategies to address interstate transport under this NAAQS to reflect higher marginal control costs. As such, the marginal cost threshold of $1,400/ton for the CSAPR Update (which addresses the 2008 ozone 8-hour NAAQS and is in 2011 dollars) is not an appropriate cost threshold and cannot be approved as a benchmark to use for interstate transport SIP submissions for the 2015 8-hour ozone NAAQS.

In addition, the updated EPA modeling captures all existing CSAPR trading programs in the baseline, and that modeling confirms that these control programs were not sufficient to eliminate the Kentucky's linkage at Steps 1 and 2 under the 2015 8-hour ozone NAAQS. Kentucky was therefore obligated at Step 3 to assess *additional* control measures using a multifactor analysis.

Finally, relying on a FIP at Step 3 is per se not approvable if the state has not adopted that program into its SIP and instead continues to rely on the FIP. States may not rely on non-SIP measures to meet SIP requirements. *See* CAA section 110(a)(2)(D) (''Each such [SIP] shall . . . contain adequate provisions. . . .''). *See also* CAA section 110(a)(2)(A); *Committee for a Better Arvin* v. *U.S. E.P.A.,* 786 F.3d 1169, 1175–76 (9th Cir. 2015) (holding that measures relied on by state to meet CAA requirements must be included in the SIP). Kentucky has not adopted the Group 3 NO_X Ozone Season Trading Program promulgated in the Revised CSAPR Update into its SIP.

3. Evaluation of Kentucky's Analysis of Air Quality and Emission Reductions Near the Linked Monitors

Kentucky's SIP also evaluated air quality in the vicinity of the Fairfield County, Connecticut (IDs: 090013007 and 090019003) and Harford County, Maryland (ID: 240251001) monitors for which the Commonwealth is linked based on EPA's modeling in the March 2018 memorandum. Kentucky's submission asserts that the primary cause of nonattainment problems at the Connecticut and Maryland monitors are due to local emissions of ozone precursors (particularly NO_X) and meteorological conditions.

Kentucky's SIP submittal argues against control requirements on Kentucky sources to address the two nonattainment receptors in Fairfield, Connecticut (IDs: 090013007, 090019003) and the maintenance-only monitor in Harford County, Maryland monitor, claiming that additional emission reductions from Kentucky EGUs (the only Kentucky source category discussed in the submittal) are not necessary. Kentucky concludes that local emissions reductions should be applied before requiring Kentucky to control its sources, and that the implementation of local programs to reduce emissions should be sufficient for monitors in the area to attain the 2015 8-hour ozone NAAQS.[63]

With respect to the information Kentucky provided that is related to local emissions and the impact on air quality at the Connecticut and Maryland receptors, this information is insufficient to approve Kentucky's SIP submission. Regardless of whether local emissions are the largest contributor to a specific nonattainment or maintenance receptor, the good neighbor provision requires that upwind states prohibit emissions that contribute significantly to nonattainment or interfere with maintenance of the NAAQS in downwind states. EPA evaluates a state's obligations to eliminate interstate transport emissions under the interstate transport provision according to EPA's 4-step process, and EPA's updating modeling at Steps 1 and

[62] *See* Retired Unit exemption forms for E.W. Brown Generating station in Docket No.: EPA–R04–OAR–2021–0841.

[63] The Commonwealth's submission cites to MOG's statements regarding controls on local sources ''When an area is measuring nonattainment of a NAAQS, as is the case with the areas linked to Kentucky, the CAA requires that the effects and benefits of local controls on all source sectors be considered first, prior to pursuing controls of sources in upwind states.''

2 has identified a linkage between emission from Kentucky sources and downwind nonattainment and maintenance receptors.

Further, EPA disagrees with Kentucky's claims that local emissions reductions from the jurisdiction where the downwind receptor is located must first be implemented and accounted for before imposing obligations on upwind states under the interstate transport provision. There is nothing in the CAA that supports that position, and it does not provide grounds on which to approve Kentucky SIP submission. The D.C. Circuit has held on five different occasions that the timing framework for addressing interstate transport obligations must be consistent with the downwind areas' attainment schedule. In particular, for the ozone NAAQS, the states and EPA are to address interstate transport obligations ''as expeditiously as practicable'' and no later than the attainment schedule set in accordance with CAA section 181(a). *See North Carolina,* 531 F.3d at 911–13; *Wisconsin,* 938 F.3d at 313–20; *Maryland,* 958 F.3d at 1204; *New York* v. *EPA,* 964 F.3d 1214, 1226 (D.C. Cir. 2020); *New York* v. *EPA,* 781 Fed. App'x 4, 6–7 (D.C. Cir. 2019). The court in *Wisconsin* explained its reasoning in part by noting that downwind jurisdictions often may need to heavily rely on emissions reductions from upwind states in order to achieve attainment of the NAAQS, 938 F.3d at 316–17; such states would face increased regulatory burdens including the risk of bumping up to a higher nonattainment classification if attainment is not reached by the relevant deadline. *Maryland,* 958 F.3d at 1204. The statutory framework of the CAA and these cases establish clearly that states and EPA must address interstate transport obligations in line with the attainment schedule provided in the Act in order to timely assist downwind states in attaining and maintain the NAAQS, and this schedule is ''central to the regulatory scheme.'' *Wisconsin,* 938 F.3d at 316 (quoting *Sierra Club* v. *EPA,* 294 F.3d 155, 161 (D.C. Cir. 2002)).

In addition, Kentucky's SIP does not provide a technical justification to support its conclusion that local emissions reductions at the receptors will achieve attainment without upwind reductions from sources within Kentucky. Specifically, Kentucky does not provide any information to support its claim that the implementation of local programs alone will address the air quality problems at the Connecticut and Maryland monitors. Even with the consideration of on-the-books control measures to reduce mobile source emissions, EPA's modeling projects that the total contribution from upwind states is a substantial part of the ozone problem at the nonattainment and maintenance receptors to which Kentucky is linked. To illustrate this, at the four receptors to which Kentucky is linked in EPA's latest 2023 modeling, the total percent of U.S. anthropogenic emissions from upwind states is 55 percent (Bucks Co., Pennsylvania), 90 percent (New Haven Co., Connecticut), 90 percent (Fairfield Co.—Stratford, Connecticut), and 94 percent (Fairfield Co.—Westport, Connecticut) of the total design values at these receptors. Clearly, emissions reductions from upwind states would have an impact on the design values at the identified receptors.[64]

Additionally, the SIP submission does not assess whether the Commonwealth's own emissions contributed to nonattainment or interfered with maintenance at the linked receptors, or rather substantiate that emissions from the Commonwealth's sources were not interacting with these monitors. Consequently, the application of local emission reduction measures does not absolve upwind states and sources from the responsibility of addressing their significant contribution. Moreover, Kentucky still has an obligation under the Act to address its downwind contribution to ozone nonattainment or interference with maintenance regardless of the emission reduction potential for local control measures. Furthermore, given that EPA's updated modeling indicates that Kentucky is linked to nonattainment and maintenance receptors at Step 2 including the same Fairfield County, Connecticut nonattainment receptors as were linked in the modeling released with the March 2018 memorandum, EPA disagrees with Kentucky's claims regarding the application of local emission reduction measures with respect to its downwind linkages in the most recent modeling.

[64] In contrast to the receptors to which Kentucky is linked, EPA has found that certain receptors are so heavily impacted by local emissions that they should not be considered ''transport'' receptors for purposes of the ozone NAAQS. Typically, in such cases, only one state is linked above 1 percent to that receptor and the total upwind state contribution is on the order of 2 percent to 4 percent of the receptor's DV. *See, e.g.,* 81 FR 15200 (March 22, 2016), 81 FR 31513 (May 19, 2016), and 81 FR 36179 (June 6, 2016) (approving Arizona's transport SIP on basis that certain California receptors should not be considered impacted by interstate ozone transport).

4. Evaluation of Kentucky's HYSPLIT Analysis

Kentucky's SIP submittal also included HYSPLIT model back trajectory analysis, which Kentucky used to emphasize the local nature of the ozone precursor emissions at the two Connecticut receptors, mobile sources along the I–95 Corridor, and the proximity of large point sources and ozone nonattainment areas in New York, New Jersey, Pennsylvania, and Maryland. Similarly, Kentucky also evaluated HYSPLIT back-trajectory for the Harford County, Maryland monitor and noted similar localized emissions impacts with respect to the Maryland monitor as discussed previously for the two Fairfield County, Connecticut monitors.

However, the limited information provided by Kentucky is not adequate to support approval of Kentucky's SIP on this basis and in the absence of a more complete Step 3 evaluation. Kentucky's SIP submittal did not address that the HYSPLIT back-trajectories indicate that ozone precursor emissions sources in Kentucky are upwind of the linked nonattainment receptors in Connecticut (regardless of the existence of other upwind nonattainment areas that may also be contributing to those receptors). Additionally, the HYSPLIT trajectory information provided by Kentucky was developed by EPA to inform the 2015 8-hour ozone NAAQS area designations and was not intended to evaluate long-distance interstate transport.[65]

Attachment 3 of the 2015 8-hour ozone Area Designations memorandum states that the line thickness displayed on trajectory plots ''does not imply coverage other than to represent the centerline of an air parcel's motion calculated to arrive at the starting location at the starting time. Uncertainties are clearly present in these results and these uncertainties change with trajectory time and distance traveled. One should avoid concluding a region is not along a trajectory's path if the center line of that trajectory missed the region by a relatively small distance.'' [66]

[65] *See* Area Designations for the 2015 Ozone National Ambient Air Quality Standards memorandum from Janet G. McCabe to EPA Regional Administrators, February 25, 2016 (2015 ozone Area Designations memorandum).

[66] *See id.* It is important to understand that HYSPLIT back trajectory analyses use archived meteorological modeling that includes actual observed data (surface, upper air, airplane data, etc.) and modeled meteorological fields to estimate the most likely route of an air parcel transported to a receptor at a specified time. The method essentially follows a parcel of air backward in hourly steps for a specified length of time. HYSPLIT

Continued

Further, the back trajectories used by Kentucky were limited to evaluating transport of air parcels over a relatively short 24-hour period, which limits their use for evaluating long-distance transport of emissions from Kentucky to the Fairfield, Connecticut receptors and the Harford, Maryland receptor. In contrast, EPA's analysis of transported emissions as discussed in section III.A uses updated, photochemical grid modeling designed to assess ozone transported to downwind monitors across the entire region and over extended timeframes that fully account for fate and transport of ozone-precursors over longer distances.

Kentucky's SIP submission states that the Fairfield County ozone monitors are located in the New York Metro Area, in close proximity to the I–95 transportation artery. The Commonwealth's analysis asserts a high VMT and number of commuters in the area indicating the presence of mobile emissions that could be the cause of violating monitors along the I–95 corridor. Kentucky's SIP also mentions two additional coastal monitor sites (Westport Sherwood and Stratford Point Lighthouse) located less than three miles from the I–95 corridor that also show a pattern of ozone violations. Kentucky raises similar points regarding the effect of mobile source emissions along the I–95 corridor in Maryland near the Edgewood receptor. Further, Kentucky asserts that both the Connecticut and Maryland receptor sites may be particularly impacted by unique coastal conditions associated with the Long Island Sound and the Chesapeake Bay. While it is true that both of these monitors are affected by coastal meteorological conditions such as complex land-water wind flows and mixing heights, a large portion of anthropogenic ozone at these locations is the result of transport from upwind states. In addition, as noted above, EPA's most recent modeling shows that Kentucky is linked to a receptor in Bucks County, Pennsylvania which is inland and not influenced by coastal meteorology.

The relevance of the points raised by Kentucky regarding the HYSPLIT back trajectories related to the evaluation of Kentucky's good neighbor obligations is not clear. As already discussed, the statute and the case law (particularly the holdings in *Wisconsin* and *Maryland*) make clear that good neighbor obligations are not merely supplementary to or deferable until after local emission reductions are achieved. Further, all of the receptors to which Kentucky is linked are heavily impacted by upwind state emissions in addition to local sources and conditions. The *Wisconsin* decision's holding regarding international contribution (discussed in section III.A) is equally applicable to an upwind state's claims that some other state's emissions, or local emissions, are ''more to blame'' than its own emissions. *See* 938 F.3d 303 at 323–25 (''an upwind State can 'contribute' to downwind nonattainment even if its emissions are not the but-for cause'').

5. Evaluation of Kentucky's Approach to Maintenance Receptors

Kentucky's SIP argues that states linked only to maintenance receptors should be held to less stringent standards of emissions reductions compared to states linked to a nonattainment receptor. Thus, as the Edgewood monitor was identified as a maintenance receptor in EPA's March 2018 memorandum modeling, the Commonwealth asserts that no further reductions from Kentucky sources other than on-the-books controls should be required. Although the Harford monitor is no longer linked to Kentucky based on EPA's updated modeling,[67] emissions from the Commonwealth are linked to the Bucks County, Pennsylvania (ID: 420170012) maintenance-only receptor. Additionally, MOG argues that states should be absolved from additional emissions controls to address a maintenance monitor if the upwind state can show that either the monitor is likely to remain in attainment for a period of 10 years or that the upwind state's emissions will not increase for 10 years after the attainment date.[68]

Under the D.C. Circuit's decision in *North Carolina,* states and EPA are required to give independent significance to the ''interference with maintenance'' prong of section 110(a)(2)(D)(i)(I). *See* 531 F.3d at 910. Since CSAPR, EPA's nationally consistent policy framework for addressing interstate ozone transport has given meaning to this prong through a separate definition of maintenance receptors at Step 1 of the 4-step interstate transport framework. For states linked only to those receptors, EPA has found it appropriate to apply an emissions control solution that is uniform with the strategy applied for states that are linked to nonattainment receptors. *See* 76 FR at 48271. EPA's approach to addressing interference with maintenance under prong 2 for ozone NAAQS has been upheld twice. *See EME Homer City Generation, L.P.,* 795 F.3d at 136; *Wisconsin,* 938 F.3d at 325–27. *See also* 86 FR at 23054 (April 30, 2021).[69]

Particularly given this context, Kentucky's SIP submission does not provide information sufficient to support less stringent standards of emissions reductions than would result from EPA's historical approach of addressing emissions activities from upwind states that are linked to maintenance-only receptors. The Commonwealth does not explain how the obligations of upwind states linked to maintenance-only receptors should be treated differently than the obligations of upwind states linked to nonattainment receptors.

Further, EPA believes it would be inconsistent with the CAA for EPA to identify receptors that are at risk of NAAQS violations given certain conditions due to transported upwind emissions and then not prohibit the emissions that place the receptor at risk. The Supreme Court held that it was a permissible interpretation of the statute to apportion responsibility for states

estimates the central path in both the vertical and horizontal planes. The HYSPLIT central path represents the centerline with the understanding that there are areas on each side horizontally and vertically that also contribute to the end point at the monitor. The horizontal and vertical areas from the centerline grow wider the further back in time the trajectory goes. Therefore, a HYSPLIT centerline does not have to pass directly over emissions sources or emission source areas but merely relatively near emission source areas.

[67] *See* Table 1, shown previously in this notice.

[68] Kentucky did not rely on MOG's proposed approach in its SIP submittal, therefore EPA does not comprehensively evaluate MOG's suggestion. However, EPA's definition of maintenance receptors already accounts for, and projects whether, receptors may have trouble attaining the NAAQS, through the use of projected maximum design values in the relevant analytic year. Further, EPA's modeling of the relevant analytic year also already accounts for projected emissions trends of the upwind state (among others) and may (and often does) identify a linkage to areas that may struggle to maintain the NAAQS despite an overall declining emissions trend. This is not surprising. First, most maintenance receptors in EPA's projections are currently measuring nonattainment, meaning that, despite projecting improved air quality in the future analytic year, the receptor location is currently, and may continue to be, near the level of the NAAQS. Second, ozone levels are influenced by meteorological variability and thus high ozone levels may persist despite declining emissions as a result of recurring or worsening ozone-conducive atmospheric conditions (*e.g.,* higher temperatures). It is unclear how MOG's approach would account for this variability or ensure that projected emissions reductions from linked states are rendered certain and enforceable.

[69] In the main text of its SIP submittal conclusion regarding interstate transport, Kentucky incorrectly attributes statements regarding the ''interfere with maintenance'' prong to the U.S. Supreme Court. *See* Submittal at 45–46. A footnote, however, correctly attributes this language to the D.C. Circuit's original opinion in *EME Homer City* v *EPA,* 696 F.3d 7 (D.C. Cir. 2012). This decision was reversed and remanded by the Supreme Court, and on remand, the D.C. Circuit affirmed EPA's approach to implementing prong 2, *see* 795 F.3d at 136.

linked to nonattainment receptors considering ''both the magnitude of upwind States' contributions and the cost associated with eliminating them.'' *EME Homer City,* 134 S. Ct. at 1606. It is equally reasonable and permissible to use these factors to apportion responsibility among upwind states linked to maintenance receptors because the goal in both instances is to prohibit the ''amounts'' of pollution that will either significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind. EPA's updated modeling indicates that the Commonwealth is still linked to downwind nonattainment and maintenance receptors for the 2015 8-hour ozone standard. Consequently, EPA believes Kentucky's assertion that upwind states linked to maintenance-only receptors should be held to less stringent standards of emissions reductions (as compared to states linked to a nonattainment receptor) is also inappropriate for new downwind linkages.

6. Evaluation of Weighted Step 3 Approach

Although Kentucky did not adopt this approach in its SIP submittal, the MOG materials Kentucky appended provided arguments suggesting a ''weighted'' approach to Step 3 similar to an approach that stakeholders had identified to EPA (as listed in Attachment A to EPA's March 2018 memorandum). Under this approach, upwind-state emission reduction obligations would be allocated in proportion to the size of their contribution to downwind nonattainment. MOG determined the proportional reduction requirement associated with the relative significant contribution from each upwind state to the Harford County, Maryland monitor including Kentucky, which resulted in an additional emission reduction obligation for Kentucky of 0.02 ppb, as MOG proposed would be the appropriate proportion of reductions necessary for attainment at the Harford receptor. This approach would have imposed additional emissions reductions for Kentucky sources. Kentucky's final SIP did not consider MOG's proposal, and did not provide an explanation for why it was rejecting this approach to allocating upwind emission reductions, even though it appended this recommendation to its SIP submittal.

In summary, EPA has newly available information that confirms sources in Kentucky are linked to downwind air quality problems for the 2015 8-hour ozone standard. Kentucky's SIP submittal did not include an accounting of emissions sources and activity in the Commonwealth along with an analysis of potential NO_X emissions control technologies, their associated costs, estimated emissions reductions, and downwind air quality improvements. Nor did Kentucky present an alternative approach to assess which of its emissions should be deemed ''significant.'' EPA proposes to find that Kentucky's analysis—including reliance on on-the-books state and Federal measures (including prior CSAPR programs) and claimed on-the-way emission reductions, as well as other air quality, emissions, and geographic factors—is insufficient to support the Commonwealth's claim that its SIP adequately prohibits emissions within Kentucky in a manner sufficient to address the State's interstate transport obligations for the 2015 8-hour ozone.

E. Evaluation of Information Provided by Kentucky Regarding Step 4

Step 4 of the 4-step interstate transport framework calls for development of permanent and federally enforceable control strategies to achieve the emissions reductions determined to be necessary at Step 3 to eliminate significant contribution to nonattainment or interference with maintenance of the NAAQS. Kentucky indicates that certain upcoming planned fuel switches or shutdowns at EGUs will occur before the end of 2023, for which Kentucky cites a press release and a closure plan developed by each plant's parent company.[70] As discussed in section III.D., Kentucky's analysis is insufficient to demonstrate that these reductions are sufficient to address the Commonwealth's interstate transport obligations; however, the Commonwealth also did not provide a separate SIP revision to ensure the reductions were permanent and enforceable. As a result, EPA proposes to disapprove Kentucky's January 11, 2019, submittal on the separate, additional basis that the Commonwealth has not developed permanent and enforceable emissions reductions necessary to meet the obligations of CAA section 110(a)(2)(d)(i)(I).

F. Conclusion

Based on EPA's evaluation of Kentucky's SIP submission, EPA is proposing to find that the interstate transport portion of Kentucky's January 11, 2019, SIP submission addressing CAA section 110(a)(2)(D)(i)(I) does not meet the Commonwealth's interstate transport obligations because it fails to contain the necessary provisions to eliminate emissions that will contribute significantly to nonattainment or interfere with maintenance of the 2015 8-hour ozone NAAQS in any other state.

[70] Pointing to anticipated upcoming emission reductions, even if they were not included in the analysis at Steps 1 and 2, is not sufficient as a Step 3 analysis, for the reasons discussed in section III.C. In this section, EPA explain that to the extent such anticipated reductions are not included in the SIP and rendered permanent and enforceable, reliance on such anticipated reductions is also insufficient at Step 4.

IV. Proposed Action

EPA is proposing to disapprove the 2015 8-hour ozone good neighbor interstate transport SIP revision from Kentucky, dated January 11, 2019. Under CAA section 110(c)(1), if finalized, this disapproval would establish a 2-year deadline for EPA to promulgate a FIP for Kentucky to address the CAA section 110(a)(2)(D)(i)(I) interstate transport requirements pertaining to significant contribution to nonattainment and interference with maintenance of the 2015 8-hour ozone NAAQS in other states, unless EPA approves a SIP that meets these requirements. However, under the CAA, a good neighbor SIP disapproval does not start a mandatory sanctions clock.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This proposed action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget for review.

B. Paperwork Reduction Act (PRA)

This proposed action does not impose an information collection burden under the PRA because it does not contain any information collection activities.

C. Regulatory Flexibility Act (RFA)

This action merely proposes to disapprove a SIP submission as not meeting the CAA for Kentucky. EPA certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities under the RFA (5 U.S.C. 601 *et seq.*).

D. Unfunded Mandates Reform Act (UMRA)

This proposed action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This proposed action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This proposed action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This proposed action does not have tribal implications as specified in Executive Order 13175. This proposed action does not apply on any Indian reservation land, any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction, or non-reservation areas of Indian country. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. This proposed action is not subject to Executive Order 13045 because it merely proposes to disapprove a SIP submission from Kentucky as not meeting the CAA.

H. Executive Order 13211, Actions That Significantly Affect Energy Supply, Distribution or Use

This proposed action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

This proposed rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations. This action merely proposes to disapprove a SIP submission as not meeting the CAA.

K. CAA Section 307(b)(1)

Section 307(b)(1) of the CAA governs judicial review of final actions by EPA. This section provides, in part, that petitions for review must be filed in the D.C. Circuit: (i) When the agency action consists of ''nationally applicable regulations promulgated, or final actions taken, by the Administrator,'' or (ii) when such action is locally or regionally applicable, if ''such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination.'' For locally or regionally applicable final actions, the CAA reserves to EPA complete discretion whether to invoke the exception in (ii).[71]

If EPA takes final action on this proposed rulemaking, the Administrator intends to exercise the complete discretion afforded to him under the CAA to make and publish a finding that the final action (to the extent a court finds the action to be locally or regionally applicable) is based on a determination of ''nationwide scope or effect'' within the meaning of CAA section 307(b)(1). Through this rulemaking action (in conjunction with a series of related actions on other SIP submissions for the same CAA obligations), EPA interprets and applies section 110(a)(2)(d)(i)(I) of the CAA for the 2015 8-hour ozone NAAQS based on a common core of nationwide policy judgments and technical analysis concerning the interstate transport of pollutants throughout the continental U.S. In particular, EPA is applying here (and in other proposed actions related to the same obligations) the same, nationally consistent 4-step framework for assessing good neighbor obligations for the 2015 8-hour ozone NAAQS. EPA relies on a single set of updated, 2016-base year photochemical grid modeling results of the year 2023 as the primary basis for its assessment of air quality conditions and contributions at Steps 1 and 2 of that framework. Further, EPA proposes to determine and apply a set of nationally consistent policy judgments to apply the 4-step framework. EPA has selected a nationally uniform analytic year (2023) for this analysis and is applying a nationally uniform approach to nonattainment and maintenance receptors and a nationally uniform approach to contribution threshold analysis.[72] For these reasons, the Administrator intends, if this proposed action is finalized, to exercise the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on one or more determinations of nationwide scope or effect for purposes of CAA section 307(b)(1).[73]

[71] In deciding whether to invoke the exception by making and publishing a finding that an action is based on a determination of nationwide scope or effect, the Administrator takes into account a number of policy considerations, including his judgment balancing the benefit of obtaining the D.C. Circuit's authoritative centralized review versus allowing development of the issue in other contexts and the best use of agency resources.

[72] A finding of nationwide scope or effect is also appropriate for actions that cover states in multiple judicial circuits. In the report on the 1977 Amendments that revised section 307(b)(1) of the CAA, Congress noted that the Administrator's determination that the ''nationwide scope or effect'' exception applies would be appropriate for any action that has a scope or effect beyond a single judicial circuit. *See* H.R. Rep. No. 95–294 at 323, 324, reprinted in 1977 U.S.C.C.A.N. 1402–03.

[73] EPA may take a consolidated, single final action on all of the proposed SIP disapproval actions with respect to obligations under CAA section 110(a)(2)(D)(i)(I) for the 2015 8-hour ozone NAAQS. Should EPA take a single final action on all such disapprovals, this action would be nationally applicable, and EPA would also anticipate, in the alternative, making and publishing a finding that such final action is based on a determination of nationwide scope or effect.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Ozone.

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

Dated: February 3, 2022.

Daniel Blackman,

Regional Administrator, Region 4.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

EPA–R03–OAR–2021–0873; EPA–HQ–OAR–2021–0663; FRL–9494–01–R3]

Air Plan Disapproval; West Virginia; Interstate Transport of Air Pollution for the 2015 8-Hour Ozone National Ambient Air Quality Standard

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA) is proposing to disapprove a State Implementation Plan (SIP) submittal from West Virginia intended to address interstate transport for the 2015 8-hour ozone national ambient air quality standards (2015 8-hour ozone NAAQS). The ''good neighbor'' or ''interstate