UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

UTAH ASSOCIATED MUNICIPAL POWER SYSTEMS, Petitioner, v. U.S. ENVIRONMENTAL PROTECTION AGENCY, Respondent.	Case No. _____

PETITION FOR REVIEW

Pursuant to Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1), and Federal Rule of Appellate Procedure 15(a), Petitioner Utah Associated Municipal Power Systems ("UAMPS") hereby petitions the United States Court of Appeals for the Tenth Circuit for review of the final action of Respondent United States Environmental Protection Agency, which final action is entitled "Air Plan Disapprovals; Interstate Transport of Air Pollution for the 2015 8-hour Ozone National Ambient Air Quality Standards," (Jan. 31, 2023), attached to this Petition as Attachment A and published at 88 Fed. Reg. 9,336 (Feb. 13, 2022) (hereinafter the "Final Rule").[1]

[1] Available at https://www.govinfo.gov/content/pkg/FR-2023-02-13/pdf/2023-02407.pdf.

This Court has jurisdiction over, and is the proper venue for, this Petition under 42 U.S.C. § 7607(b)(1), because UAMPS petitions for review of only the portion of the Final Rule that disapproves of Utah's State Implementation Plan.

A related petition for review of the Final Rule is pending before this Court in Case Number 23-9512, captioned *PacifiCorp, et al. v. United States Environmental Protection Agency*. Petitioner respectfully requests that this Petition for Review be consolidated with 23-9512.

DATED: March 15, 2023.

Respectfully submitted,

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CERTIFICATE OF FILING AND SERVICE

I certify that on the 15th of March, 2023, I caused this Petition for Review to be filed via the CM/ECF system. I further certify that on March 15, 2023, I caused a true and accurate copy of this Petition for Review to be served via certified mail, return receipt requested, on the following:

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DATED: March 15, 2023.

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ATTACHMENT A

ATTACHMENT A

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–HQ–OAR–2021–0663; EPA–R02–OAR–2021–0673; EPA–R03–OAR–2021–0872; EPA–R03–OAR–2021–0873; EPA–R04–OAR–2021–0841; EPA–R05–OAR–2022–0006; EPA–R06–OAR–2021–0801; EPA–R07–OAR–2021–0851; EPA–R08–OAR–2022–0315; EPA–R09–OAR–2022–0394; EPA–R09–OAR–2022–0138; FRL–10209–01–OAR]

Air Plan Disapprovals; Interstate Transport of Air Pollution for the 2015 8-Hour Ozone National Ambient Air Quality Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; final agency action.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA or the Agency) is finalizing the disapproval of State Implementation Plan (SIP) submissions for 19 states regarding interstate transport and finalizing a partial approval and partial disapproval of elements of the SIP submission for two states for the 2015 8-hour ozone national ambient air quality standards (NAAQS). The ''good neighbor'' or ''interstate transport'' provision requires that each state's SIP 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. Disapproving a SIP submission establishes a 2-year deadline for the EPA to promulgate Federal Implementation Plans (FIPs) to address the relevant requirements, unless the EPA approves a subsequent SIP submission that meets these requirements. Disapproval does not start a mandatory sanctions clock. The EPA is deferring final action at this time on the disapprovals it proposed for Tennessee and Wyoming.

DATES: The effective date of this final rule is March 15, 2023.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2021–0663. Additional supporting materials associated with this final action are included in certain regional dockets. *See* the memo ''Regional Dockets Containing Additional Supporting Materials for Final Action on 2015 Ozone NAAQS Good Neighbor SIP Submissions'' in the docket for this action. All documents in the dockets are listed on the *https://www.regulations.gov* website. Although listed in the index, some information is not publicly available, *i.e.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available through *https://www.regulations.gov* or please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section for additional information.

FOR FURTHER INFORMATION CONTACT: General questions concerning this document should be addressed to Mr. Thomas Uher, Office of Air Quality Planning and Standards, Air Quality Policy Division, Mail Code C539–04, 109 TW Alexander Drive, Research Triangle Park, NC 27711; telephone number: (919) 541–5534; email address: *uher.thomas@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document ''we,'' ''us,'' and ''our'' refer to the EPA.

References to section numbers in roman numeral refer to sections of this preamble unless otherwise specified.

I. General Information

A. How can I get copies of this document and other related information?

The EPA established a Headquarters docket for this action under Docket ID No. EPA–HQ–OAR–2021–0663 and several regional dockets. All documents in the docket are listed in the electronic indexes, which, along with publicly available documents, are available at *https://www.regulations.gov.* Publicly available docket materials are also available in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, William Jefferson Clinton West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC. Some information in the docket may not be publicly available via the online docket due to docket file size restrictions, such as certain modeling files, or content (*e.g.,* CBI). For further information on the EPA Docket Center services and the current status, please visit us online at *https://www.epa.gov/dockets.*

The EPA also established dockets in each of the EPA Regional offices to help support the proposals that are now being finalized in this national action. These include all public comments, technical support materials, and other files associated with this final action. Each regional docket contains a memorandum directing the public to the headquarters docket for this final action. While all documents in regional dockets are listed in the electronic indexes at *https://www.regulations.gov,* some information may not be publicly available via the online dockets due to docket file size restrictions, such as certain modeling files, or content (*e.g.,* CBI). Please contact the EPA Docket Center Services for further information.

B. How is the preamble organized?

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C. Where do I go if I have state-specific questions?

The following table identifies the states covered by this final action along with an EPA Regional office contact who can respond to questions about specific SIP submissions.

Regional offices	States
EPA Region 2: Kenneth Fradkin, Air and Radiation Division/Air Programs Branch, EPA Region 2, 290 Broadway, 25th Floor, New York, NY 10007.	New Jersey, New York.
EPA Region 3: Mike Gordon, Planning and Implementation Branch, EPA Region III, 1600 JFK Boulevard, Philadelphia, Pennsylvania 19103.	Maryland, West Virginia.
EPA Region 4: Evan Adams, Air and Radiation Division/Air Planning and Implementation Branch, EPA Region IV, 61 Forsyth Street SW, Atlanta, Georgia 30303.	Alabama, Kentucky, Mississippi.
EPA Region 5: Olivia Davidson, Air & Radiation Division/Air Programs Branch, EPA Region V, 77 W. Jackson Boulevard, Chicago, Illinois 60604–3511.	Indiana, Illinois, Michigan, Minnesota, Ohio, Wisconsin.
EPA Region 6: Sherry Fuerst, Air and Radiation Division, EPA Region 6, 1201 Elm Street, Suite 500, Dallas, Texas 75270.	Arkansas, Louisiana, Oklahoma, Texas.
EPA Region 7: William Stone, Air and Radiation Division, Air Quality Planning Branch, EPA Region VII, 11201 Renner Boulevard, Lenexa, Kansas 66219.	Missouri.
EPA Region 8: Adam Clark, Air and Radiation Division, EPA, Region VIII, Mailcode 8ARD–IO, 1595 Wynkoop Street, Denver, Colorado 80202.	Utah.
EPA Region 9: Tom Kelly, Air and Radiation Division, EPA Region IX, 75 Hawthorne St., San Francisco, California 94105.	California, Nevada.

II. Background and Overview

The following provides background for the EPA's final action on these SIP submissions related to the interstate transport requirements for the 2015 8-hour ozone NAAQS (2015 ozone NAAQS).

A. Description of Statutory Background

On October 1, 2015, the EPA promulgated a revision to the ozone NAAQS (2015 ozone NAAQS), lowering the level of both the primary and secondary standards to 0.070 parts per million (ppm) for the 8-hour standard.[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 [2] meeting the applicable requirements of section 110(a)(2).[3] 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). The 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).[4]

On February 22, 2022, the EPA proposed to disapprove 19 good neighbor SIP submissions from the States of Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Tennessee, Texas, West Virginia, and Wisconsin.[5] On May 24, 2022, the EPA proposed to disapprove four additional good neighbor SIP submissions from the States of California, Nevada, Utah, and Wyoming.[6] On October 25, 2022, the EPA proposed to disapprove a new good neighbor SIP submission from Alabama submitted on June 21, 2022.[7] The EPA is deferring action on the proposals related to the good neighbor SIP submissions from Tennessee and Wyoming at this time. As explained in the notifications of proposed disapproval, the EPA's justification for each of these proposals applies uniform, nationwide analytical methods, policy judgments, and interpretation with respect to the same CAA obligations, *i.e.,* implementation of good neighbor requirements under CAA section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS for states across the country. The EPA's final action is likewise based on this common core of determinations. As indicated at proposal, the EPA is taking a consolidated, single final action

[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] The terms ''submission,'' ''revision,'' and ''submittal'' are used interchangeably in this document.

[3] 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 CAA section 110(a)(2) are referred to as infrastructure requirements.

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

[5] 87 FR 9545 (February 22, 2022) (Alabama, Mississippi, Tennessee); 87 FR 9798 (February 22, 2022) (Arkansas, Louisiana, Oklahoma, Texas); 87 FR 9838 (February 22, 2022) (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin); 87 FR 9498 (February 22, 2022) (Kentucky); 87 FR 9484 (February 22, 2022) (New Jersey, New York); 87 FR 9463 (February 22, 2022) (Maryland); 87 FR 9533 (February 22, 2022) (Missouri); 87 FR 9516 (February 22, 2022) (West Virginia).

[6] 87 FR 31443 (May 24, 2022) (California); 87 FR 31485 (May 24, 2022) (Nevada); 87 FR 31470 (May 24, 2022) (Utah); 87 FR 31495 (May 24, 2022) (Wyoming).

[7] 87 FR 64412 (October 25, 2022) (Alabama). Alabama withdrew its original good neighbor SIP submission on April 21, 2022. *Id.* at 64419.

on the proposed SIP disapprovals.[8] Included in this document is final action on 2015 ozone NAAQS interstate transport SIPs addressing CAA section 110(a)(2)(D)(i)(I) for Alabama, Arkansas, California, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Jersey, New York, Ohio, Oklahoma, Texas, Utah, West Virginia, and Wisconsin. The 2015 ozone NAAQS interstate transport SIP submissions addressing CAA section 110(a)(2)(D)(i)(I) for Tennessee and Wyoming will be addressed in a separate action.

B. Description of the EPA's 4-Step Interstate Transport Framework

The EPA used a 4-step interstate transport framework (or 4-step framework) to evaluate each state's implementation plan submission addressing the interstate transport provision for the 2015 ozone NAAQS. The EPA has addressed the interstate transport requirements of CAA section 110(a)(2)(D)(i)(I) with respect to prior NAAQS in several 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,[9] the Cross-State Air Pollution Rule Update (CSAPR Update) [10] and the Revised CSAPR Update, both of which addressed the 2008 ozone NAAQS.[11]

Shaped through the years by input from state air agencies [12] and other stakeholders on EPA's prior interstate transport rulemakings and SIP actions,[13] as well as a number of court decisions, the EPA has developed and used 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 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.

The general steps of this framework allow for some methodological variation, and this can be seen in the evolution of the EPA's analytical process across its prior rulemakings. This also means states have some flexibility in developing analytical methods within this framework (and may also attempt to justify an alternative framework altogether). The four steps of the framework simply provide a reasonable organization to the analysis of the complex air quality challenge of interstate ozone transport. As discussed further throughout this document, the EPA has organized its evaluation of the states' SIP submissions around this analytical framework (including the specific methodologies within each step as evolved over the course of the CSAPR rulemakings since 2011), but where states presented alternative approaches either to the EPA's methodological approaches within the framework, or organized their analysis in some manner that differed from it entirely, we have evaluated those analyses on their merits or, in some cases, identified why even if those approaches were acceptable, the state still does not have an approvable SIP submission as a whole.

C. Background on the EPA's Ozone Transport Modeling Information

In general, the 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 at Step 1. To quantify the contribution of emissions from specific upwind states on 2023 ozone design values for the identified downwind nonattainment and maintenance receptors at Step 2, the EPA performed nationwide, state-level ozone source apportionment modeling for 2023. The source apportionment modeling projected contributions to ozone at receptors from precursor emissions of anthropogenic nitrogen oxides (NO_X) and volatile organic compounds (VOCs) in individual upwind states.

The EPA has released several documents containing projected design values, contributions, and information relevant to air agencies for evaluating interstate transport with respect to the 2015 ozone NAAQS. First, on January 6, 2017, the 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.[14] In the NODA, the 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 ozone NAAQS.[15] On October 27, 2017, the 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 was intended to provide information to assist states' efforts to develop SIP submissions to address interstate transport obligations for the 2008 ozone NAAQS.[16] On March 27, 2018, the EPA issued a memorandum (March 2018 memorandum) noting that the same 2023 modeling data released in the

[8] In its proposals, the EPA stated ''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.'' E.g., 87 FR 9463, 9475 n.51.

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

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

[11] In 2019, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) remanded 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) (*Wisconsin*). The Revised CSAPR Update for the 2008 Ozone NAAQS, 86 FR 23054 (April 30, 2021), responded to the remand of 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).

[12] *See* 63 FR 57356, 57361 (October 27, 1998).

[13] 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).

[14] *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).

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

[16] *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.*

October 2017 memorandum could also be useful for identifying potential downwind air quality problems with respect to the 2015 ozone NAAQS at Step 1 of the 4-step interstate transport framework.[17] 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 ozone NAAQS under Step 2 of the 4-step interstate transport framework.[18] The EPA subsequently issued two more memoranda in August and October 2018, providing additional information to states developing interstate transport SIP submissions for the 2015 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.[19]

Following the release of the modeling data shared in the March 2018 memorandum, the 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.[20] This collaborative project was a multi-year joint effort by the EPA, MJOs, and states to develop a new, more recent emissions platform for use by the EPA and states in regulatory modeling as an improvement over the dated, 2011-based platform that the EPA had used to project ozone design values and contribution data provided in the 2017 and 2018 memoranda. The 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, the EPA released and accepted public comment on 2023 modeling that used the 2016v1 emissions platform.[21] Although the Revised CSAPR Update addressed transport for the 2008 ozone NAAQS, the projected design values and contributions from the 2016v1 platform were also useful for identifying downwind ozone problems and linkages with respect to the 2015 ozone NAAQS.[22]

Following the final Revised CSAPR Update, the EPA made further updates to the 2016-based emissions platform to include updated onroad mobile emissions from Version 3 of the EPA's Motor Vehicle Emission Simulator (MOVES) model (MOVES3) [23] 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 inventory improvements. The construct of the updated emissions platform, 2016v2, is described in the ''Technical Support Document (TSD): Preparation of Emissions Inventories for the 2016v2 North American Emissions Modeling Platform,'' hereafter known as the 2016v2 Emissions Modeling TSD, and is included in Docket No. EPA–HQ–OAR–2021–0663. The EPA performed air quality modeling using the 2016v2 emissions to provide projections of ozone design values and contributions in 2023 that reflect the effects on air quality of the 2016v2 emissions platform. The results of the 2016v2 modeling were used by the EPA as part of the Agency's evaluation of state SIP submissions with respect to Steps 1 and 2 of the 4-step interstate transport framework at the proposal stage of this action. By using the 2016v2 modeling results, the EPA used the most current and technically appropriate information for the proposed rulemakings that were issued earlier in 2022.

The EPA invited and received comments on the 2016v2 emissions inventories and modeling that were used to support proposals related to 2015 ozone NAAQS interstate transport. (The EPA had earlier published the emissions inventories on its website in September of 2021 and invited initial feedback from states and other interested stakeholders.[24]) In response to these comments, the EPA made a number of updates to the 2016v2 inventories and model design to construct a 2016v3 emissions platform which was used to update the air quality modeling. The EPA made additional updates to its modeling in response to comments as well. The EPA is now using this updated modeling to inform its final action on these SIP submissions. Details on the air quality modeling and the methods for projecting design values and determining contributions in 2023 are described in Section III and in the TSD titled ''Air Quality Modeling TSD for the 2015 8-hour ozone NAAQS Transport SIP Final Actions'', hereafter known as the Final Action AQM TSD.[25] [26] Additional details related to the updated 2016v3 emissions platform are located in the TSD titled ''Preparation of Emissions Inventories for the 2016v3 North American Emissions Modeling Platform,'' hereafter known as the 2016v3 Emissions Modeling TSD, included in Docket ID No. EPA–HQ–OAR–2021–0663.[27]

D. The EPA's Approach To Evaluating Interstate Transport SIPs for the 2015 Ozone NAAQS

The EPA is applying a consistent set of policy judgments across all states for purposes of evaluating interstate transport obligations and the approvability of interstate transport SIP submissions for the 2015 ozone NAAQS under CAA section 110(a)(2)(D)(i)(I). These policy judgments conform with relevant case law and past agency practice as reflected in CSAPR and related rulemakings. Employing a nationally consistent approach is

[17] *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.*

[18] 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.'' March 2018 memorandum at 2.

[19] *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''); 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 or at *https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs.*

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

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

[22] *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.

[23] 86 FR 1106. 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.*

[24] *https://www.epa.gov/air-emissions-modeling/2016v2-platform.*

[25] *See* Final Action AQM TSD in Docket ID No. EPA–HQ–OAR–2021–0663

[26] References to section numbers in roman numeral refer to sections of this preamble unless otherwise specified, and references to section numbers in numeric form refer to the Response to Comments document for this final action included in the docket.

[27] *See* 2016v3 Emissions Modeling TSD in Docket ID No. EPA–HQ–OAR–2021–0663.

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 to ensure an ''efficient and equitable'' approach. *See EPA* v. *EME Homer City Generation, LP,* 572 U.S. 489, 519 (2014) (*EME Homer City*). Some comments on EPA's proposed SIP disapprovals claim the EPA is imposing non-statutory requirements onto SIPs or that the EPA must allow states to take inconsistent approaches to implementing good neighbor requirements. Both views are incorrect; the EPA's use of its longstanding framework to evaluate these SIP submissions reflects a reasonable and consistent approach to implementing the requirements of CAA section 110(a)(2)(D)(i)(I), while remaining open to alternative approaches states may present. These comments are further addressed in Section V and the Response to Comment (RTC) document contained in the docket for this action, Docket ID No. EPA–HQ–OAR–2021–0663.

In the March, August, and October 2018 memoranda, the EPA recognized that states may be able to establish alternative approaches to addressing their interstate transport obligations for the 2015 ozone NAAQS that vary from a nationally uniform framework. The 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 submission.[28] In general, the 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 CAA obligations and relevant case law. Where states submitted SIP submissions that rely on any such potential concepts as the EPA or others may have identified or suggested in the past, the EPA evaluated whether the state adequately justified the technical and legal basis for doing so. For example, the EPA has considered the arguments put forward by Alabama, Missouri, Ohio, Oklahoma, Texas, and Utah related to alternative methods of identifying receptors.[29] The EPA also has considered the arguments attempting to justify an alternative contribution threshold at Step 2 pursuant to the August 2018 memorandum made by Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Oklahoma, and Utah,[30] as well as criticisms of the 1 percent of the NAAQS contribution threshold made by Nevada and Ohio.[31] These topics are further addressed in Section V.B as well as the RTC document.

The 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 interstate transport obligations for the 2015 ozone NAAQS. Attachment A to the March 2018 memorandum identified a ''Preliminary List of Potential Flexibilities'' that could potentially inform SIP development. However, the EPA made clear in both the March 2018 memorandum [32] and in Attachment A that the list of ideas was not endorsed by the Agency but rather ''comments provided in various forums'' on which the EPA sought ''feedback from interested stakeholders.'' [33] 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 are we specifically recommending that states use these approaches.'' [34] 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 one or more of these ideas in support of their SIP submissions, the EPA reviewed their technical and legal justifications for doing so.[35]

The remainder of this section describes the EPA's analytical 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 the 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).[36] 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,* 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 the 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 the EPA's denial of a petition under CAA section 126(b) *Maryland* v.

[28] March 2018 memorandum at 3 (''EPA also notes that, in developing their own rules, states have flexibility to follow the familiar four-step transport framework (using EPA's analytical approach or somewhat different analytical approaches within this steps) or alternative framework, so long as their chosen approach has adequate technical justification and is consistent with the requirements of the CAA.''); August 2018 memorandum at 1 (''The EPA and air agencies should consider whether the recommendations in this guidance are appropriate for each situation.''); October 2018 memorandum at 1 (''Following the recommendations in this guidance does not ensure that EPA will approve a SIP revision in all instances where the recommendations are followed, as the guidance may not apply to the facts and circumstances underlying a particular SIP.'').

[29] 87 FR 64421–64422 (Alabama); 87 FR 9540–9541 (Missouri); 87 FR 9869–9870 (Ohio); 87 FR 9820–9822 (Oklahoma); 87 FR 9826–9829 (Texas); and 87 FR 31480–31481 (Utah).

[30] 87 FR 64423–64424 (Alabama); 87 FR 9806–9807 (Arkansas); 87 FR 9852–9853 (Illinois); 87 FR 9855–9856 (Indiana); 87 FR 9509–9510 (Kentucky); 87 FR 9815–9816 (Louisiana); 87 FR 9861–9862 (Michigan); 87 FR 9557 (Mississippi); 87 FR 9541–9544 (Missouri); 87 FR 9819 (Oklahoma); 87 FR 31478 (Utah).

[31] 87 FR 31492 (Nevada); 87 FR 9871 (Ohio).

[32] ''In addition, the memorandum is accompanied by Attachment A, which provides a preliminary list of potential flexibilities in analytical approaches for developing a good neighbor SIP that may warrant further discussion between EPA and states.'' March 2018 memorandum at 1.

[33] March 2018 memorandum, Attachment A at A–1.

[34] *Id.*

[35] E.g., 87 FR 64423–64425 (Alabama); 87 FR 31453–31454 (California); 87 FR 9852–9854 (Illinois); 87 FR 9859–9860 (Indiana); 87 FR 9508, 9515 (Kentucky); 87 FR 9861–9862 (Michigan); 87 FR 9869–9870 (Ohio); 87 FR 9798, 9818–9820 (Oklahoma); 87 FR 31477–31481 (Utah); 87 FR 9526–9527 (West Virginia).

[36] For attainment dates for the 2015 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).

EPA, 958 F.3d 1185, 1203–04 (D.C. Cir. 2020) (*Maryland*). 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). The 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 applicable attainment date,[37] which at the time of EPA's proposed and final actions on the SIPs addressed in this action is the Moderate area attainment date under CAA section 181 for ozone nonattainment. The Moderate area attainment date for the 2015 ozone NAAQS is August 3, 2024.[38] Thus, 2023 is now the appropriate year for analysis of interstate transport obligations for the 2015 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 ozone NAAQS.

The EPA recognizes that the attainment date for nonattainment areas classified as Marginal for the 2015 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 the EPA's modeling of the year 2023, and no state provided an alternative analysis using a 2021 analytic year (or the prior 2020 ozone season). However, the EPA must act on SIP submissions using the information available at the time it takes such action, and it is now past 2021. In this circumstance, the 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 (rejecting Delaware's argument that the EPA should have used an analytic year of 2011 instead of 2017). Consequently, in this proposal the 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 ozone NAAQS.

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

In Step 1, the EPA identifies monitoring sites that are projected to have problems attaining and/or maintaining the NAAQS in the 2023 analytic year. Where the 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 the EPA's 4-step interstate transport framework. For sites that are identified as a nonattainment or maintenance receptor in 2023, the EPA proceeds to the next step of the 4-step interstate transport framework by identifying which upwind states contribute to those receptors above the contribution threshold.

The EPA's approach to identifying ozone nonattainment and maintenance receptors in this action 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.*[39]

The 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 the EPA defined nonattainment receptors as those areas that both currently measure nonattainment and that the EPA projects will be in nonattainment in the analytic year (*i.e.,* 2023).[40]

In addition, the 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) (*EME Homer City II*).[41] Specifically, the 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. The 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). The 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, the 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 earlier, the 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

[37] The EPA notes that the court in *Maryland* did not have occasion to evaluate circumstances in which the 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.

[38] *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).

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

[40] *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 25241, 25249 (January 14, 2005); *see also North Carolina,* 531 F.3d at 913–14 (affirming as reasonable the EPA's approach to defining nonattainment in CAIR).

[41] *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).

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.

As discussed further in Section III.B., in response to comments, the Agency has also taken a closer look at measured ozone levels at monitoring sites in 2021 and 2022 for the purposes of informing the identification of additional receptors in 2023. We find there is a basis to consider certain sites with elevated ozone levels that are not otherwise identified as receptors to be an additional type of maintenance-only receptor given the likelihood that ozone levels above the NAAQS could persist at those locations through at least 2023. We refer to these as violating-monitor maintenance-only receptors (''violating monitors''). For purposes of this action, we use this information only in a confirmatory way for states that are otherwise found to be linked using the modeling-based methodology. The EPA intends to take separate action to address states that are linked only to one or more violating-monitor receptors.

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

In Step 2, the 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 ozone NAAQS), the upwind state is not ''linked'' to a downwind air quality problem, and the EPA, therefore, concludes that the state does not contribute significantly 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 pursuant to the requirements of CAA section 110(a)(2)(D)(i)(I).

In this final action, the EPA relies 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 ozone NAAQS (*i.e.,* 0.70 ppb) at downwind receptors. This is consistent with the Step 2 approach that the EPA applied in CSAPR for the 1997 ozone NAAQS, which has subsequently been applied in the CSAPR Update and Revised CSAPR Update when evaluating interstate transport obligations for the 2008 ozone NAAQS, and in the EPA's proposals for this action. The EPA continues to find 1 percent to be an appropriate threshold. For ozone, as the EPA found in the CAIR, CSAPR, and CSAPR Update, a portion of the nonattainment problems from anthropogenic sources in the U.S. result from the combined impact of relatively small contributions, typically from multiple upwind states and, in some cases, substantially larger contributions from a subset of particular upwind states, along with contributions from in-state sources. The EPA's analysis shows that much of the ozone transport problem being analyzed in this action is still the result of the collective impacts of contributions from 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 the 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 74518; *see also* 86 FR 23085 (reviewing and explaining rationale from CSAPR, 76 FR 48237–38, for selection of 1 percent threshold).

The EPA's August 2018 memorandum recognizes 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 in their SIP submission, and where that state determined that it was not linked at Step 2 using the alternative threshold, the EPA evaluated 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. The states covered by this action that rely on a contribution threshold other than 1 percent of the NAAQS in their 2015 ozone NAAQS good neighbor SIP submission are Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Oklahoma, and Utah. Ohio also criticized the 1 percent of the NAAQS threshold, though it acknowledged it was linked above either a 1 percent of the NAAQS or 1 ppb contribution threshold. Nevada also criticized the 1 percent of the NAAQS contribution threshold, but ultimately relied on it to support its submission.

In the proposals for this action, the EPA evaluated each states' support for the use of an alternative threshold at Step 2 (*e.g.,* 1 ppb), and additionally shared its experience since the issuance of the August 2018 memorandum regarding use of alternative thresholds at Step 2. The EPA solicited comment on the subject as it considered the appropriateness of rescinding the memorandum.[42] The EPA received numerous comments related to both the EPA's evaluation of SIP submissions relying on an alternative threshold, and the EPA's experience with alternative thresholds. The EPA is not, at this time rescinding the August 2018 memorandum; however, for purposes of evaluating contribution thresholds for the 2015 ozone NAAQS, the EPA continues to find the use of an alternative threshold problematic for the reasons stated at proposal. Regardless of the EPA's position on the August 2018 memorandum, the EPA continues to find that the arguments put forth in the SIP submissions of by Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Oklahoma, and Utah, as well as arguments in comments received on these actions, to be inadequate. *See* Section V.B.7 and the RTC Document for additional detail.

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

Consistent with the EPA's longstanding approach to eliminating significant contribution and interference with maintenance, at Step 3, a multifactor assessment of potential emissions controls is conducted for states linked at Steps 1 and 2. The 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

[42] *See, e.g.,* 87 FR 9551.

adequately supported. In general, where the EPA's or state-provided 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 SIP approval. In general, the emissions-reducing effects of all existing emissions control requirements are already reflected in the future year projected 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) despite these existing controls, but that state believes it has no outstanding good neighbor obligations, the EPA expects the state to provide sufficient justification to support a conclusion by the EPA that the state has adequate provisions prohibiting ''any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will'' ''contribute significantly to nonattainment in, or interfere with maintenance by,'' any other State with respect to the NAAQS. *See* CAA section 110(a)(2)(D)(i)(I). While the EPA has not prescribed a particular method for this assessment, as many commenters note, the 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.[43] The EPA responds to comment on issues related to Step 3 in Section V.B.8. and in the RTC document.

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

At Step 4, states (or the 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.[44] 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 SIP 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).

III. The EPA's Updated Air Quality and Contribution Analysis

As noted in Section II, the EPA relied in part on its 2016v2 emissions platform-based air quality modeling to support its proposed interstate transport actions taken in 2022. Following receipt of comments, the EPA updated this modeling, incorporating new information received to create the 2016v3 emissions inventory and making additional updates to improve model performance. Using the 2016v3 emissions inventory, the EPA evaluated modeling projections for air quality monitoring sites and considered current ozone monitoring data at these sites to identify receptors that are anticipated to have problems attaining or maintaining the 2015 ozone NAAQS.

This section presents a summary of the methodology and results of the 2016v3 modeling of 2023, along with the application of the EPA's Step 1 and Step 2 methodology for identifying receptors and upwind states that contribute to those receptors. We also explain that current measured ozone levels based on data for 2021 and preliminary data for 2022 at other monitoring sites (*i.e.,* monitoring sites that are not projected to be receptors in 2023 based on air quality modeling) confirm the likely continuation of elevated ozone levels in 2023 at these locations and confirm that nearly all upwind states in this action are also linked above 1 percent of the NAAQS to one or more of these monitors.

While all of this information compiled by the EPA (both the modeling and monitoring data) plays a critical role in the basis for this final action, the EPA has also thoroughly evaluated the modeling information and other analyses and arguments presented by the upwind states in their SIP submittals. Our evaluation of the states' analyses was generally set forth in the proposals, and the EPA in this final action has responded to comments on our evaluation of the various information and arguments made by states. The EPA's final decision to disapprove these states' SIP submittals is based on our evaluation of the entire record, recognizing that states possess the authority in the first instance to propose how they would address their significant contribution to air quality problems in other states. Nonetheless, as explained in the proposals, and in this document and supporting materials in the docket, we conclude that no state included in this action effectively demonstrated that it will not be linked to at least one air quality receptor in 2023, and none of these states' various arguments for alternative approaches ultimately present a satisfactory basis for the EPA to approve these states' SIP submissions.

A. Description of Air Quality Modeling for the Final Action

In this section, the Agency describes the air quality modeling performed consistent with Steps 1 and 2 of the 4-step interstate transport framework to (1) Identify locations where it expects nonattainment or maintenance problems with respect to the 2015 ozone NAAQS for the 2023 analytic year, and (2) quantify the contributions from anthropogenic emissions from upwind states to downwind ozone concentrations at monitoring sites projected to be in nonattainment or have maintenance problems for the 2015 ozone NAAQS in 2023. This section includes information on the air quality modeling platform used in support of the final SIP disapproval action with a focus on the base year and future base case emissions inventories. The EPA also provides the projection of 2023 ozone concentrations and the interstate contributions for 8-hour ozone. The Final Action AQM TSD in Docket ID No. EPA–HQ–OAR–2021–0663 contains more detailed information on the air quality modeling aspects supporting our final action on these SIP submissions.

1. Public Review of Air Quality Modeling Information for the Proposed Action

The EPA provided several opportunities to comment on the emissions modeling platform and air quality modeling results that were used for the proposed SIP submission actions. On September 20, 2021, the EPA publicly released via our web page updated emissions inventories (2016v2) and requested comment from states and

[43] Because no state included new enforceable emissions control measures in the submissions under review here, we focus our analysis on whether states justified that no additional controls were required. As examples of general approaches for how a Step 3 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, the EPA has developed emissions inventories, analyzed different levels of control stringency at different cost thresholds, and assessed resulting downwind air quality improvements.

[44] The EPA notes that any controls included in an approved SIP are federally-enforceable.

MJOs on these data.[45] In January 2022, the EPA released air quality modeling results including projected ozone design values and contributions from 2023 based on the 2016v2 emissions. At that time the EPA indicated its intent to use these data to support upcoming transport rulemakings. Then, on February 22, 2022, the EPA published proposed disapprovals for 19 interstate transport SIP submissions using the modeling data released in January 2022 and the emissions inventories shared in September 2021.[46] The EPA provided a 60-day comment period on these proposals. On May 24, 2022, the EPA proposed disapprovals for an additional four states' interstate transport SIP submissions using the same modeling platform, and provided a 62-day comment period.[47] The EPA provided a 30-day comment period beginning on October 25, 2022, on the proposed disapproval of Alabama's June 21, 2022, SIP submission, which relied on the same modeling platform as the other noted proposals.[48] In addition to its proposed disapprovals, the EPA also proposed approval of Iowa's, Arizona's, and Colorado's SIP submissions using the 2016v2 modeling and provided 30-day comment periods. 87 FR 9477 (February 22, 2022) (Iowa); 87 FR 37776 (June 24, 2022) (Arizona); and 87 FR 27050 (May 6, 2022) (Colorado).

2. Overview of Air Quality Modeling Platform

The EPA used version 3 of the 2016-based modeling platform (*i.e.,* 2016v3) for the air quality modeling for this final SIP disapproval action. This modeling platform includes 2016 base year emissions from anthropogenic and natural sources and future year projected anthropogenic emissions for 2023.[49] The emissions data contained in the 2016v3 platform represent an update to the 2016 version 2 inventories used for the proposal modeling.

The air quality modeling for this final disapproval action was performed for a modeling region (*i.e.,* modeling domain) that covers the contiguous 48 states using a horizontal resolution of 12 x 12 km. The EPA used the CAMx version 7.10 for air quality modeling which is the same model that the EPA used for the proposed rule air quality modeling.[50] Additional information on the 2016-based air quality modeling platform can be found in the Final Action AQM TSD.

Comments: Commenters noted that the 2016 base year summer maximum daily average 8-hour (MDA8) ozone predictions from the proposal modeling were biased low compared to the corresponding measured concentrations in certain locations. In this regard, commenters said that model performance statistics for a number of monitoring sites, particularly those in portions of the West and in the area around Lake Michigan, were outside the range of published performance criteria for normalized mean bias (NMB) and normalized mean error (NME) of less than plus or minus 15 percent and less than 25 percent, respectively.[51] Comments say the EPA must investigate the factors contributing to low bias and make necessary corrections to improve model performance in the modeling supporting final SIP actions. Some commenters said that the EPA should include NO_X emissions from lightning strikes and assess the treatment of other background sources of ozone to improve model performance for the final action. Additional information on the comments on model performance can be found in the RTC document for this final SIP disapproval action.

EPA Response: In response to these comments the EPA examined the temporal and spatial characteristics of model under prediction to investigate the possible causes of under prediction of MDA8 ozone concentrations in different regions of the U.S. in the proposal modeling. The EPA's analysis indicates that the under prediction was most extensive during May and June with less bias during July and August in most regions of the U.S. For example, in the Upper Midwest region model under prediction was larger in May and June compared to July through September. Specifically, the normalized mean bias for days with measured concentrations greater than or equal to 60 ppb improved from a 21.4 percent under prediction for May and June to a 12.6 percent under prediction in the period July through September. As described in the AQM TSD, the seasonal pattern in bias in the Upper Midwest region improves somewhat gradually with time from the middle of May to the latter part of June. In view of the seasonal pattern in bias in the Upper Midwest and in other regions of the U.S., the EPA focused its investigation of model performance on model inputs that, by their nature, have the largest temporal variation within the ozone season. These inputs include emissions from biogenic sources and lightning NO_X, and contributions from transport of international anthropogenic emissions and natural sources into the U.S. Both biogenic and lightning NO_X emissions in the U.S. dramatically increase from spring to summer.[52] [53] In contrast, ozone transported into the U.S. from international anthropogenic and natural sources peaks during the period March through June, with lower contributions during July through September.[54] [55] To investigate the impacts of the sources, the EPA conducted sensitivity model runs which focused on the effects on model performance of adding NO_X emissions from lightning strikes, using updated biogenic emissions, and using an alternative approach (described in more detail later in this section) for quantifying transport of ozone and precursor pollutants into the U.S. from international anthropogenic and natural sources. In the air quality modeling for proposal, the amount of transport from international sources was based on a simulation of the hemispheric version of the Community Multi-scale Air Quality

[45] *https://www.epa.gov/air-emissions-modeling/2016v2-platform.*

[46] These proposals are listed in footnote 5 of this action.

[47] The EPA also relied on this same modeling data to support proposed Federal Implementation Plans (FIPs) resolving interstate transport obligations for 27 states for the 2015 ozone NAAQS. 87 FR 20036 (April 6, 2022). The EPA allowed 60 days to receive comments on the proposed FIP rule, including acceptance of comment on the 2016v2 emissions inventory-based modeling platform. The EPA then allowed for an additional 15 days via an extension of the comment period. 87 FR 29108 (May 12, 2022).

[48] 87 FR 64412, 64413.

[49] The 2016v3 platform also includes projected emissions for 2026. However, the 2026 data are not applicable and were not used in this final action.

[50] Ramboll Environment and Health, January 2021, *https://www.camx.com.*

[51] Christopher Emery, Zhen Liu, Armistead G. Russell, M. Talat Odman, Greg Yarwood & Naresh Kumar (2017) Recommendations on statistics and benchmarks to assess photochemical model performance, Journal of the Air & Waste Management Association, 67:5, 582–598, DOI: 10.1080/10962247.1265027.

[52] Guenther, A.B., 1997. Seasonal and spatial variations in natural volatile organic compound emissions. Ecol. Appl. 7, 34–45. *http://dx.doi.org/10.1890/1051-0761(1997)007[0034:SASVIN]2.0.CO;2.* Guenther, A., Hewitt, C.N., Erickson, D., Fall, R.

[53] Kang D, Mathur R, Pouliot GA, Gilliam RC, Wong DC. Significant ground-level ozone attributed to lightning-induced nitrogen oxides during summertime over the Mountain West States. NPJ Clim Atmos Sci. 2020 Jan 30;3:6. doi: 10.1038/s41612–020–0108–2. PMID: 32181370; PMCID: PMC7075249.

[54] Jaffe DA, Cooper OR, Fiore AM, Henderson BH, Tonnesen GS, Russell AG, Henze DK, Langford AO, Lin M, Moore T. Scientific assessment of background ozone over the U.S.: Implications for air quality management. Elementa (Wash DC). 2018;6(1):56. doi: 10.1525/elementa.309. PMID: 30364819; PMCID: PMC6198683.

[55] Henderson, B.H., P. Dolwick, C. Jang, A., Eyth, J. Vukovich, R. Mathur, C. Hogrefe, N. Possiel, G. Pouliot, B. Timin, K.W. Appel, 2019. Global Sources of North American Ozone. Presented at the 18th Annual Conference of the UNC Institute for the Environment Community Modeling and Analysis System (CMAS) Center, October 21–23, 2019.

Model (H–CMAQ) [56] for 2016. The outputs from this hemispheric modeling were then used to provide boundary conditions for the national scale air quality modeling at proposal.[57] Overall, H–CMAQ tends to under predict daytime ozone concentrations at rural and remote monitoring sites across the U.S. during the spring of 2016 whereas the predictions from the GEOS-Chem global model [58] were generally less biased.[59] During the summer of 2016 both models showed varying degrees of over prediction with GEOS-Chem showing somewhat greater over prediction, compared to H–CMAQ. In view of those results, the EPA examined the impacts of using GEOS-Chem as an alternative to H–CMAQ for providing boundary conditions for the modeling supporting this final action.

For the lightning NO_X, biogenics, and GEOS-Chem sensitivity runs, the EPA reran the proposal modeling using each of these inputs, individually. Results from these sensitivity runs indicate that each of the three updates provides an improvement in model performance. However, by far the greatest improvement in modeling performance is attributable to the use of GEOS-Chem. In view of these results the EPA has included lightning NO_X emissions, updated biogenic emissions, and international transport from GEOS-Chem in the air quality modeling supporting final SIP actions. Details on the results of the individual sensitivity runs can be found in the AQM TSD. For the air quality modeling supporting final SIP actions, model performance based on days in 2016 with measured MDA8 ozone greater than or equal to 60 ppb is considerably improved (*i.e.,* less bias and error) compared to the proposal modeling in nearly all regions. For example, in the Upper Midwest, which includes monitoring sites along Lake Michigan, the normalized mean bias improved from a 19 percent under prediction to a 6.9 percent under prediction and in the Southwest region, which includes monitoring sites in Denver, Las Cruces, El Paso, and Salt Lake City, normalized mean bias improved from a 13.6 percent under prediction to a 4.8 percent under prediction.[60] In all regions, the normalized mean bias and normalized mean error statistics for high ozone days based on the modeling supporting final SIP actions are within the range of performance criteria benchmarks (*i.e.,* less than plus or minus 15 percent for normalized mean bias and less than 25 percent for normalized mean error).[61] Additional information on model performance information is provided in the AQM TSD. In summary, the EPA included emissions of lightning NO_X, as requested by commenters, and investigated and addressed concerns about model performance for the modeling supporting final SIP actions.

3. Emissions Inventories

The EPA developed emissions inventories to support air quality modeling for this final action, including emissions estimates for EGUs, non-EGU point sources (*i.e.,* stationary point sources), stationary nonpoint sources, onroad mobile sources, nonroad mobile sources, other mobile sources, wildfires, prescribed fires, and biogenic emissions that are not the direct result of human activities. The EPA's air quality modeling relies on this comprehensive set of emissions inventories because emissions from multiple source categories are needed to model ambient air quality and to facilitate comparison of model outputs with ambient measurements.

Prior to the modeling of air quality, the emissions inventories must be processed into a format that is appropriate for the air quality model to use. To prepare the emissions inventories for air quality modeling, the EPA processed the emissions inventories using the Sparse Matrix Operator Kernel Emissions (SMOKE) Modeling System version 4.9 to produce the gridded, hourly, speciated, model-ready emissions for input to the air quality model. Additional information on the development of the emissions inventories and on data sets used during the emissions modeling process are provided in the document titled ''Technical Support Document (TSD): Preparation of Emissions Inventories for the 2016v3 North American Emissions Modeling Platform,'' hereafter known as the ''2016v3 Emissions Modeling TSD.'' This TSD is available in the docket for this action.[62]

4. Foundation Emissions Inventory

The 2016v3 emissions platform is comprised of data from various sources including data developed using models, methods, and source datasets that became available in calendar years 2020 through 2022, in addition to data retained from the Inventory Collaborative 2016 version 1 (2016v1) Emissions Modeling Platform, released in October 2019. The 2016v1 platform was developed through a national collaborative effort between the EPA and state and local agencies along with MJOs. The 2016v2 platform used to support the proposed action included updated data, models and methods as compared to 2016v1. The 2016v3 platform includes updates implemented in response to comments along with other updates to the 2016v2 platform such as corrections and the incorporation of updated data sources that became available prior to the 2016v3 inventories being developed. Several commenters noted that the 2016v2 platform did not include NO_X emissions that resulted from lightning strikes. To address this, lightning NO_X emissions were computed and included in the 2016v3 platform.

For this final action, the EPA developed emissions inventories for the base year of 2016 and the projected year of 2023. The 2023 inventories represent changes in activity data and of predicted emissions reductions from on-the-books actions, planned emissions control installations, and promulgated Federal measures that affect anthropogenic emissions. The 2016 emissions inventories for the U.S. primarily include data derived from the 2017 National Emissions Inventory (2017

[56] Mathur, R., Gilliam, R., Bullock, O.R., Roselle, S., Pleim, J., Wong, D., Binkowski, F., and 1 Streets, D.: Extending the applicability of the community multiscale air quality model to 2 hemispheric scales: motivation, challenges, and progress. In: Steyn DG, Trini S (eds) Air 3 pollution modeling and its applications, XXI. Springer, Dordrecht, pp 175–179, 2012.

[57] Boundary conditions are the concentrations of pollutants along the north, east, south, and west boundaries of the air quality modeling domain. Boundary conditions vary in space and time and are typically obtained from predictions of global or hemispheric models. Information on how boundary conditions were developed for modeling supporting EPA's final SIP actions can be found in the AQM TSD.

[58] I. Bey, D.J. Jacob, R.M. Yantosca, J.A. Logan, B.D. Field, A.M. Fiore, Q. Li, H.Y. Liu, L.J. Mickley, M.G. Schultz. Global modeling of tropospheric chemistry with assimilated meteorology: model description and evaluation. J. Geophys. Res. Atmos., 106 (2001), pp. 23073–23095, 10.1029/2001jd000807.

[59] Henderson, B.H., P. Dolwick, C. Jang, A., Eyth, J. Vukovich, R. Mathur, C. Hogrefe, G. Pouliot, N. Possiel, B. Timin, K.W. Appel, 2022. Meteorological and Emission Sensitivity of Hemispheric Ozone and $PM_{2.5}$. Presented at the 21st Annual Conference of the UNC Institute for the Environment Community Modeling and Analysis System (CMAS) Center, October 17–19, 2022.

[60] A comparison of model performance from the proposal modeling to the final modeling for individual monitoring sites can be found in the docket for this final action.

[61] Christopher Emery, Zhen Liu, Armistead G. Russell, M. Talat Odman, Greg Yarwood & Naresh Kumar (2017) Recommendations on statistics and benchmarks to assess photochemical model performance, Journal of the Air & Waste Management Association, 67:5, 582–598, DOI: 10.1080/10962247.1265027.

[62] *See* Preparation of Emissions Inventories for the 2016v3 North American Emissions Modeling Platform TSD, also available at *https://www.epa.gov/air-emissions-modeling/2016v3-platform.*

NEI)[63] and data specific to the year of 2016. The following sections provide an overview of the construct of the 2016v3 emissions and projections. The fire emissions were unchanged between the 2016v2 and 2016v3 emissions platforms. For the 2016v3 platform, the biogenic emissions were updated to use the latest available versions of the Biogenic Emissions Inventory System and associated land use data to help address comments related to a degradation in model performance in the 2016v2 platform as compared to the 2016v1 platform. Details on the construction of the inventories are available in the 2016v3 Emissions Modeling TSD. Details on how the EPA responded to comments related to emissions inventories are available in the RTC document for this action.

Development of emissions inventories for annual NO_X and sulfur dioxide (SO_2) emissions for EGUs in the 2016 base year inventory are based primarily on data from continuous emissions monitoring systems (CEMS) and other monitoring systems allowed for use by qualifying units under 40 CFR part 75, with other EGU pollutants estimated using emissions factors and annual heat input data reported to the EPA. For EGUs not reporting under part 75, the EPA used data submitted to the NEI by state, local, and tribal agencies. The final action inventories include updates made in response to comments on the proposed actions including the proposed SIP submission disapprovals and the proposed FIP. The Air Emissions Reporting Rule, (80 FR 8787; February 19, 2015), requires that Type A point sources large enough to meet or exceed specific thresholds for emissions be reported to the EPA via the NEI every year, while the smaller Type B point sources must only be reported to EPA every 3 years. In response to comments, emissions data for EGUs that did not have data submitted to the NEI specific to the year 2016 were filled in with data from the 2017 NEI. For more information on the details of how the 2016 EGU emissions were developed and prepared for air quality modeling, *see* the 2016v3 Emissions Modeling TSD.

The EPA projected 2023 baseline EGU emissions using version 6 of the Integrated Planning Model (IPM) (*www.epa.gov/airmarkets/powersector-modeling*). IPM, developed by ICF Consulting, is a state-of-the-art, peer-reviewed, multi-regional, dynamic, deterministic linear programming model of the contiguous U.S. electric power sector. It provides forecasts of least cost capacity expansion, electricity dispatch, and emissions control strategies while meeting energy demand and environmental, transmission, dispatch, and reliability constraints. The EPA has used IPM for over two decades to better understand power sector behavior under future business-as-usual conditions and to evaluate the economic and emissions impacts of prospective environmental policies. The model is designed to reflect electricity markets as accurately as possible. The EPA uses the best available information from utilities, industry experts, gas and coal market experts, financial institutions, and government statistics as the basis for the detailed power sector modeling in IPM. The model documentation provides additional information on the assumptions discussed here as well as all other model assumptions and inputs.[64] The EPA relied on the same model platform as in the proposals but made substantial updates to reflect public comments on near-term fossil fuel market price volatility and updated fleet information reflecting Summer 2022 U.S. Energy Information Agency (EIA) 860 data, unit-level comments, and additional updates to the National Electric Energy Data System (NEEDS) inventory.

The IPM version 6—Updated Summer 2021 Reference Case incorporated recent updates through the summer 2022 to account for updated Federal and state environmental regulations (including Renewable Portfolio Standards (RPS), Clean Energy Standards (CES) and other state mandates), fleet changes (committed EGU retirements and new builds), electricity demand, technology cost and performance assumptions from recent data for renewables adopting from National Renewable Energy Lab (NREL's) Annual Technology Baseline 2020 and for fossil sources from the EIA's Annual Energy Outlook (AEO) 2020. Natural gas and coal price projections reflect data developed in fall 2020 but updated in summer 2022 to capture near-term price volatility and current market conditions. The inventory of EGUs provided as an input to the model was the NEEDS fall 2022 version and is available on the EPA's website.[65] This version of NEEDS reflects announced retirements and under construction new builds known as of early summer 2022. This projected base case accounts for the effects of the final Mercury and Air Toxics Standards rule, CSAPR, the CSAPR Update, the Revised CSAPR Update, New Source Review enforcement settlements, the final Effluent Limitation Guidelines (ELG) Rule, the Coal Combustion Residual (CCR) Rule, and other on-the-books Federal and state rules (including renewable energy tax credit extensions from the Consolidated Appropriations Act of 2021) through early 2021 impacting emissions of SO_2, NO_X, directly emitted particulate matter, carbon dioxide (CO_2), and power plant operations. It also includes final actions, up through the Summer 2022, the EPA has taken to implement the Regional Haze Rule and best available retrofit technology (BART) requirements. Documentation of IPM version 6 and NEEDS, along with updates, is in Docket ID No. EPA–HQ–OAR–2021–0663 and available online at *https://www.epa.gov/airmarkets/power-sector-modeling*.

Non-EGU point source emissions are mostly consistent with those in the proposal modeling except where they were updated in response to comments. Several commenters mentioned that point source emissions carried forward from 2014 NEI were not the best estimates of 2017 emissions. Thus, emissions sources in 2016v2 that had been projected from the 2014 NEI in the proposal were replaced with emissions based on the 2017 NEI. Point source emissions submitted to the 2016 NEI or to the 2016v1 platform development process specifically for the year 2016 were retained in 2016v3.

The 2023 non-EGU point source emissions were grown from 2016 to 2023 using factors based on AEO 2022 and reflect emissions reductions due to known national and local rules, control programs, plant closures, consent decrees, and settlements that could be computed as reductions to specific units by July 2022.

Aircraft emissions and ground support equipment at airports are represented as point sources and are based on adjustments to emissions in the January 2021 version of the 2017 NEI. The EPA developed and applied factors to adjust the 2017 airport emissions to 2016 and 2023 based on activity growth projected by the Federal Aviation Administration Terminal Area Forecast 2021,[66] the latest available version at the time the factors were developed.

[63] *https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-technical-support-document-tsd.*

[64] Detailed information and documentation of the EPA's Base Case, including all the underlying assumptions, data sources, and architecture parameters can be found on the EPA's website at: *https://www.epa.gov/airmarkets/power-sector-modeling.*

[65] *Available* at *https://www.epa.gov/airmarkets/national-electric-energy-data-system-needs-v6.*

[66] *https://www.faa.gov/data_research/aviation/taf/.*

Emissions at rail yards were represented as point sources. The 2016 rail yard emissions are largely consistent with the 2017 NEI rail yard emissions. The 2016 and 2023 rail yard emissions were developed through the 2016v1 Inventory Collaborative process. Class I rail yard emissions were projected based on the AEO freight rail energy use growth rate projections for 2023 with the fleet mix assumed to be constant throughout the period.

The EPA made multiple updates to point source oil and gas emissions in response to comments. For the 2016v3 modeling, the point source oil and gas emissions for 2016 were based on the 2016v2 point inventory except that most 2014 NEI-based emissions were replaced with 2017 NEI emissions. Additionally, in response to comments, state-provided emissions equivalent to those in the 2016v1 platform were used for Colorado, and some New Mexico emissions were replaced with data backcast from 2020 to 2016. To develop inventories for 2023 for the 2016v3 platform, the year 2016 oil and gas point source inventories were first projected to 2021 values based on actual historical production data, then those 2021 emissions were projected to 2023 using regional projection factors based on AEO 2022 projections. This was an update from the 2016v2 approach in which actual data were used only through the year 2019, because 2021 data were not yet available. NO_X and VOC reductions resulting from co-benefits to New Source Performance Standards (NSPS) for Stationary Reciprocating Internal Combustion Engines (RICE) are reflected, along with Natural Gas Turbine and Process Heater NSPS NO_X controls and Oil and Gas NSPS VOC controls. In some cases, year 2019 point source inventory data were used instead of the projected future year emissions except for the Western Regional Air Partnership (WRAP) states of Colorado, New Mexico, Montana, Wyoming, Utah, North Dakota, and South Dakota. The WRAP future year inventory [67] was used in these WRAP states in all future years except in New Mexico where the WRAP base year emissions were projected using the EIA historical and AEO forecasted production data. Estimated impacts from the recent oil and gas rule in the New Mexico Administrative code 20.2.50 [68] were also included. Details on the development of the projected point and nonpoint oil and gas emissions inventories are available in the 2016v3 Emissions Modeling TSD in Docket ID No. EPA–HQ–OAR–2021–0663.

Onroad mobile sources include exhaust, evaporative, and brake and tire wear emissions from vehicles that drive on roads, parked vehicles, and vehicle refueling. Emissions from vehicles using regular gasoline, high ethanol gasoline, diesel fuel, and electric vehicles were represented, along with buses that used compressed natural gas. The EPA developed the onroad mobile source emissions for states other than California using the EPA's Motor Vehicle Emissions Simulator (MOVES). MOVES3 was released in November 2020 and has been followed by some minor releases that improved the usage of the model but that do not have substantive impacts on the emissions estimates. For 2016v2, MOVES3 was run using inputs provided by state and local agencies through the 2017 NEI where available, in combination with nationally available data sets to develop a complete inventory. Onroad emissions were developed based on emissions factors output from MOVES3 run for the year 2016, coupled with activity data (*e.g.,* vehicle miles traveled and vehicle populations) representing the year 2016. The 2016 activity data were provided by some state and local agencies through the 2016v1 process, and the remaining activity data were derived from those used to develop the 2017 NEI. The onroad emissions were computed within SMOKE by multiplying emissions factors developed using MOVES with the appropriate activity data. Prior to computing the final action emissions for 2016, updates to some onroad inputs were made in response to comments and to implement corrections. Onroad mobile source emissions for California were consistent with the updated emissions data provided by the state for the final action.

The 2023 onroad emissions reflect projected changes to fuel properties and usage, along with the impact of the rules included in MOVES3 for each of those years. MOVES emissions factors for the year 2023 were used. A comprehensive list of control programs included for onroad mobile sources is available in the 2016v3 Emissions Modeling TSD. Year 2023 activity data for onroad mobile sources were provided by some state and local agencies, and otherwise were projected to 2023 by first projecting the 2016 activity to year 2019 based on county level vehicle miles traveled (VMT) from the Federal Highway Administration. The VMT were held flat from 2019 to 2021 to account for pandemic impacts, and then projected from 2021 to 2023 using AEO 2022-based factors.[69] Recent updates to inspection and maintenance programs in North Carolina and Tennessee were reflected in the MOVES inputs for the modeling supporting this final action. The 2023 onroad mobile emissions were computed within SMOKE by multiplying the respective emissions factors developed using MOVES with the year-specific activity data. Prior to computing the final action emissions for 2023, the EPA made updates to some onroad inputs in response to comments and to implement corrections.

The commercial marine vessel (CMV) emissions in the 2016 base case emissions inventory for this action were based on those in the 2017 NEI. Factors were applied to adjust the 2017 NEI emissions backward to represent emissions for the year 2016. The CMV emissions are consistent with the emissions for the 2016v1 platform CMV emissions released in February 2020 although, in response to comments, the EPA implemented an improved process for spatially allocating CMV emissions along state and county boundaries for the modeling supporting this final action.

The EPA developed nonroad mobile source emissions inventories (other than CMV, locomotive, and aircraft emissions) for 2016 and 2023 from monthly, county, and process level emissions output from MOVES3. Types of nonroad equipment include recreational vehicles, pleasure craft, and construction, agricultural, mining, and lawn and garden equipment.[70] The nonroad emissions for the final action were unchanged from those at the proposal. The nonroad mobile emissions control programs include reductions to locomotives, diesel engines, and recreational marine engines, along with standards for fuel sulfur content and evaporative emissions. A comprehensive list of

[67] *http://www.wrapair2.org/pdf/WRAP_OGWG_2028_OTB_RevFinalReport_05March2020.pdf.*

[68] *https://www.env.nm.gov/air-quality/ozone-draft-rule/* and *https://www.srca.nm.gov/parts/title20/20.002.0050.html.*

[69] VMT data for 2020 were the latest available at the time of final rule data development but were heavily impacted by the pandemic and unusable to project to 2023; in addition, it was determined that chaining factors based on AEO 2020 and AEO2021 obtain the needed factors led to unrealistic artifacts, thus only AEO 2022 data were used.

[70] Line haul locomotives are also considered a type of nonroad mobile source but the emissions inventories for locomotives were not developed using MOVES3. Year 2016 and 2023 locomotive emissions were developed through the 2016v1 process, and the year 2016 emissions are mostly consistent with those in the 2017 NEI. The projected locomotive emissions for 2023 were developed by applying factors to the base year emissions using activity data based on AEO freight rail energy use growth rate projections along with emissions rates adjusted to account for recent historical trends.

control programs included for mobile sources is available in the 2016v3 Emissions Modeling TSD.

For stationary nonpoint sources, some emissions in the 2016 base case emissions inventory come directly from the 2017 NEI, others were adjusted from the 2017 NEI to represent 2016 levels, and the remaining emissions including those from oil and gas, fertilizer, and solvents were computed specifically to represent 2016. Stationary nonpoint sources include evaporative sources, consumer products, fuel combustion that is not captured by point sources, agricultural livestock, agricultural fertilizer, residential wood combustion, fugitive dust, and oil and gas sources. The emissions sources derived from the 2017 NEI include agricultural livestock, fugitive dust, residential wood combustion, waste disposal (including composting), bulk gasoline terminals, and miscellaneous non-industrial sources such as cremation, hospitals, lamp breakage, and automotive repair shops. A recent method to compute solvent VOC emissions was used.[71]

Where comments were provided about projected control measures or changes in nonpoint source emissions, those inputs were first reviewed by the EPA. Those found to be based on reasonable data for affected emissions sources were incorporated into the projected inventories for 2023 to the extent possible. Where possible, projection factors based on the AEO used data from AEO 2022, the most recent AEO at the time available at the time the inventories were developed. Federal regulations that impact the nonpoint sources were reflected in the inventories. Adjustments for state fuel sulfur content rules for fuel oil in the Northeast were included along with solvent controls applicable within the northeast ozone transport region (OTR) states. Details are available in the 2016v3 Emissions Modeling TSD.

Nonpoint oil and gas emissions inventories for many states were developed based on outputs from the 2017 NEI version of the EPA Oil and Gas Tool using activity data for year 2016. Production-related emissions data from the 2017 NEI were used for Oklahoma, 2016v1 emissions were used for Colorado and Texas production-related sources to respond to comments. Data for production-related nonpoint oil and gas emissions in the States of Colorado, Montana, New Mexico, North Dakota, South Dakota, Utah, and Wyoming were obtained from the WRAP baseline inventory.[72] A California Air Resources Board-provided inventory was used for 2016 oil and gas emissions in California. Nonpoint oil and gas inventories for 2023 were developed by first projecting the 2016 oil and gas inventories to 2021 values based on actual production data. Next, those 2021 emissions were projected to 2023 using regional projection factors by product type based on AEO 2022 projections. A 2017–2019 average inventory was used for oil and natural gas exploration emissions in 2023 everywhere except for California and in the WRAP states in which data from the WRAP future year inventory[73] were used. NO_X and VOC reductions that are co-benefits to the NSPS for RICE are reflected, along with Natural Gas Turbines and Process Heaters NSPS NO_X controls and NSPS Oil and Gas VOC controls. The WRAP future year inventory was used for oil and natural gas production sources in 2023 except in New Mexico where the WRAP Base year emissions were projected using the EIA historical and AEO forecasted production data. Estimated impacts from the New Mexico Administrative Code 20.2.50 were included.

B. Air Quality Modeling To Identify Nonattainment and Maintenance Receptors

This section describes the air quality modeling and analyses that the EPA performed in Step 1 to identify locations where the Agency expects there to be nonattainment or maintenance receptors for the 2015 ozone NAAQS in 2023. Where the EPA's analysis shows that an area or site does not fall under the definition of a nonattainment or maintenance receptor in 2023, that site is excluded from further analysis under the EPA's good neighbor framework.

1. Approach for Identifying Receptors

In the proposed actions, the EPA applied the same approach used in the CSAPR Update and the Revised CSAPR Update to identify nonattainment and maintenance receptors for the 2008 ozone NAAQS.[74] The EPA's approach gives independent effect to both the ''contribute significantly to nonattainment'' and the ''interfere with maintenance'' prongs of section 110(a)(2)(D)(i)(I), consistent with the D.C. Circuit's direction in *North Carolina.* Further, in its decision on the remand of CSAPR from the Supreme Court in the *EME Homer City II* case, the D.C. Circuit confirmed that the EPA's approach to identifying maintenance receptors in CSAPR comported with the court's prior instruction to give independent meaning to the ''interfere with maintenance'' prong in the good neighbor provision.[75]

In the CSAPR Update and the Revised CSAPR Update, the EPA identified 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 NO_X SIP Call and CAIR, where the EPA defined nonattainment receptors as those areas that both currently monitor nonattainment and that the EPA projects will be in nonattainment in the future compliance year.

The Agency explained in the NO_X SIP Call and CAIR and then reaffirmed in the CSAPR Update that the EPA has the most confidence in our projections of nonattainment for those counties that also measure nonattainment for the most recent period of available ambient data. The EPA separately identified maintenance receptors as those receptors that would have difficulty maintaining the relevant NAAQS in a scenario that accounts for 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. The 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). The EPA also recognizes that previously experienced meteorological conditions (*e.g.,* dominant wind direction, temperatures, and 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.

[71] *https://doi.org/10.5194/acp-21-5079-2021.*

[72] *http://www.wrapair2.org/pdf/WRAP_OGWG_Report_Baseline_17Sep2019.pdf.*

[73] *http://www.wrapair2.org/pdf/WRAP_OGWG_2028_OTB_RevFinalReport_05March2020.pdf.*

[74] *See* 86 FR 23078–79.

[75] *EME Homer City II,* 795 F.3d at 136.

Therefore, applying this methodology for this action, the EPA assessed the magnitude of the maximum projected design values for 2023 at each receptor in relation to the 2015 ozone NAAQS and, where such a value exceeds the NAAQS, the EPA determined that 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 II.*[76] That is, monitoring sites with a maximum design value that exceeds the NAAQS are projected to have maintenance problems in the future analytic years.

Recognizing that nonattainment receptors are also, by definition, maintenance receptors, the EPA often uses the term ''maintenance-only'' to refer to receptors that are not also nonattainment receptors. Consistent with the concepts for maintenance receptors, as described earlier, the 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 certified design values.[77]

Comment: The EPA received comments claiming that the projected design values for 2023 were biased low compared to recent measured data. Commenters noted that a number of monitoring sites that are projected to be below the NAAQS in 2023 based on the EPA's modeling for the proposed action are currently measuring nonattainment based on data from 2020 and 2021. One commenter requested that the EPA determine whether its past modeling tends to overestimate or underestimate actual observed design values. If EPA finds that the agency's model tends to underestimate future year design values, the commenter requests that EPA re-run its ozone modeling, incorporating parameters that account for this tendency.

EPA Response: In response to comments, the EPA compared the projected 2023 design values based on the proposal modeling to recent trends in measured data. As a result of this analysis, the EPA agrees that current data indicate that there are monitoring sites at risk of continued nonattainment in 2023 even though the model projected average and maximum design values at these sites are below the NAAQS (*i.e.,* these sites would not be modeling-based receptors at Step 1). While the EPA has confidence in the reliability of the modeling for projecting air quality conditions and contributions in future years, it would not be reasonable to ignore recent measured ozone levels in many areas that are clearly not fully consistent with certain concentrations in the Step 1 analysis for 2023. Therefore, the EPA has developed an additional maintenance-only receptor category, which includes what we refer to as ''violating monitor'' receptors, based on current ozone concentrations measured by regulatory ambient air quality monitoring sites.

Specifically, the EPA has identified monitoring sites with measured 2021 and preliminary 2022 design values *and* 4th high maximum daily 8-hour average (MDA8) ozone in both 2021 and 2022 (preliminary data) that exceed the NAAQS as having the greatest risk of continuing to have a problem attaining the standard in 2023. These criteria sufficiently consider measured air quality data so as to avoid including monitoring sites that have measured nonattainment data in recent years but could reasonably be anticipated to not have a nonattainment or maintenance problem in 2023, in line with our modeling results. Our methodology is intended only to identify those sites that have sufficiently poor ozone levels that there is clearly a reasonable expectation that an ozone nonattainment or maintenance problem will persist in the 2023 ozone season. Moreover, the 2023 ozone season is so near in time that recent measured ozone levels can be used to reasonably project whether an air quality problem is likely to persist. We view this approach to identifying additional receptors in 2023 as the best means of responding to the comments on this issue in this action, while also identifying all transport receptors.

For purposes of this action, we will treat these violating monitors as an additional type of maintenance-only receptor. We acknowledge that the traditional modeling plus monitoring methodology we used at proposal and in prior ozone transport rules would otherwise have identified such sites as being in attainment in 2023. Because our modeling did not identify these sites as receptors, we do not believe it is sufficiently certain that these sites will be in nonattainment that they should be considered nonattainment receptors. In the face of this uncertainty in the record, we regard our ability to consider such sites as receptors for purposes of good neighbor analysis under CAA section 110(a)(2)(D)(i)(I) to be a function of the requirement to prohibit emissions that interfere with maintenance of the NAAQS; even if an area may be projected to be in attainment, we have reliable information indicating that there is a clear risk that attainment will not in fact be achieved in 2023. Thus, our authority for treating these sites as receptors at Step 1 in 2023 flows from the responsibility in CAA section 110(a)(2)(i)(I) to prohibit emissions that interfere with maintenance of the NAAQS. *See, e.g., North Carolina,* 531 F.3d at 910–11 (failing to give effect to the interfere with maintenance clause ''provides no protection for downwind areas that, *despite EPA's predictions,* still find themselves struggling to meet NAAQS due to upwind interference . . . .'') (emphasis added). Recognizing that no modeling can perfectly forecast the future, and ''a degree of imprecision is inevitable in tackling the problem of interstate air pollution,'' this approach in the Agency's judgement best balances the need to avoid both ''under-control'' and ''overcontrol,'' *EME Homer City,* 572 U.S. at 523. The EPA's analysis of these additional receptors further is explained in Section III.C.

However, because we did not propose to apply this expansion of the basis for regulation under the good neighbor provision receptor-identification methodology as the sole basis for finding an upwind state linked, in this action we are only using this receptor category on a confirmatory basis. That is, for states that we find linked based on our traditional modeling-based methodology in 2023, we find in this final analysis that the linkage at Step 2 is strengthened and confirmed if that state is also linked to one or more ''violating-monitor'' receptors. If a state is only linked to a violating-monitor receptor in this final analysis, we are deferring taking final action on that state's SIP submittal. This is the case for the State of Tennessee. Among the states that previously had their transport SIPs approved for the 2015 ozone NAAQS, the EPA has also identified a linkage to violating-monitor receptors for the State of Kansas. The EPA intends to further review its air quality modeling results and recent measured ozone levels, and we intend to address these states' good

[76] *EME Homer City II,* 795 F.3d at 136.

[77] *See https://www.epa.gov/air-trends/air-quality-design-values* for design value reports. At the time of this action, the most recent reports of certified design values available are for the calendar year 2021. The 2022 values are considered ''preliminary'' and therefore subject to change before certification.

neighbor obligations as expeditiously as practicable in a future action.

2. Methodology for Projecting Future Year Ozone Design Values

Consistent with the EPA's modeling guidance, the 2016 base year and future year air quality modeling results were used in a relative sense to project design values for 2023.[78] That is, the ratios of future year model predictions to base year model predictions are used to adjust ambient ozone design values up or down depending on the relative (percent) change in model predictions for each location. The EPA's modeling guidance recommends using measured ozone concentrations for the 5-year period centered on the base year as the air quality data starting point for future year projections. This average design value is used to dampen the effects of inter-annual variability in meteorology on ozone concentrations and to provide a reasonable projection of future air quality at the receptor under average conditions. In addition, the Agency calculated maximum design values from within the 5-year base period to represent conditions when meteorology is more favorable than average for ozone formation. Because the base year for the air quality modeling used in this final action is 2016, measured data for 2014–2018 (*i.e.,* design values for 2016, 2017, and 2018) were used to project average and maximum design values in 2023.

The ozone predictions from the 2016 and future year air quality model simulations were used to project 2016–2018 average and maximum ozone design values to 2023 using an approach similar to the approach in the EPA's guidance for attainment demonstration modeling. This guidance recommends using model predictions from the 3 x 3 array of grid cells surrounding the location of the monitoring site to calculate a Relative Response Factor (RRF) for that site. However, the guidance also notes that an alternative array of grid cells may be used in certain situations where local topographic or geographical feature (*e.g.,* a large water body or a significant elevation change) may influence model response.

The 2016–2018 base period average and maximum design values were multiplied by the RRF to project each of these design values to 2023. In this manner, the projected design values are grounded in monitored data, and not the absolute model-predicted future year concentrations. Following the approach in the CSAPR Update and the Revised CSAPR Update, the EPA also projected future year design values based on a modified version of the ''3 x 3'' approach for those monitoring sites located in coastal areas. In this alternative approach, the EPA eliminated from the RRF calculations the modeling data in those grid cells that are dominated by water (*i.e.,* more than 50 percent of the area in the grid cell is water) and that do not contain a monitoring site (*i.e.,* if a grid cell is more than 50 percent water but contains an air quality monitor, that cell would remain in the calculation). The choice of more than 50 percent of the grid cell area as water as the criteria for identifying overwater grid cells is based on the treatment of land use in the Weather Research and Forecasting model (WRF). Specifically, in the WRF meteorological model those grid cells that are greater than 50% overwater are treated as being 100 percent overwater. In such cases the meteorological conditions in the entire grid cell reflect the vertical mixing and winds over water, even if part of the grid cell also happens to be over land with land-based emissions, as can often be the case for coastal areas. Overlaying land-based emissions with overwater meteorology may be representative of conditions at coastal monitors during times of on-shore flow associated with synoptic conditions or sea-breeze or lake-breeze wind flows. But there may be other times, particularly with off-shore wind flow, when vertical mixing of land-based emissions may be too limited due to the presence of overwater meteorology. Thus, for our modeling the EPA projected average and maximum design values at individual monitoring sites based on both the ''3 x 3'' approach as well as the alternative approach that eliminates overwater cells in the RRF calculation for near-coastal areas (*i.e.,* ''no water'' approach). The projected 2023 design values using both the ''3 x 3'' and ''no-water'' approaches are provided in the docket for this final action. Both approaches result in the same set of receptors in 2023. That is, monitoring sites that are identified as receptors in 2023 based on the ''3 x 3'' approach are also receptors based on the ''no water'' approach.

Consistent with the truncation and rounding procedures for the 8-hour ozone NAAQS, the projected design values are evaluated after truncation to integers in units of ppb. Therefore, projected design values that are greater than or equal to 71 ppb are considered to be violating the 2015 ozone NAAQS. For those sites that are projected to be violating the NAAQS based on the average design values in 2023, the Agency examined the measured design values for 2021, which are the most recent official measured design values at the time of this final action.

As noted earlier, the Agency proposes to identify nonattainment receptors in this rulemaking as those sites that are violating the NAAQS based on current measured air quality through 2021 and have projected average design values of 71 ppb or greater. Maintenance-only receptors include both: (1) Those sites with projected average design values above the NAAQS that are currently measuring clean data (*i.e.,* ozone design values below the level of the 2015 ozone NAAQS in 2021) and (2) those sites with projected average design values below the level of the NAAQS, but with projected maximum design values of 71 ppb or greater. In addition to the maintenance-only receptors, ozone nonattainment receptors are also maintenance receptors because the projected maximum design values for each of these sites is always greater than or equal to the average design value. Further, as explained previously in this section, the EPA identifies certain monitoring sites as ''violating monitor'' maintenance-only receptors based on 2021 and 2022 measured ozone levels.

The monitoring sites that the Agency projects to be nonattainment and maintenance receptors for the ozone NAAQS in the 2023 base case are used for assessing the contribution of emissions in upwind states to downwind nonattainment and maintenance of the 2015 ozone NAAQS as part of this final action.

3. 2023 Nonattainment and Maintenance-Only Receptors for the Final Action

In this section we provide information on modeling-based design values and measured data for monitoring sites identified as nonattainment or maintenance-only receptors in 2023 for this final action. Table III.B–1 of this action contains the 2016-centered base period average and maximum 8-hour ozone design values, the 2023 projected average and maximum design values and the measured 2021 design values for monitoring sites that are projected to be nonattainment receptors in 2023. Table III.B–2 of this action contains this same information for monitoring sites that are projected to be maintenance-only receptors in 2023, based on air quality modeling. Table III.B–3 of this action contains the 2023 projected average and maximum design values and 2021 design values and 4th high

[78] U.S. Environmental Protection Agency, 2018. Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze, Research Triangle Park, NC. *https://www.epa.gov/scram/state-implementation-plan-sip-attainment-demonstration-guidance.*

MDA8 ozone concentrations and preliminary 2020 design values and 4th high MDA8 ozone concentrations for monitoring sites identified as violating monitor maintenance-only receptors. The design values for all monitoring sites in the U.S. are provided in the docket for this action. Additional details on the approach for projecting average and maximum design values are provided in the AQM TSD.

TABLE III.B–1—AVERAGE AND MAXIMUM 2016-CENTERED AND 2023 BASE CASE 8-HOUR OZONE DESIGN VALUES AND 2021 DESIGN VALUES (PPB) AT PROJECTED NONATTAINMENT RECEPTORS [a]

Monitor ID	State	County	2016 centered average	2016 centered maximum	2023 average	2023 maximum	2021
060650016	CA	Riverside	79.0	80.0	72.2	73.1	78
060651016	CA	Riverside	99.7	101	91.0	92.2	95
080350004	CO	Douglas	77.3	78	71.3	71.9	83
080590006	CO	Jefferson	77.3	78	72.8	73.5	81
080590011	CO	Jefferson	79.3	80	73.5	74.1	83
090010017	CT	Fairfield	79.3	80	71.6	72.2	79
090013007	CT	Fairfield	82.0	83	72.9	73.8	81
090019003	CT	Fairfield	82.7	83	73.3	73.6	80
481671034	TX	Galveston	75.7	77	71.5	72.8	72
482010024	TX	Harris	79.3	81	75.1	76.7	74
490110004	UT	Davis	75.7	78	72.0	74.2	78
490353006	UT	Salt Lake	76.3	78	72.6	74.2	76
490353013	UT	Salt Lake	76.5	77	73.3	73.8	76
551170006	WI	Sheboygan	80.0	81	72.7	73.6	72

[a] 2016-centered base period average design values and projected average and maximum design values are reported with 1 digit to the right of the decimal, as recommended in the EPA's modeling guidance. The 2016 maximum design values and 2021 design values are truncated to integer values consistent with ozone design value reporting convention in appendix U of 40 CFR part 50.

TABLE III.B–2—AVERAGE AND MAXIMUM 2016-CENTERED AND 2023 BASE CASE 8-HOUR OZONE DESIGN VALUES AND 2021 DESIGN VALUES (PPB) AT PROJECTED MAINTENANCE-ONLY RECEPTORS

Monitor ID	State	County	2016 centered average	2016 centered maximum	2023 average	2023 maximum	2021
040278011	AZ	Yuma	72.3	74	70.4	72.1	67
080690011	CO	Larimer	75.7	77	70.9	72.1	77
090099002	CT	New Haven	79.7	82	70.5	72.6	82
170310001	IL	Cook	73.0	77	68.2	71.9	71
170314201	IL	Cook	73.3	77	68.0	71.5	74
170317002	IL	Cook	74.0	77	68.5	71.3	73
350130021	NM	Dona Ana	72.7	74	70.8	72.1	80
350130022	NM	Dona Ana	71.3	74	69.7	72.4	75
350151005	NM	Eddy	69.7	74	69.7	74.1	77
350250008	NM	Lea	67.7	70	69.8	72.2	66
480391004	TX	Brazoria	74.7	77	70.4	72.5	75
481210034	TX	Denton	78.0	80	69.8	71.6	74
481410037	TX	El Paso	71.3	73	69.8	71.4	75
482010055	TX	Harris	76.0	77	70.9	71.9	77
482011034	TX	Harris	73.7	75	70.1	71.3	71
482011035	TX	Harris	71.3	75	67.8	71.3	71
530330023	WA	King	73.3	77	67.6	71.0	64
550590019	WI	Kenosha	78.0	79	70.8	71.7	74
551010020	WI	Racine	76.0	78	69.7	71.5	73

In total, in 2023 there are a total of projected 33 modeling-based receptors nationwide including 14 nonattainment receptors in 9 different counties and 19 maintenance-only receptors in 13 additional counties (Harris County, TX, has both nonattainment and maintenance-only receptors).

As shown in Table III.B–3 of this action, there are 49 monitoring sites that are identified as ''violating-monitor'' maintenance-only receptors in 2023.As noted earlier in this section, the EPA uses the approach of considering ''violating-monitor'' maintenance-only receptors as confirmatory of the proposal's identification of receptors and does not implicate additional linked states in this final action, Rather, using this approach serves to strengthen the analytical basis for our Step 2 findings by establishing that many upwind states covered in this action are also projected to contribute above 1 percent of the NAAQS to these additional ''violating monitor'' maintenance-only receptors.

TABLE III.B–3—AVERAGE AND MAXIMUM 2023 BASE CASE 8-HOUR OZONE, AND 2021 AND PRELIMINARY 2022 DESIGN VALUES (PPB) AND 4TH HIGH CONCENTRATIONS AT VIOLATING MONITORS [a]

Monitor ID	State	County	2023 average	2023 maximum	2021	2022 P	2021 4th high	2022 P 4th high
40070010	AZ	Gila	67.9	69.5	77	76	75	74
40130019	AZ	Maricopa	69.8	70.0	75	77	78	76
40131003	AZ	Maricopa	70.1	70.7	80	80	83	78
40131004	AZ	Maricopa	70.2	70.8	80	81	81	77
40131010	AZ	Maricopa	68.3	69.2	79	80	80	78
40132001	AZ	Maricopa	63.8	64.1	74	78	79	81
40132005	AZ	Maricopa	69.6	70.5	78	79	79	77
40133002	AZ	Maricopa	65.8	65.8	75	75	81	72
40134004	AZ	Maricopa	65.7	66.6	73	73	73	71
40134005	AZ	Maricopa	62.3	62.3	73	75	79	73
40134008	AZ	Maricopa	65.6	66.5	74	74	74	71
40134010	AZ	Maricopa	63.8	66.9	74	76	77	75
40137020	AZ	Maricopa	67.0	67.0	76	77	77	75
40137021	AZ	Maricopa	69.8	70.1	77	77	78	75
40137022	AZ	Maricopa	68.2	69.1	76	78	76	79
40137024	AZ	Maricopa	67.0	67.9	74	76	74	77
40139702	AZ	Maricopa	66.9	68.1	75	77	72	77
40139704	AZ	Maricopa	65.3	66.2	74	77	76	76
40139997	AZ	Maricopa	70.5	70.5	76	79	82	76
40218001	AZ	Pinal	67.8	69.0	75	76	73	77
80013001	CO	Adams	63.0	63.0	72	77	79	75
80050002	CO	Arapahoe	68.0	68.0	80	80	84	73
80310002	CO	Denver	63.6	64.8	72	74	77	71
80310026	CO	Denver	64.5	64.8	75	77	83	72
90079007	CT	Middlesex	68.7	69.0	74	73	78	73
90110124	CT	New London	65.5	67.0	73	72	75	71
170310032	IL	Cook	67.3	69.8	75	75	77	72
170311601	IL	Cook	63.8	64.5	72	73	72	71
181270024	IN	Porter	63.4	64.6	72	73	72	73
260050003	MI	Allegan	66.2	67.4	75	75	78	73
261210039	MI	Muskegon	67.5	68.4	74	79	75	82
320030043	NV	Clark	68.4	69.4	73	75	74	74
350011012	NM	Bernalillo	63.8	66.0	72	73	76	74
350130008	NM	Dona Ana	65.6	66.3	72	76	79	78
361030002	NY	Suffolk	66.2	68.0	73	74	79	74
390850003	OH	Lake	64.3	64.6	72	74	72	76
480290052	TX	Bexar	67.1	67.8	73	74	78	72
480850005	TX	Collin	65.4	66.0	75	74	81	73
481130075	TX	Dallas	65.3	66.5	71	71	73	72
481211032	TX	Denton	65.9	67.7	76	77	85	77
482010051	TX	Harris	65.3	66.3	74	73	83	72
482010416	TX	Harris	68.8	70.4	73	73	78	71
484390075	TX	Tarrant	63.8	64.7	75	76	76	77
484391002	TX	Tarrant	64.1	65.7	72	77	76	80
484392003	TX	Tarrant	65.2	65.9	72	72	74	72
484393009	TX	Tarrant	67.5	68.1	74	75	75	75
490571003	UT	Weber	69.3	70.3	71	74	77	71
550590025	WI	Kenosha	67.6	70.7	72	73	72	71
550890008	WI	Ozaukee	65.2	65.8	71	72	72	72

[a] 2022 preliminary design values are based on 2022 measured MDA8 concentrations provided by state air agencies to the EPA's Air Quality System (AQS), as of January 3, 2023.

C. Air Quality Modeling To Quantify Upwind State Contributions

This section documents the procedures the EPA used to quantify the impact of emissions from specific upwind states on ozone design values in 2023 for the identified downwind nonattainment and maintenance receptors. The EPA used CAMx photochemical source apportionment modeling to quantify the impact of emissions in specific upwind states on downwind nonattainment and maintenance receptors for 8-hour ozone. CAMx employs enhanced source apportionment techniques that track the formation and transport of ozone from specific emissions sources and calculates the contribution of sources and precursors to ozone for individual receptor locations. The benefit of the photochemical model source apportionment technique is that all modeled ozone at a given receptor location in the modeling domain is tracked back to specific sources of emissions and boundary conditions to fully characterize culpable sources.

The EPA performed nationwide, state-level ozone source apportionment modeling using the CAMx Ozone Source Apportionment Technology/Anthropogenic Precursor Culpability Analysis (OSAT/APCA) technique [79] to quantify the contribution of 2023 NO_X and VOC emissions from all sources in each state to the corresponding projected ozone design values in 2023 at

[79] As part of this technique, ozone formed from reactions between biogenic VOC and NO_X with anthropogenic NO_X and VOC are assigned to the anthropogenic emissions.

air quality monitoring sites. The CAMx OSAT/APCA model run was performed for the period May 1 through September 30 using the projected future base case emissions and 2016 meteorology for this time period. In the source apportionment modeling the Agency tracked (*i.e.,* tagged) the amount of ozone formed from anthropogenic emissions in each state individually as well as the contributions from other sources (*e.g.,* natural emissions).

In the state-by-state source apportionment model run, the EPA tracked the ozone formed from each of the following tags:

- States—anthropogenic NO_X emissions and VOC emissions from individual state (emissions from all anthropogenic sectors in a given state were combined);
- Biogenics—biogenic NO_X and VOC emissions domain-wide (*i.e.,* not by state);
- Boundary Concentrations—concentrations transported into the air quality modeling domain;
- Tribes—the emissions from those tribal lands for which the Agency has point source inventory data emissions modeling platform (EPA did not model the contributions from individual tribes);
- Canada and Mexico—anthropogenic emissions from those sources in the portions of Canada and Mexico included within the modeling domain (the EPA did not model the contributions from Canada and Mexico separately);
- Fires—combined emissions from wild and prescribed fires domain-wide (*i.e.,* not by state); and
- Offshore—combined emissions from offshore marine vessels and offshore drilling platforms within the modeling domain.

The contribution modeling provided contributions to ozone from anthropogenic NO_X and VOC emissions in each state, individually. The contributions to ozone from chemical reactions between biogenic NO_X and VOC emissions were modeled and assigned to the ''biogenic'' category. The contributions from wildfire and prescribed fire NO_X and VOC emissions were modeled and assigned to the ''fires'' category. That is, the contributions from the ''biogenic'' and ''fires'' categories are not assigned to individual states nor are they included in the state contributions.

For the Step 2 analysis, the EPA calculated a contribution metric that considers the average contribution on the 10 highest ozone concentration days (*i.e.,* top 10 days) in 2023 using the same approach as the EPA used in the proposed action and in the Revised CSAPR Update.[80] This average contribution metric is intended to provide a reasonable representation of the contribution from individual states to projected future year design values, based on modeled transport patterns and other meteorological conditions generally associated with modeled high ozone concentrations at the receptor. An average contribution metric constructed in this manner ensures the magnitude of the contributions is directly related to the magnitude of the ozone design value at each site.

The analytic steps for calculating the contribution metric for the 2023 analytic year are as follows:

(1) Calculate the 8-hour average contribution from each source tag to individual ozone monitoring site for the time period of the 8-hour daily maximum modeled concentrations in 2023;

(2) Average the contributions and average the concentrations for the top 10 modeled ozone concentration days in 2023;

(3) Divide the average contribution by the corresponding average concentration to obtain a Relative Contribution Factor (RCF) for each monitoring site;

(4) Multiply the 2023 average design value by the 2023 RCF at each site to produce the average contribution metric values in 2023; [81]

(5) Truncate the average contribution metric values to two digits to the right of the decimal for comparison to the 1 percent of the NAAQS screening threshold (0.70 ppb)

The resulting contributions from each tag to each monitoring site in the U.S. for 2023 can be found in the docket for this final action. Additional details on the source apportionment modeling and the procedures for calculating contributions can be found in the AQM TSD. The EPA's response to comments on the method for calculating the contribution metric can be found in the RTC document for this final action.

The largest contribution from each state that is the subject of this final action to modeled 8-hour ozone nonattainment and modeling-based maintenance receptors in downwind states in 2023 are provided in Table III.C–1 of this action. The largest contribution from each state to the additional ''violating monitor'' maintenance-only receptors is provided in Table III.C–2 of this action. All states that are linked to one or more nonattainment or maintenance-only receptors are also linked to one or more violating monitor maintenance receptors, except for Minnesota.

TABLE III.C–1—LARGEST CONTRIBUTION BY STATE TO DOWNWIND 8-HOUR OZONE NONATTAINMENT AND MAINTENANCE RECEPTORS IN 2023 (ppb)

Upwind state	Largest contribution to a downwind nonattainment receptor	Largest contribution to a downwind maintenance-only receptor
Alabama	0.75	0.65
Arkansas	0.94	1.21
California	35.27	6.31
Illinois	13.89	19.09
Indiana	8.90	10.03
Kentucky	0.84	0.79
Louisiana	9.51	5.62

[80] The use of daily contributions on the top 10 concentration days for calculating the average contribution metric is designed to be consistent with the method specified in the modeling guidance in terms of the number of days to use when projecting future year design values.

[81] Note that a contribution metric value was not calculated for any receptor at which there were fewer than 5 days with model-predicted MDA8 ozone concentrations greater than or equal to 60 ppb in 2023. Eliminating from the Step 2 evaluation any receptors for which the modeling does not meet this criterion ensures that upwind state contributions are based on the days with the highest ozone projections. This criterion is consistent with the criterion for projecting design values, as recommended in the EPA's modeling guidance. In the modeling for this final action, the monitoring site in Seattle, Washington (530330023), was the only receptor that did not meet this criterion.

TABLE III.C–1—LARGEST CONTRIBUTION BY STATE TO DOWNWIND 8-HOUR OZONE NONATTAINMENT AND MAINTENANCE RECEPTORS IN 2023 (ppb)—Continued

Upwind state	Largest contribution to a downwind nonattainment receptor	Largest contribution to a downwind maintenance-only receptor
Maryland	1.13	1.28
Michigan	1.59	1.56
Minnesota	0.36	0.85
Mississippi	1.32	0.91
Missouri	1.87	1.39
Nevada	1.11	1.13
New Jersey	8.38	5.79
New York	16.10	11.29
Ohio	2.05	1.98
Oklahoma	0.79	1.01
Texas	1.03	4.74
Utah	1.29	0.98
West Virginia	1.37	1.49
Wisconsin	0.21	2.86

TABLE III.C–2—LARGEST CONTRIBUTION TO DOWNWIND 8-HOUR OZONE ''VIOLATING MONITOR'' MAINTENANCE-ONLY RECEPTORS (ppb)

Upwind State	Largest contribution to a downwind violating monitor maintenance-only receptor
Alabama	0.79
Arkansas	1.16
California	6.97
Illinois	16.53
Indiana	9.39
Kentucky	1.57
Louisiana	5.06
Maryland	1.14
Michigan	3.47
Minnesota	0.64
Mississippi	1.02
Missouri	2.95
Nevada	1.11
New Jersey	8.00
New York	12.08
Ohio	2.25
Oklahoma	1.57
Texas	3.83
Utah	1.46
West Virginia	1.79
Wisconsin	5.10

IV. Summary of Bases for Disapproval

As explained in Section II, the EPA relies on the 4-step interstate transport framework to evaluate obligations under CAA section 110(a)(2)(D)(i)(I). At proposal, the EPA used this framework to guide its evaluation of each state's SIP submission. While the EPA used this framework to maintain a nationally consistent and equitable approach to interstate transport, the contents of each individual state's submission were evaluated on their own merits, and the EPA considered the facts and information, including information from the Agency, available to the state at the time of its submission, in addition to more recent air quality and contribution information. Here we provide a brief, high level overview of the SIP submissions and the EPA's evaluation and key bases for disapproval. These summaries are presented for ease of reference and to direct the public to the most relevant portions of the proposals and final rule record for further information. The full basis for the EPA's disapprovals is available in relevant **Federal Register** notifications of proposed disapproval for each state, in the technical support documents informing the proposed and final action, and in the responses to comments in Section V and the RTC document. In general, except as otherwise noted, the comments and updated air quality information did not convince the Agency that a change from proposal was warranted for any state. The exceptions are that the EPA is deferring action at this time on the proposed disapprovals for Tennessee and Wyoming. Further, the EPA is finalizing partial approvals of prong 1 (''significant contribution to nonattainment'') for Minnesota and Wisconsin because they are linked only to maintenance-only receptors; the EPA is finalizing a partial disapproval with respect to prong 2 (''interference with maintenance'') obligations for these two states.

A. Alabama

In the 2016v3 modeling, Alabama is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor. It is also linked to one violating-monitor maintenance-only receptor. Its highest-level contribution is 0.75 ppb to Galveston County, Texas (AQS Site ID 481671034).[82] A full summary of Alabama's June 21, 2022, SIP submission, as well as Alabama's previous submission history, was provided in the proposed SIP submission disapproval.[83] In its submission, Alabama advocated for discounting maintenance receptors through use of historical data trends. The EPA finds Alabama's approach is not adequately justified.[84] The EPA disagrees with Alabama's assessment of the 2016v2 modeling,[85] and further responds to comments on model performance in Section III. The EPA disagrees with Alabama's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2,[86] and further addresses the relevance of ''significant impact levels'' within the Prevention of Significant Deterioration program (''PSD SILs'') in Section V.B.6. The EPA found technical flaws in Alabama's back trajectory analysis.[87] The State did not conduct an adequate Step 3 analysis, and the EPA identified several unsupported assertions in the SIP submission.[88] Alabama also argued in its SIP submission that it had already implemented all cost-effective controls. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[89] The EPA further addresses arguments related to

[82] The highest-magnitude downwind contribution from each state is based on the contributions to modeling-based receptors and does not consider the contributions to violating-monitor maintenance-only receptors. Each state's maximum contribution to downwind violating-monitor maintenance-only receptors is available in the Final Action AQM TSD.

[83] 87 FR 64419–64421.

[84] Id. at 64421–64422.

[85] Id. at 64422–64423.

[86] Id. at 64423–64424.

[87] Id. at 64424–64425.

[88] Id. at 64425–64426.

[89] Id.

mobile sources in Section V.C.1.[90] Additionally, as explained in Section V.B.9,[91] reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3. The State included no permanent and enforceable emissions controls in its SIP submission.[92] We provide further response to comments regarding Alabama's SIP submission in the RTC document. The EPA is finalizing disapproval of Alabama's interstate transport SIP submission for the 2015 ozone NAAQS.

B. Arkansas

In the 2016v3 modeling, Arkansas is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor and five maintenance-only receptors. It is also linked to seven violating-monitor maintenance-only receptor. Its highest-level contribution is 1.21 ppb to Brazoria County Texas (AQS Site ID 480391004). A full summary of Arkansas's October 10, 2019, SIP submission was provided in the proposed SIP submission disapproval.[93] The EPA disagrees with Arkansas's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2, and further addresses the relevance of PSD SILs in Section V.B.6.[94] The EPA also found technical flaws in Arkansas's ''consistent and persistent'' claims and back trajectory analysis,[95] and legal flaws in the state's arguments related to relative contribution.[96] The State did not conduct an adequate Step 3 analysis.[97] Arkansas argued in its SIP submission that it had already implemented all cost-effective controls. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[98] Further, the State's reliance on the cost-effectiveness thresholds in the CSAPR and CSAPR Update is insufficient for the more protective 2015 ozone NAAQS.[99] The State included no permanent and enforceable controls in its SIP submission.[100] We provide further response to comments regarding Arkansas's SIP submission in the RTC document. The EPA is finalizing disapproval of Arkansas's interstate transport SIP submission for the 2015 ozone NAAQS.

C. California

In the 2016v3 modeling, California is projected to be linked above 1 percent of the NAAQS to eight nonattainment receptors and four maintenance-only receptors. It is also linked to 26 violating-monitor maintenance-only receptor. Its highest-level contribution is 35.27 ppb to the nonattainment receptor located on the Morongo Band of Missions Indians reservation (AQS Site ID 060651016).[101] A full summary of California's October 1, 2018, SIP submission was provided in the proposed SIP submission disapproval.[102] The EPA found technical and legal flaws in California's geographic, meteorological, wildfire, and trajectories analysis, and the State's arguments related to local, international, and non-anthropogenic emissions.[103] The EPA further addresses the topic of international emissions in Section V.C.2. The State did not conduct an adequate Step 3 analysis.[104] California in its SIP submission argued that it had already implemented all cost-effective controls. However, California provided an insufficient evaluation of additional control opportunities to support such a conclusion.[105] Further, the State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for the more protective 2015 ozone NAAQS.[106] California included no permanent and enforceable emissions controls in its SIP submission[107] and argued that interstate transport is fundamentally different in the western U.S. than in the eastern U.S., to which the EPA responds in Section V.C.3.[108] We provide further response to comments regarding California's SIP submission in the RTC document. The EPA is finalizing disapproval of California's interstate transport SIP submission for the 2015 ozone NAAQS.

D. Illinois

In the 2016v3 modeling, Illinois is projected to be linked above 1 percent of the NAAQS to two nonattainment receptors and three maintenance-only receptors. It is also linked to six violating-monitor maintenance-only receptor. Its highest-level contribution is 19.09 ppb to Kenosha County, Wisconsin (AQS Site ID 550590019). A full summary of Illinois's May 21, 2019, SIP submission was provided in the proposed SIP submission disapproval.[109] The EPA disagrees with Illinois's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2.[110] The state did not conduct an adequate Step 3 analysis.[111] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[112] The EPA also found technical and legal flaws in Illinois' arguments related to ''on-the-way'' controls, participation in the Lake Michigan Air Directors Consortium (LADCO), and international contributions.[113] The EPA further addresses the topic of international contribution in Section V.C.2. Further, as explained in Section V.B.9., states may not rely on non-SIP measures to meet SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[114] The State included no permanent and enforceable controls in its SIP submission.[115] We provide further response to comments regarding Illinois's SIP submission in the RTC document. The EPA is finalizing disapproval of Illinois's interstate

[90] *See also* id. at 64425–64426.
[91] *See also* id. at 64426.
[92] Id.
[93] 87 FR 9798, 9803–9806 (February 22, 2022).
[94] Id. at 9806–9807.
[95] Id. at 9808–9809.
[96] Id. at 9809–9810.
[97] Id. at 9809–9810.
[98] Id. at 9810.
[99] Id.
[100] Id. at 9811.

[101] We note that, consistent with the EPA's prior good neighbor actions in California, the regulatory ozone monitor located on the Morongo Band of Mission Indians (''Morongo'') reservation is a projected downwind receptor in 2023. *See* monitoring site 060651016 in Table V.D–1. of this action. We also note that the Temecula, California, regulatory ozone monitor is a projected downwind receptor in 2023 and in past regulatory actions has been deemed representative of air quality on the Pechanga Band of Luiseño Indians (''Pechanga'') reservation. *See, e.g.,* Approval of Tribal Implementation Plan and Designation of Air Quality Planning Area; Pechanga Band of Luiseño Mission Indians, 80 FR 18120, at 18121–18123 (April 3, 2015); *see* also monitoring site 060650016 in Table V.D–1. of this action. The presence of receptors on, or representative of, the Morongo and Pechanga reservations does not trigger obligations for the Morongo and Pechanga Tribes. Nevertheless, these receptors are relevant to the EPA's assessment of any linked upwind states' good neighbor obligations. *See, e.g.,* Approval and Promulgation of Air Quality State Implementation Plans; California; Interstate Transport Requirements for Ozone, Fine Particulate Matter, and Sulfur Dioxide, 83 FR 65093 (December 19, 2018). Under 40 CFR 49.4(a), tribes are not subject to the specific plan submittal and implementation deadlines for NAAQS-related requirements, including deadlines for submittal of plans addressing transport impacts. We also note that California's maximum contribution to a downwind state receptor is 6.31 ppb in Yuma County, Arizona (AQS Site ID 040278011).
[102] 87 FR 31448–31452.
[103] Id. at 31454–31457, 31460.
[104] Id. at 31458–31461.
[105] Id. at 31458.
[106] Id. at 31458–31459.
[107] Id. at 31461.
[108] *See also* id. at 31453.
[109] Id. at 9845.
[110] Id. at 9852–9853.
[111] Id. at 9853–9855.
[112] Id. at 9853.
[113] Id. at 9853–9854.
[114] *See also* id. at 9854.
[115] Id. at 9855.

transport SIP submission for the 2015 ozone NAAQS.

E. Indiana

In the 2016v3 modeling, Indiana is projected to be linked above 1 percent of the NAAQS to four nonattainment receptors and six maintenance-only receptors. It is also linked to 10 violating-monitor maintenance receptors. Its highest-level contribution is 10.03 ppb to Racine County, Wisconsin (AQS Site ID 551010020). A full summary of Indiana's November 2, 2018, SIP submission was provided in the proposed SIP submission disapproval.[116] The EPA disagrees with Indiana's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2.[117] The State did not conduct an adequate Step 3 analysis.[118] The EPA found technical and legal flaws in Indiana's arguments related to ozone concentration and design value trends, the timing of expected source shutdowns, local emissions, international and offshore contributions, Indiana's portion of contribution, and Indiana's back trajectory analysis.[119] The EPA further addresses the topic of international emissions in Section V.C.2. Indiana argued that it would not be cost-effective to implement controls on non-EGUs. However, the State included an insufficient evaluation of additional emissions control opportunities, for any type of source, to support that conclusion.[120] The EPA also confirmed that EGU shutdowns identified by Indiana were included in the 2016v2 modeling,[121] and if they were valid and not included in the 2016v2 modeling, then they were incorporated into the 2016v3 modeling as explained in Section III and the 2016v3 Emissions Modeling TSD. Further, in Section V.B.9., states may not rely on non-SIP measures to meet SIP requirements.[122] The State included no permanent and enforceable emissions controls in its SIP submission.[123] We provide further response to comments regarding Indiana's SIP submission in the RTC document. The EPA is finalizing disapproval of Indiana's interstate transport SIP submission for the 2015 ozone NAAQS.

F. Kentucky

In the 2016v3 modeling, Kentucky is projected to be linked above 1 percent of the NAAQS to two nonattainment receptors and one maintenance-only receptor. It is also linked to four violating-monitor maintenance-only receptor. Its highest-level contribution based on the 2016v3 modeling is 0.84 ppb to Fairfield County, Connecticut (AQS Site ID 090019003). A full summary of Kentucky's January 11, 2019, SIP submission was provided in the proposed SIP submission disapproval.[124] Although the EPA's 2016v3 modeling indicated a highest-level contribution below 1 ppb, the EPA disagrees with Kentucky's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2.[125] Further, Kentucky is linked above 1 ppb to a violating-monitor receptor. The EPA addresses the relevance of the PSD SILs in Section V.B.6. The Commonwealth did not conduct an adequate Step 3 analysis.[126] The EPA found technical and legal flaws in Kentucky's arguments related to the level and timing of upwind versus downwind-state responsibilities, NO_X emissions trends and other air quality information, and back-trajectory analyses.[127] The EPA also found technical and legal flaws in certain State-level comments submitted by Midwest Ozone Group and attached to Kentucky's submission, including arguments related to international emissions.[128] The EPA further addresses the topics of international emissions in Section V.C.2. Kentucky in its SIP submission also argued that it had already implemented all cost-effective controls. However, the Commonwealth included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[129] As explained in Section V.B.9., states may not rely on non-SIP measures to meet SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[130] The EPA also confirmed in the proposed SIP submission disapproval that EGU shutdowns identified by Kentucky were included in the 2016v2 modeling, and yet Kentucky was still linked in that modeling.[131] Kentucky in its SIP submission advocated for lower interstate ozone transport responsibility for states linked only to maintenance-only receptors. The EPA finds Kentucky's arguments in this regard inadequately supported.[132] The Commonwealth included no permanent and enforceable emissions controls in its SIP submission.[133] We provide further response to comments regarding Kentucky's SIP submission in the RTC document. The EPA is finalizing disapproval of Kentucky's interstate transport SIP submission for the 2015 ozone NAAQS.

G. Louisiana

In the 2016v3 modeling, Louisiana is projected to be linked above 1 percent of the NAAQS to two nonattainment receptors and five maintenance-only receptors. It is also linked to 10 violating-monitor maintenance-only receptor. Its highest-level contribution is 9.51 ppb to Galveston County Texas (AQS Site ID 481671034). A full summary of Louisiana's November 13, 2019, SIP submission was provided in the proposed SIP submission disapproval.[134] The EPA disagrees with Louisiana's arguments for application of a higher contribution threshold than 1 percent of the NAAQS and disagrees with Louisiana's criticisms of a 1 percent of the NAAQS contribution threshold at Step 2.[135] The EPA further addresses technical comments on the 1 percent of the NAAQS contribution threshold in Section V.B.4. Louisiana did not conduct an adequate Step 3 analysis.[136] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[137] The EPA also found technical flaws in Louisiana's ''consistent and persistent'' claims, assessment of seasonal weather patterns, surface wind directions, and back trajectory analysis.[138] The State included no permanent and enforceable controls in its SIP submission.[139] We provide further response to comments regarding Louisiana's SIP submission in the RTC document. The EPA is finalizing disapproval of Louisiana's interstate transport SIP submission for the 2015 ozone NAAQS.

[116] Id. at 9845–9847.
[117] Id. at 9855–9856.
[118] Id. at 9857–9861.
[119] Id. at 9858–9861.
[120] Id. at 9857–9858.
[121] Id. at 9858–9859.
[122] *See also* id. at 9861.
[123] Id.
[124] 87 FR 9498, 9503–9507 (February 22, 2022).
[125] Id. at 9509–9510.
[126] Id. at 9511–9515.
[127] Id. at 9512–9514.
[128] Id. at 9508, 9515. The state also did not explain its own views regarding the relevance of these materials to its submission. Id.
[129] Id. at 9511–9512.
[130] See also id. at. 9512.
[131] Id. at 9511–9512.
[132] Id. at 9514–9515.
[133] Id. at 9515.
[134] Id. at 9811–9812.
[135] Id. at 9812, 9815–9816.
[136] Id. at 9814–9816.
[137] Id. at 9814. 9816.
[138] Id. at 9814–9816.
[139] Id. at 9816.

H. Maryland

In the 2016v3 modeling, Maryland is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to three violating-monitor maintenance receptors. Its highest-level contribution is 1.28 ppb to New Haven County, Connecticut (AQS Site ID 090099002). A full summary of Maryland's October 16, 2019, SIP submission was provided in the proposed SIP submission disapproval.[140] The state did not conduct an adequate Step 3 analysis.[141] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[142] Further, as explained in Section V.B.9, states may not rely on non-SIP measures to meet SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[143] The EPA also confirmed in the proposed SIP submission disapproval that state emissions controls and regulations identified by Maryland were generally included in the 2016v2 modeling, and yet Maryland was still linked in that modeling.[144] The State included no permanent and enforceable controls in its SIP submission.[145] We provide further response to comments regarding Maryland's SIP submission in the RTC document. The EPA is finalizing disapproval of Maryland's interstate transport SIP submission for the 2015 ozone NAAQS.

I. Michigan

In the 2016v3 modeling, Michigan is projected to be linked above 1 percent of the NAAQS to four nonattainment receptors and six maintenance-only receptors. It is also linked to eight violating-monitor maintenance receptors. Its highest-level contribution is 1.59 to Sheboygan County, Wisconsin (AQS Site ID 551170006). A full summary of Michigan's March 5, 2019, SIP submission was provided in the proposed SIP submission disapproval.[146] The EPA disagrees with Michigan's arguments for application of a higher contribution threshold than 1 percent of the NAAQS as well as criticisms of a 1 percent of the NAAQS contribution threshold at Step 2.[147] The EPA further addresses technical comments on the 1 percent of the NAAQS contribution threshold in Section V.B.4 and addresses comments regarding the relevance of the PSD SILs in Section V.B.6. The State did not conduct an adequate Step 3 analysis.[148] Michigan argued in its SIP submission that additional controls would be premature and burdensome. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[149] The EPA found technical and legal flaws in Michigan's arguments related to upwind-state obligations as to maintenance-only receptors, international emissions, relative contribution, apportionment, and upwind versus downwind-state responsibilities.[150] The EPA further addresses the topics of mobile sources and international emissions in Sections V.C.1 and V.C.2, respectively. The EPA also confirmed in the proposed SIP submission disapproval that the EGU retirements identified by Michigan as not included in the 2011-based EPA modeling, as well as various Federal rules, were included in the 2016v2 modeling, and yet Michigan was still linked in that modeling.[151] The State included no permanent and enforceable emissions controls in its SIP submission.[152] We provide further response to comments regarding Michigan's SIP submission in the RTC document. The EPA is finalizing disapproval of Michigan's interstate transport SIP submission for the 2015 ozone NAAQS.

J. Minnesota

In the 2016v3 modeling, Minnesota is projected to be linked above 1 percent of the NAAQS to one maintenance-only receptor. It is not linked to a violating-monitor maintenance-only receptor. Its highest-level contribution is 0.85 ppb to Cook County, Illinois (AQS Site ID 170310001). A full summary of Minnesota's October 1, 2018, SIP submission was provided in the proposed SIP submission disapproval.[153] Because Minnesota was not projected to be linked to any receptor in 2023 in the EPA's 2011-based modeling, comments argued that the EPA must approve the SIP submission and not rely on new modeling. The EPA responds to these comments in Section V.A.4. Although the EPA acknowledges that Minnesota's Step 3 analysis was insufficient in part because the State assumed it was not linked at Step 2, this is ultimately inadequate to support a conclusion that the State's sources do not interfere with maintenance of the 2015 ozone NAAQS in other states in light of more recent air quality analysis.[154] The State included no permanent and enforceable emissions controls in its SIP submission.[155] We provide further response to comments regarding Minnesota's SIP submission in the RTC document. Although EPA proposed to disapprove both prong 1 and prong 2 of Minnesota's SIP submission, the present record, including the results of the 2016v3 modeling, indicates that Minnesota is not linked to any nonattainment receptors.[156] The EPA is finalizing a partial approval of Minnesota's interstate transport SIP submission for the 2015 ozone NAAQS as to prong 1 and a partial disapproval as to prong 2.

K. Mississippi

In the 2016v3 modeling, Mississippi is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor and two maintenance-only receptors. It is also linked to eight violating-monitor maintenance receptors. Its highest-level contribution is 1.32 ppb to Galveston County, Texas (AQS Site ID 481671034). A full summary of Mississippi's September 3, 2019, SIP submission was provided in the proposed SIP submission disapproval.[157] In its submission, Mississippi advocated for discounting receptors through use of historical data trends. The EPA finds Mississippi's approach is not adequately justified.[158] In the 2011-based modeling, Mississippi's contribution to receptors was above 1 percent of the NAAQS, but below 1 ppb. The EPA disagrees with Mississippi's arguments for application of a higher contribution threshold than

[140] Id. at 9469.
[141] Id. at 9470–9473.
[142] Id. at 9471, 9473.
[143] *See also* id. at 9471, 9473 n.46, 9474.
[144] Id. at 9472–9473.
[145] Id. at 9473–9474.
[146] Id. at 9847–9848.
[147] Id. at 9861–9862.
[148] Id. at 9863–9867.
[149] Id. at 9864.
[150] Id. at 9864–9867.
[151] Id. at 9866.
[152] Id. at 9867.
[153] Id. at 9867.
[154] Id. at 9868–9869.
[155] Id. at 9869.
[156] The EPA received a comment that it would be arbitrary and capricious for the EPA to finalize a full disapproval of Tennessee's good neighbor SIP submission (both prong 1 and prong 2) if EPA concluded the state is linked only to a maintenance-only receptor (prong 2). EPA is deferring final action on Tennessee's good neighbor SIP submission, but in reviewing linkages in the 2016v3 modeling we determined that Minnesota and Wisconsin are not linked above 1 percent of the NAAQS to any nonattainment receptors (prong 1) but are linked to maintenance-only receptors (prong 2); these states are receiving partial approvals and partial disapprovals.
[157] 87 FR 9554.
[158] Id. at 9556.

1 percent of the NAAQS at Step 2,[159] and further addresses the relevance of the PSD SILs in Section V.B.6. The state did not conduct a Step 3 analysis.[160] The State included no evaluation of additional emissions control opportunities in its SIP submission.[161] The State included no permanent and enforceable emissions controls in its SIP submission.[162] We provide further response to comments regarding Mississippi's SIP submission in the RTC document. The EPA is finalizing disapproval of Mississippi's interstate transport SIP submission for the 2015 ozone NAAQS.

L. Missouri

In the 2016v3 modeling, Missouri is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor and three maintenance-only receptors. It is also linked to five violating-monitor maintenance receptors. Its highest-level contribution is 1.87 ppb to Sheboygan County, Wisconsin (AQS Site ID 551170006). A full summary of Missouri's June 10, 2019, SIP submission was provided in the proposed SIP submission disapproval.[163] In its submission, Missouri advocated for discounting certain maintenance receptors through use of historical data trends. The EPA finds Missouri's approach is not adequately justified.[164] The EPA disagrees with Missouri's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2, and further addresses comments regarding the August 2018 memorandum in Section V.B.7.[165] The State did not conduct a Step 3 analysis.[166] The State included no evaluation of additional emissions control opportunities in its SIP submission.[167] The State included no permanent and enforceable emissions controls in its SIP submission.[168] We provide further response to comments regarding Missouri's SIP submission in the RTC document. The EPA is finalizing disapproval of Missouri's June 10, 2019, interstate transport SIP submission for the 2015 ozone NAAQS.

M. Nevada

In the 2016v3 modeling, Nevada is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to one violating-monitor maintenance receptor. Its highest-level contribution is 1.13 ppb to Weber County, Utah (AQS Site ID 490570002). A full summary of Nevada's October 1, 2018, SIP submission was provided in the proposed SIP submission disapproval.[169] Because Nevada was not projected to be linked to any receptor in 2023 in the EPA's 2011-based modeling, commenters on the proposed SIP submission disapproval argued that the EPA must approve the SIP submission and not rely on new modeling. The EPA responds to these comments in Section V.A.4. The EPA also responds to technical criticisms of the 1 percent of the NAAQS contribution threshold and the relevance of the PSD SILs in Section V.B.4 and in Section V.B.6, respectively. The State did not conduct a Step 3 analysis.[170] The State included no evaluation of additional emissions control opportunities in its SIP submission.[171] The State included no additional emissions controls in its SIP submission.[172] We provide response to comments specific to interstate transport policy in the western U.S. in Section V.C.3. We provide further response to comments regarding Nevada's SIP submission in the RTC document. The EPA is finalizing disapproval of Nevada's interstate transport SIP submission for the 2015 ozone NAAQS.

N. New Jersey

In the 2016v3 modeling, New Jersey is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to three violating-monitor maintenance receptors. Its highest-level contribution is 8.38 ppb to Fairfield County, Connecticut (AQS Site ID 090019003). A full summary of New Jersey's May 13, 2019, SIP submission was provided in the proposed SIP submission disapproval.[173] The State did not conduct an adequate Step 3 analysis.[174] New Jersey argued in its SIP submission that existing controls were sufficient to address the State's good neighbor obligations. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[175] The State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for a more protective NAAQS.[176] The State included no permanent and enforceable emissions controls in its SIP submission.[177] We provide further response to comments regarding New Jersey's SIP submission in the RTC document. The EPA is finalizing disapproval of New Jersey's interstate transport SIP submission for the 2015 ozone NAAQS.

O. New York

In the 2016v3 modeling, New York is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to two violating-monitor maintenance receptors. Its highest-level contribution is 16.10 ppb to Fairfield County, Connecticut (AQS Site ID 090010017). A full summary of New York's September 25, 2018, SIP submission was provided in the proposed SIP submission disapproval.[178] The state did not conduct an adequate Step 3 analysis.[179] New York argued in its SIP submission that existing controls were sufficient to address the State's good neighbor obligations. However, the state included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[180] The State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for the more protective 2015 ozone NAAQS.[181] The State included no permanent and enforceable emissions controls in its SIP submission.[182] We provide further response to comments regarding New York's SIP submission in the RTC document. The EPA is finalizing disapproval of New York's interstate transport SIP submission for the 2015 ozone NAAQS.

P. Ohio

In the 2016v3 modeling, Ohio is projected to be linked above 1 percent of the NAAQS to four nonattainment receptors and five maintenance-only

[159] Id. at 9557.
[160] Id. at 9558.
[161] Id.
[162] Id.
[163] Id. at 9538–9540.
[164] Id. at 9540–9541.
[165] *See also* id. at 9541–9544.
[166] Id. at 9544.
[167] Id.
[168] We note that in comments, Missouri indicated its intent to submit a new SIP submission to the EPA, which would re-evaluate good neighbor obligations based on its 2016v2 linkages and provide an analysis that would include emissions reductions requirements. The EPA received this submission on November 1, 2022. The EPA explains its consideration of this new submission as separate SIP submission in the RTC document for this final action.
[169] 87 FR 31485, 31492–31493 (May 24, 2022).
[170] Id. at 31493.
[171] Id.
[172] Id.
[173] Id. at 9490–9491.
[174] Id. at 9496.
[175] Id.
[176] Id.
[177] Id. at 9496–9497.
[178] Id. at 9489–9490.
[179] Id. at 9492–9494.
[180] Id. at 9493.
[181] Id. at 9493–9494.
[182] Id. at 9494–9495.

receptors. It is also linked to nine violating-monitor maintenance receptors. Its highest-level contribution is 2.05 ppb to Fairfield County, Connecticut (AQS Site ID 090019003). A full summary of Ohio's September 28, 2018, SIP submission was provided in the proposed SIP submission disapproval.[183] In its submission, Ohio advocated for use of the Texas Commission on Environmental Quality (TCEQ)'s definition of maintenance receptors. The EPA finds that TCEQ's definition is legally and technically flawed,[184] and as a result Ohio's approach is also not adequately justified.[185] The EPA further evaluates TCEQ's technical arguments in a TSD prepared by regional modeling staff.[186] The EPA disagrees with Ohio's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2.[187] The EPA responds to technical criticisms of the 1 percent of the NAAQS contribution threshold in Section V.B.4. The State did not conduct an adequate Step 3 analysis.[188] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[189] The EPA found technical deficiencies in Ohio's unsubstantiated claims that emissions are overestimated.[190] The EPA also confirmed in the proposed SIP submission disapproval that several EGU and non-EGUs identified by Ohio were included in the 2016v2 modeling, and yet Ohio was still linked in that modeling.[191] The EPA summarizes the emissions inventories used in the 2016v3 modeling in Section III.A. Further, as explained in Section V.B.9, states may not rely on non-SIP measures to meet SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[192] The EPA finds legal flaws and deficiencies in Ohio's arguments related to upwind versus downwind-state responsibilities, the role of international emissions, relative contribution, and overcontrol.[193] The EPA discusses international emissions in Section V.C.2. The EPA disagrees with Ohio's arguments related to mobile sources.[194] We further address this topic in Section V.C.1. Ohio also argued in its SIP submission that it had already implemented all cost-effective controls. However, the state included no evaluation of additional emissions control opportunities to support such a claim.[195] Further, the State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for the more protective 2015 ozone NAAQS.[196] The State included no permanent and enforceable emissions controls in its SIP submission.[197] We provide further response to comments regarding Ohio's SIP submission in the RTC document. The EPA is finalizing disapproval of Ohio's interstate transport SIP submission for the 2015 ozone NAAQS.

Q. Oklahoma

In the 2016v3 modeling, Oklahoma is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor and one maintenance-only receptor. It is also linked to eight violating-monitor maintenance receptors. Its highest-level contribution is 1.01 ppb to Denton County, Texas (AQS Site ID 481210034). A full summary of Oklahoma's October 25, 2018, SIP submission was provided in the proposed SIP submission disapproval.[198] In its submission, Oklahoma advocated for use of TCEQ's definition of maintenance receptors and modeling to discount receptors in Texas. The EPA finds that TCEQ's definition is legally and technically flawed [199] and, as a result, Oklahoma's approach is also not adequately justified.[200] The EPA further evaluates TCEQ's technical arguments in the EPA Region 6 2015 8-Hour Ozone Transport SIP Proposal TSD (Evaluation of TCEQ Modeling TSD) prepared by regional modeling staff.[201] Comments argued against the use of updated modeling where linkages in the EPA's 2011-based modeling and later iterations of EPA modeling differ. The EPA addressed the change in identified linkages between the 2011-based modeling and the 2016v2 modeling in the proposed SIP disapproval,[202] and further responds to comments on the use of updated modeling in Section V.A.4. The EPA disagrees with Oklahoma's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2 [203] and further addresses comments regarding the relevance of the PSD SILs in Section V.B.6. The State did not conduct an adequate Step 3 analysis.[204] Oklahoma argued in its SIP submission that it had already implemented all cost-effective controls. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[205] As explained in Section V.B.9, states may not rely on non-SIP measures to meet SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[206] Further, the State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for the more protective 2015 ozone NAAQS.[207] The EPA finds legal flaws in Oklahoma's argument related to collective contribution.[208] The State included no permanent and enforceable emissions controls in its SIP submission.[209] We provide further response to comments regarding Oklahoma's SIP submission in the RTC document. The EPA is finalizing disapproval of Oklahoma's interstate transport SIP submission for the 2015 ozone NAAQS.

R. Texas

In the 2016v3 modeling, Texas is projected to be linked above 1 percent of the NAAQS to one nonattainment receptor and nine maintenance-only receptors. It is also linked to ten violating-monitor maintenance-only receptor. Its highest-level contribution is 4.74 ppb to Dona Ana County, New Mexico (AQS Site ID 350130021). A full summary of Texas's August 17, 2018, SIP submission was provided in the proposed SIP submission disapproval,[210] and additional details were provided in the Evaluation of TCEQ Modeling TSD. The EPA identified several technical flaws in TCEQ's modeling and analysis of modeling results.[211] In its submission, Texas advocated for use of its own definition of maintenance receptors and modeling. The EPA finds Texas's approach inadequately justified and

[183] Id. at 9849–9851.
[184] Id. at 9826–9829.
[185] Id. at 9869–9870.
[186] 2015 8-Hour Ozone Transport SIP Proposal TSD, in Docket ID No. EPA–R06–OAR–2021–0801 (hereinafter Evaluation of TCEQ Modeling TSD).
[187] Id. at 9871.
[188] Id. at 9871–9875.
[189] Id. at 9871–9875.
[190] Id. at 9872.
[191] Id.
[192] *See also* id. at 9874–9875.
[193] Id. at 9873–9874.
[194] Id.
[195] Id. at 9872–9873.
[196] Id. at 9874.
[197] Id. at 9875.
[198] Id. at 9816–9818.
[199] Id. at 9826–9829.
[200] Id. at 9820–9822.
[201] Evaluation of TCEQ Modeling TSD in Docket ID No. EPA–R06–OAR–2021–0801.
[202] 87 FR 9823.
[203] Id. at 9819.
[204] Id. at 9822–9824.
[205] Id. at 9822–9824.
[206] *See also* id. at. 9822–9823.
[207] Id.
[208] Id. at 9823.
[209] Id. at 9824.
[210] Id. at 9824–9826.
[211] Id. at 9829–9830; Evaluation of TCEQ Modeling TSD.

legally and technically flawed.[212] The EPA further evaluated TCEQ's technical arguments in the Evaluation of TCEQ Modeling TSD. In comment on the proposal, Texas pointed to differences in linkages in the EPA's 2011-based modeling and 2016v2 modeling. The EPA addressed the change in identified linkages between the 2011-based modeling and the 2016v2 modeling in the proposed SIP submission disapproval,[213] and further responds to comments on the use of updated modeling in Section V.A.4. The State did not conduct an adequate Step 3 analysis.[214] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[215] The EPA found technical flaws in Texas's arguments related to ''consistent and persistent'' claims and its other assessments, including analysis of back trajectories.[216] The State included no permanent and enforceable emissions controls in its SIP submission.[217] We provide further response to comments regarding Texas's SIP submission in the RTC document. The EPA is finalizing disapproval of Texas's interstate transport SIP submission for the 2015 ozone NAAQS.

S. Utah

In the 2016v3 modeling, Utah is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to four violating-monitor maintenance receptors. Its highest-level contribution is 1.29 ppb to Douglas County, Colorado (AQS Site ID 080350004). A full summary of Utah's January 29, 2020, SIP submission was provided in the proposed SIP submission disapproval.[218] In its submission, Utah argued that certain receptors in Colorado should not be counted as receptors for the purpose of 2015 ozone NAAQS interstate transport, but Utah's explanation is insufficient to discount those receptors.[219] The EPA disagrees with Utah's arguments for application of a higher contribution threshold than 1 percent of the NAAQS at Step 2.[220] Utah suggested in its SIP submission that interstate transport is fundamentally different in the western U.S. than in the eastern U.S., an argument we have previously rejected and respond to further in Section V.C.3.[221] The State did not conduct an adequate Step 3 analysis.[222] The State included an insufficient evaluation of additional emissions control opportunities in its SIP submission.[223] The EPA finds technical and legal flaws in the State's arguments related to relative contribution, international and non-anthropogenic emissions, and the relationship of upwind versus downwind-state responsibilities.[224] The EPA further addresses the topics of international emissions in Section V.C.2 and wildfires in the RTC document. The EPA also confirmed in the proposed SIP submission disapproval that several anticipated controls identified by Utah were included in the 2016v2 modeling, and yet Utah was still linked in that modeling.[225] The State included no permanent and enforceable emissions controls in its SIP submission.[226] We provide further response to comments regarding Utah's SIP submission in the RTC document. The EPA is finalizing disapproval of Utah's interstate transport SIP submission for the 2015 ozone NAAQS.

T. West Virginia

In the 2016v3 modeling, West Virginia is projected to be linked above 1 percent of the NAAQS to three nonattainment receptors and one maintenance-only receptor. It is also linked to four violating-monitor maintenance receptors. Its highest-level contribution is 1.49 ppb to New Haven County, Connecticut (AQS Site ID 090099002). A full summary of West Virginia's February 4, 2019, SIP submission was provided in the proposed SIP submission disapproval.[227] The EPA finds technical and legal flaws in the State's examination of back trajectories and arguments related to mobile sources and international emissions.[228] The EPA further addresses the topics of mobile sources and international emissions in Section V.C.1 and in Section V.C.2, respectively. The State did not conduct an adequate Step 3 analysis.[229] West Virginia argued in its SIP submission that it had already implemented all cost-effective controls. However, the State included an insufficient evaluation of additional emissions control opportunities to support such a conclusion.[230] The EPA also confirmed in the proposed SIP submission disapproval that specific EGU shutdowns identified by West Virginia were included in the 2016v2 modeling, which continued to show West Virginia was linked at Step 2.[231] As explained in Section V.B.9, a state may not rely on non-SIP measures to satisfy SIP requirements, and reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[232] Further, the State's reliance on the cost-effectiveness threshold in the CSAPR Update is insufficient for a more protective NAAQS.[233] The State included no permanent and enforceable emissions controls in its SIP submission.[234] We provide further response to comments regarding West Virginia's SIP submission in the RTC document. The EPA is finalizing disapproval of West Virginia's interstate transport SIP submission for the 2015 ozone NAAQS.

U. Wisconsin

In the 2016v3 modeling, Wisconsin is projected to be linked above 1 percent of the NAAQS to three maintenance-only receptors. It is also linked to five violating-monitor maintenance receptors. Its highest-level contribution is 2.86 ppb to Cook County, Illinois (AQS Site ID 170314201). A full summary of Wisconsin's September 14, 2018, SIP submission was provided in the proposed SIP submission disapproval.[235] The State did not assess in its SIP submission whether the state was linked at Step 2,[236] and did not conduct an adequate Step 3 analysis.[237] The State included an insufficient evaluation of additional emissions control opportunities.[238] Further, as explained in Section V.B.9, reliance on prior transport FIPs such as the CSAPR Update is not a sufficient analysis at Step 3.[239] The EPA found additional inadequacies and legal flaws in Wisconsin's submission.[240] The State included no permanent and enforceable emissions controls in its SIP submission.[241] We provide further response to comments regarding

[212] 87 FR 9826–9829.
[213] Id. at 9831.
[214] Id. at 9831–9834.
[215] Id. at 9831, 9834.
[216] Id. at 9832–9833, Evaluation of TCEQ Modeling TSD.
[217] 87 FR 9834.
[218] Id. at 31475–31477.
[219] Id. at 31480–31481.
[220] Id. at 31478.
[221] *See also* id. at 31479–31481, 31482.
[222] Id. at 31481–31483.
[223] Id. at 31482
[224] Id. at 31481–31483.
[225] Id. at 31483.
[226] Id.
[227] Id. at 9522–9524.
[228] Id. at 9526–9527, 9528.
[229] Id. at 9527–9532.
[230] Id. at 9528–9529.
[231] Id. at 9529–9530.
[232] *See also* id. at 9530–9532.
[233] Id. at 9531.
[234] Id. at 9532.
[235] Id. at 9851.
[236] Id. at 9875.
[237] Id. at 9875–9876.
[238] Id. at 9876.
[239] *See also* id.
[240] Id.
[241] Id. at 9876–9877.

Wisconsin's SIP submission in the RTC document. Although EPA proposed to disapprove both prong 1 and prong 2 of Wisconsin's SIP submission, the present record, including the results of the 2016v3 modeling, indicates that Wisconsin is not linked to any nonattainment receptors.[242] The EPA is finalizing a partial approval of Wisconsin's interstate transport SIP submission for the 2015 ozone NAAQS as to prong 1 and a partial disapproval as to prong 2.

V. Response to Key Comments

The EPA received numerous comments on the proposed action which are summarized in the RTC document along with the EPA's responses to those comments in Docket ID No. EPA–HQ–OAR–2021–0663. Each comment in its entirety is available in the relevant regional docket(s) for this action.[243] The following sections summarize key comments and the EPA's responses.

A. SIP Evaluation Process

1. Relationship Between Timing of Proposals To Disapprove SIPs and Promulgate FIPs

Comment: Comments alleged generally that the timing of the EPA's proposed actions on the SIP submissions in relation to proposed FIPs was unlawful, unfair, or both. Some comments claimed that the sequence of the EPA's actions is improper, unreasonable, or bad policy. Several commenters asserted that because the EPA proposed FIPs (or, according to some, promulgated FIPs, which is not factually correct) prior to finalizing disapproval of the state SIP submission, the EPA allegedly exceeded its statutory authority and overstepped the states' primary role in addressing the good neighbor provision under CAA section 110.[244]

EPA Response: The EPA disagrees. The EPA has followed the Clean Air Act provisions, which prescribe specified maximum amounts of time for states to make SIP submissions, for the EPA to act on those submissions, and for the EPA to promulgate FIPs if necessary, but do not prohibit the EPA from acting before that time elapses. Nothing relieves the EPA from its statutory obligation to take final action on complete SIP submissions before the Agency within the timeframes prescribed by the statute.[245] The EPA's proposed FIP does not constitute the ''promulgation'' of a FIP because the proposed FIP is not a final action that imposes any requirements on sources or states. And although the EPA's FIP authority is not at issue in this action, the EPA notes the Agency has been clear that it will not finalize a FIP for any state until predicate authority is established for doing so under CAA section 110(c)(1). 87 FR 20036, 20057 (April 6, 2022) (''The EPA is proposing this FIP action now to address twenty-six states' good neighbor obligations for the 2015 ozone NAAQS, but the EPA will not finalize this FIP action for any state unless and until it has issued a final finding of failure to submit or a final disapproval of that state's SIP submission.''). The EPA strongly disagrees that *proposing* a FIP prior to proposing or finalizing disapproval of a SIP submission oversteps the Agency's authority. Indeed, the ability to propose a FIP before finalizing a SIP disapproval follows ineluctably from the structure of the statute, which, as the Supreme Court recognized in *EME Homer City,* does not oblige the EPA ''to wait two years or postpone its [FIP] action even a single day.'' 572 U.S. at 509. If the EPA can finalize a FIP immediately upon disapproving a SIP, then surely the EPA must have the authority to propose that FIP before taking final action on the SIP submission. *Accord Oklahoma* v. *U.S. EPA,* 723 F.3d 1201, 1223 (10th Cir. 2013).

It is true that the EPA would not be legally authorized to *finalize* a FIP for any state unless and until the EPA formally *finalizes* a disapproval of that state's SIP submission (or makes a finding of failure to submit for any state that fails to make a complete SIP submission), per CAA section 110(c), but the EPA has not yet finalized a FIP for any state for good neighbor obligations for the 2015 ozone NAAQS. Further, the sequencing of our actions here is consistent with the EPA's past practice in our efforts to timely address good neighbor obligations. For example, at the time the EPA proposed the CSAPR Update FIPs in December of 2015, we had not yet proposed action on several states' SIP submissions but finalized those SIP disapproval actions prior to finalization of the FIP.[246]

Additional comments on cooperative federalism are addressed in Section V.B.5.

Further, The D.C. Circuit in *Wisconsin* held that states and the EPA are obligated to fully address good neighbor obligations for ozone ''as expeditiously as practical'' and in no event later than the next relevant downwind attainment dates found in CAA section 181(a),[247] and states and the EPA may not delay implementation of measures necessary to address good neighbor requirements beyond the next applicable attainment date without a showing of impossibility or necessity.[248] It is important for the states and the EPA to assure that necessary emissions reductions are achieved, to the extent feasible, by the 2023 ozone season to assist downwind areas with meeting the August 3, 2024, attainment deadline for Moderate nonattainment areas. Further, the D.C. Circuit in *Wisconsin* emphasized that the EPA has the authority under CAA section 110 to structure its actions so as to ensure necessary reductions are achieved by the downwind attainment

[242] The EPA received a comment that it would be arbitrary and capricious for the EPA to finalize a full disapproval of Tennessee's good neighbor SIP submission (both prong 1 and prong 2) if EPA concluded the State is linked only to a maintenance-only receptor (prong 2).The EPA is deferring final action on Tennessee's good neighbor SIP submission, but in reviewing linkages in the 2016v3 modeling we determined that Minnesota and Wisconsin are not linked above 1 percent of the NAAQS to any nonattainment receptors (prong 1) but are linked to maintenance-only receptors (prong 2); these States are receiving partial approvals and partial disapprovals.

[243] *See* the memo ''Regional Dockets Containing Additional Supporting Materials for Final Action on 2015 Ozone NAAQS Good Neighbor SIP Submissions'' in the docket for this action, for a list of all regional dockets.

[244] The EPA notes the commenters' reference to FIPs is to proposed good neighbor FIPs for the 2015 ozone NAAQS that were proposed separately from this rulemaking action. 87 FR 20036 (April 6, 2022).

[245] Although the EPA anticipates responding to comments related to the EPA's FIP authority in a separate FIP rulemaking, the EPA notes with regard to the procedural timing concerns raised in comments on this action that the Supreme Court confirmed in *EME Homer City Generation,* ''EPA is not obliged to wait two years or postpone its action even a single day: The Act empowers the Agency to promulgate a FIP 'at any time' within the two-year limit.'' 572 U.S. 489 at 509. The procedural timeframes under CAA section 110 do not function to establish a norm or expectation that the EPA must or should use the full amount of time allotted, particularly when doing so would place the Agency in conflict with the more ''central'' statutory objective of meeting the NAAQS attainment deadlines in the Act. *EME Homer City,* 572 U.S. 489, 509 (2014). *See also Wisconsin,* 938 F.3d at 318, 322; *Sierra Club* v. *EPA,* 294 F.3d 155, 161 (D.C. Cir. 2002) (*Sierra Club*).

[246] The proposed CSAPR Update was published on December 3, 2015, and included proposed FIPs for Indiana, Louisiana, New York, Ohio, Texas, and Wisconsin. 80 FR 75705. At that time, the EPA had not yet even proposed action on good neighbor SIP submissions for the 2008 ozone NAAQS from Indiana, Louisiana, New York, Ohio, Texas, and Wisconsin; however, the EPA subsequently proposed and finalized these disapprovals before finalizing the CSAPR Update FIPs, published on October 26, 2016 (81 FR 74504). *See* 81 FR 38957 (June 15, 2016) (Indiana); 81 FR 53308 (August 12, 2016) (Louisiana); 81 FR 58849 (August 26, 2016) (New York); 81 FR 38957 (June 15, 2016) (Ohio); 81 FR 53284 (August 12, 2016) (Texas); 81 FR 53309 (August 12, 2016) (Wisconsin).

[247] *Wisconsin,* 938 F.3d at 313–14 (citing *North Carolina,* 531 F.3d at 911–12.

[248] *See Wisconsin,* 938 F.3d at 320.

dates,[249] the next of which for the 2015 ozone NAAQS is now the Moderate area attainment date of August 3, 2024.[250] The court pointed out that the CAA section 110 schedule of SIP and FIP deadlines is procedural whereas the attainment schedule is ''central to the regulatory scheme[.]'' [251] Thus, the sequence and timing of the EPA's action in disapproving these SIP submissions is informed by the need to ensure that any necessary good neighbor obligations identified in the separate FIP rulemaking are implemented as expeditiously as practicable and no later than the next attainment date. As explained in our proposed disapproval, analysis (and, if possible, implementation) of good neighbor obligations should begin in the 2023 ozone season. *See, e.g.,* 87 FR 9798, 9801–02 (Feb. 22, 2022). Indeed, states' and the EPA's analysis would have been more appropriately aligned with 2020, rather than 2023 (as had been presented in the EPA's March 2018 memorandum [252]), corresponding with the 2021 Marginal area attainment date. However, that clarification in legal obligations was not established by case law until 2020. *See Maryland,* 958 F.3d at 1203–04.

In short, nothing in the language of CAA section 110(c) prohibits the EPA from proposing a FIP as a backstop, to be finalized and implemented only in the event that a SIP submission is first found to be deficient and final disapproval action on the SIP submission is taken. Such an approach is a reasonable and prudent means of assuring that the statutory obligation to reduce air pollution affecting the health and welfare of those living in downwind states is implemented without delay, either via a SIP, or where such plan is deficient, via a FIP. The sequencing of the EPA's actions here is therefore reasonably informed by its legal obligations under the CAA, including in recognition of the fact that the implementation of necessary emissions reductions to eliminate significant contribution and thereby protect human health and welfare is already several years delayed. The EPA shares additional responses related to the timing of 2015 ozone NAAQS good neighbor actions in Section V.A.

Comment: Some comments allege the EPA is depriving States of the opportunity to target specific emissions reductions opportunities, or the opportunity to revise their submissions at any point in the future.

EPA Response: The EPA disagrees. The EPA has repeatedly emphasized that states have the freedom at any time to develop a revised SIP submission and submit that to the EPA for approval, and this remains true. *See* 87 FR 20036, 20051 (April 6, 2022); 86 FR 23054, 23062 (April 30, 2021); 81 FR 74504, 74506 (Oct. 26, 2016). In the proposed FIPs, as in prior transport actions, the EPA discusses a number of ways in which states could take over or replace a FIP, *see* 87 FR 20036, 20149–51 (Section VII.D: ''Submitting A SIP''); *see also id.* at 20040 (noting as one purpose in proposing the FIP that ''this proposal will provide states with as much information as the EPA can supply at this time to support their ability to submit SIP revisions to achieve the emissions reductions the EPA believes necessary to eliminate significant contribution''). If, and when, the EPA receives a SIP submission that satisfies the requirements of CAA section 110(a)(2)(D)(i)(I), the Agency will take action to approve that SIP submission.

Comment: Some commenters assert that the EPA is disapproving SIP submissions for the sole purpose of pursuing an alleged objective of establishing nation-wide standards in FIPs. Other commenters point to the proposed FIPs to make arguments that the EPA's decision to finalize disapproval of the SIPs is an allegedly foregone conclusion or that the EPA has allegedly failed to provide the opportunity for meaningful public engagement on the proposed disapproval of the SIPs.

EPA Response: The EPA disagrees as the facts do not support this assertion. To date, the EPA has approved 24 good neighbor SIPs for the 2015 ozone NAAQS: Alaska,[253] Colorado,[254] Connecticut,[255] Delaware,[256] District of Columbia,[257] Florida,[258] Georgia,[259] Hawaii,[260] Idaho,[261] Iowa,[262] Kansas,[263] Maine,[264] Massachusetts,[265] Montana,[266] Nebraska,[267] New Hampshire,[268] North Carolina,[269] North Dakota,[270] Oregon,[271] Rhode Island,[272] South Carolina,[273] South Dakota,[274] Vermont,[275] and Washington.[276]

The policy judgments made by the EPA in all actions on 2015 ozone NAAQS good neighbor SIP submissions, including approval actions, reflect consistency with relevant good neighbor case law and past agency practice implementing the good neighbor provision as reflected in the original CSAPR, CSAPR Update, Revised CSAPR Update, and related rulemakings. Employing a nationally consistent 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 dating back to the NO_X SIP Call [63 FR 57356 (October 27, 1998)] have necessitated the application of a uniform framework of policy judgments to ensure an ''efficient and equitable'' approach. *See EME Homer City,* 572 U.S. at 519. In any case, the approach of the proposed transport FIP is not the subject of this SIP disapproval. This rulemaking does not impose any specific emissions control measures on the states. Nor is the EPA disapproving these SIP submittals because they did not follow exactly the control strategies in the proposed FIP—the EPA has repeatedly indicated openness to alternative approaches to addressing interstate pollution obligations, but for reasons explained elsewhere in the rulemaking record, the EPA finds that none of the states included in this action submitted approvable approaches to addressing those obligations.

The EPA disputes the contentions that the FIP proposal itself indicates that the EPA did not earnestly examine the SIP submissions for compliance with the CAA or have an appropriate rationale

[249] *Wisconsin,* 938 F.3d at 318 (''When EPA determines a State's SIP is inadequate, the EPA presumably must issue a FIP that will bring that State into compliance before upcoming attainment deadlines, even if the outer limit of the statutory timeframe gives the EPA more time to formulate the FIP.'') (citing *Sierra Club,* 294 F.3d at 161).

[250] *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).

[251] *Wisconsin,* 938 F.3d at 322 (''Delaware's argument leans too heavily on the SIP submission deadline. SIP submission deadlines, unlike attainment deadlines, are 'procedural' and, therefore, not 'central to the regulatory scheme.' '') (citing *Sierra Club,* 294 F.3d at 161).

[252] *See* March 2018 memorandum.

[253] 84 FR 69331 (December 18, 2019).

[254] 87 FR 61249 (October 11, 2022).

[255] 86 FR 71830 (December 20, 2021).

[256] 85 FR 25307 (May 1, 2020).

[257] 85 FR 5570 (January 31, 2020).

[258] 86 FR 68413 (December 2, 2021).

[259] Id.

[260] 86 FR 73129 (December 27, 2021).

[261] 85 FR 65722 (October 16, 2020).

[262] 87 FR 22463 (April 15, 2022).

[263] 87 FR 19390 (April 4, 2022).

[264] 86 FR 45870 (August 17, 2021).

[265] 85 FR 5572 (January 31, 2020).

[266] 87 FR 21578 (April 12, 2022).

[267] 85 FR 21325 (April 17, 2020).

[268] 86 FR 45870 (August 17, 2021).

[269] 86 FR 68413 (December 2, 2021).

[270] 85 FR 20165 (April 10, 2020).

[271] 84 FR 22376 (May 17, 2019).

[272] 86 FR 70409 (December 10, 2021).

[273] 86 FR 68413 (December 2, 2021).

[274] 85 FR 67653 (October 26, 2020).

[275] 85 FR 34357 (June 4, 2020).

[276] 83 FR 47568 (September 20, 2018).

for proposing to disapprove certain SIP submissions. The EPA also disputes that the FIP proposal indicates that the EPA did not intend to consider comments on the proposed disapprovals. Comments making claims the EPA did not follow proper administrative procedure have been submitted utilizing the very notice and comment process these comments claim the EPA is skipping, and these claims are factually unsupported. Comments related to the length of the comment period and claims of ''pretext'' are addressed in the RTC document.

Comment: Several comments pointed out how hard many states have worked to develop an approvable SIP submission.

EPA Response: The EPA acknowledges and appreciates states' efforts to develop approvable SIPs. Cooperative federalism is a cornerstone of CAA section 110, and the EPA strives to collaborate with its state partners. The timing of the EPA's 2015 ozone NAAQS good neighbor actions is not in any way intended to call into question any state's commitment to develop approvable SIPs. The EPA evaluated each SIP submission on its merits. The EPA relies on collaboration with state air agencies to ensure SIP submissions are technically and legally defensible, and the Agency's action here is in no way meant to undermine that collaboration between state and Federal partners respecting SIP development.

Comment: Several comments make various arguments about when the EPA can finalize FIPs. Some commenters argue that CAA section 110(c)(1) guarantees states an additional two years to correct their SIP submissions before the EPA finalizes a FIP. Others argue that the notice and comment requirements of the Administrative Procedures Act mandate that the EPA finalize a SIP submission disapproval before proposing a FIP. One commenter suggested that a state must be allowed to fully exhaust its judicial remedies to challenge a SIP submission disapproval before the EPA can promulgate a FIP. Commenters also raise concerns about the analysis and requirements in the proposed FIPs.

EPA Response: Comments opining on when the EPA is legally authorized to propose or finalize a FIP are outside the scope of this action. While the EPA acknowledges that the Agency has no obligation or authority to finalize a FIP until finalizing a disapproval of a SIP submission or determining that a state failed to submit a complete SIP submission (CAA section 110(c)(1)), this action is limited to determining whether the covered SIP submissions meet the requirements of CAA section 110(a)(2)(D)(i)(I). For the same reason, comments criticizing specific substantive requirements or implementation timelines in the proposed FIPs are beyond the scope of this action.

2. Requests for Additional Time To Revise SIP Submissions

Comment: Some commenters argue that the EPA must or should delay action on these SIP submissions so that states can reexamine and resubmit SIP submissions. Other commenters argue that states must be given more time to re-examine and resubmit their SIP submission for various reasons, including the substantive requirements in the proposed FIPs.

EPA Response: The EPA notes that there is no support in the Clean Air Act for such a delay. CAA section 110(a)(1) requires states to adopt and submit SIP submissions meeting certain requirements including the requirements of CAA section 110(a)(2)(D)(i)(I), ''within 3 years (or such shorter period as the Administrator prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof).'' CAA section 110(a)(1). The submission deadline clearly runs from the date of promulgation of the NAAQS, which for the 2015 ozone NAAQS was October 1, 2015. 80 FR 65291 (Oct. 26, 2015). In addition, while the Administrator is given authority to prescribe a period shorter than three years for the states to adopt and submit such SIP submissions, the Act does not give the Administrator authority to lengthen the time allowed for CAA section 110(a)(2) submissions. And the EPA would be in violation of court-ordered deadlines if it deferred taking final action beyond January 31, 2023, for all but two of the states covered by this action.[277]

Comments asserting that the EPA must give more time to states to correct deficiencies and re-submit conflict with the controlling caselaw in that they would elevate the maximum timeframes allowable within the procedural framework of CAA section 110 over the attainment schedule of CAA section 181 that the D.C. Circuit has now held multiple times must be the animating focus in the timing of good neighbor obligations. The D.C. Circuit in *Wisconsin* held that states and the EPA are obligated to fully address good neighbor obligations for ozone ''as expeditiously as practical'' and in no event later than the next relevant downwind attainment dates found in CAA section 181(a),[278] and the EPA may not delay implementation of measures necessary to address good neighbor requirements beyond the next applicable attainment date without a showing of impossibility or necessity.[279] Further, the court pointed out that the CAA section 110 schedule of SIP and FIP deadlines is procedural, and while the EPA has complied with the mandatory sequence of actions required under section 110 here, we are mindful of the court's observation that, as compared with the fundamental substantive obligations of title I of the CAA to attain and maintain the NAAQS, the maximum timeframes allotted under section 110 are less ''central to the regulatory scheme[.]'' [280]

Comment: Other comments take the position that states are owed a second opportunity to submit SIP submissions before the EPA takes final action for various reasons, including claims that the EPA failed to issue adequate guidance or is otherwise walking back previously issued guidance. They allege that a state cannot choose controls to eliminate significant contribution until the EPA quantifies the contribution. Other comments argue that the EPA should not or cannot base the disapprovals on alleged shifts in policy that occurred after the Agency received the SIP submissions.

EPA Response: The EPA disagrees that the Agency was required to issue guidance or quantify individual states' level of significant contribution for 2015 ozone NAAQS good neighbor obligations, because as noted in *EME Homer City,* the Supreme Court clearly held that ''nothing in the statute places EPA under an obligation to provide specific metrics to States before they undertake to fulfill their good neighbor obligations.'' [281] The Agency issued three memoranda in 2018 to provide modeling results and some ideas to states in the development of their SIP submissions. However, certain aspects of those discussions were specifically

[277] The EPA has no court-ordered deadline to take final action on the good neighbor SIP submission from Alabama dated June 21, 2022, or Utah's good neighbor SIP submission.

[278] *Wisconsin,* 938 F.3d at 313–14 (citing *North Carolina,* 531 F.3d at 911–12). On May 19, 2020, the D.C. Circuit in *Maryland,* applying the *Wisconsin* decision, held that the EPA must assess air quality at the next downwind attainment date, including Marginal area attainment dates, in evaluating the basis for the EPA's denial of a petition under CAA section 126(b). *Maryland,* 958 F.3d at 1203–04.

[279] *See Wisconsin,* 938 F.3d at 320.

[280] *Wisconsin,* 938 F.3d at 322 (''Delaware's argument leans too heavily on the SIP submission deadline. SIP submission deadlines, unlike attainment deadlines, are 'procedural' and therefore not 'central to the regulatory scheme.'") (citing *Sierra Club,* 294 F.3d at 161).

[281] *EME Homer City,* 572 U.S. at 510.

identified as not constituting agency guidance (especially Attachment A to the March 2018 memorandum, which comprised an unvetted list of outside stakeholders' ideas). Further, states' submissions did not meet the terms of the August or October 2018 memoranda addressing contribution thresholds and maintenance receptors, respectively. (*See* Section V.B for further discussion of these memoranda.) We acknowledge that the EPA reassessed air quality and states' contribution levels through additional modeling before proposing action on these SIP submissions. But that is not in any way an effort to circumvent the SIP/FIP process; rather it is an outcome of the reality that the EPA updated its modeling platform from a 2011 to a 2016 base year and updated its emissions inventory information along with other updates. There is nothing improper in the Agency improving its understanding of a situation before taking action, and the Agency reasonably must be able to act on SIP submissions using the information available at the time it takes such action. Those updates have not uniformly been used to disapprove SIPs—the new modeling for instance supported the approval of Montana's and Colorado's SIPs.[282] Nor has the new modeling prevented states from submitting new SIP submissions based on that modeling. For instance, the State of Alabama withdrew its prior submission in April of 2022, following our proposed disapproval, and submitted a new submission (further updated in June of 2022) analyzing the 2016v2 modeling used at proposal. The EPA is acting on that new submission and evaluating the new arguments the State developed regarding the more recent modeling. Nonetheless, as explained in the EPA's proposed disapproval of Alabama's new submission and in Section IV.A, the new arguments that Alabama has presented in its more recent submission do not lead the EPA to a contrary conclusion that its SIP submission should be approved.[283] This demonstrates two points contrary to commenters' contentions: first, the EPA is following the science and is making nationally consistent determinations at Steps 1 and 2, based on its review of each state's submission; and second, the fact that states made submissions based on the 2011-based modeling results presented in the March 2018 memorandum rather than on the most recent modeling results is not prejudicial to the outcome of the EPA's analysis, as our action on Alabama's more recent submission evaluating the State's arguments with respect to the newer, 2016-based modeling makes clear.

Contrary to commenters' arguments, the EPA had no obligation to issue further guidance, define obligations, or otherwise clarify or attempt to interpret states' responsibilities since the issuance of the 2018 memoranda, prior to acting on these SIP submissions. States themselves were aware or should have been aware of the case law developments in *Wisconsin* and in *Maryland,* which called into question the EPA's use of 2023 as the analytical year in the March 2018 memorandum. Those decisions were issued in 2019 and 2020 respectively, yet no state moved to amend or supplement their SIP submissions with analysis of an earlier analytical year or to otherwise bring their analyses into conformance with those decisions (*e.g.,* through fuller analysis of non-EGU emissions reduction potential or through treatment of international contribution). Given the Supreme Court's 2014 holding in *EME Homer City,* 572 U.S. at 508–510, which reversed a D.C. Circuit holding that the EPA *was* obligated to define good neighbor obligations,[284] states had no reason to expect the EPA would be obligated to issue further guidance to clarify requirements in the wake of those decisions. The EPA agrees with those commenters who point out that states have the first opportunity to assess and address obligations in implementing the NAAQS, but with that understanding in mind, it is notable that prior to the proposed disapprovals in February of 2022, no state moved to amend or supplement their SIP submission as the case law on good neighbor obligations evolved or in response to new modeling information as it became available.

Further, the EPA has evaluated state SIP submissions on the merits of what is contained in the submission, not the use of any particular modeling platform. The EPA disagrees with commenters' assertions that the EPA has proposed disapproval of a state's proposed SIP due to the use of a particular modeling platform. As noted previously, the EPA approved state SIP submissions that have used the earlier modeling. The EPA did not reach its conclusion to disapprove states' SIP submissions based on the use of the 2016v2 emissions platform standing alone. Use of that platform, or any other modeling platform, is not *ipso facto* grounds for disapproval at all. As evident in the proposed disapprovals and summarized in Section IV, the EPA evaluated the SIP submissions based on the merits of the arguments put forward in each SIP submission.

3. Alleged Harm to States Caused by Time Between SIP Submission and the EPA's Action

Comment: Many comments pointed to the EPA's statutory deadlines to take action on the SIP submissions to argue that the EPA's delay harmed the upwind state's interests because now the EPA may conclude they need to reduce their emissions to satisfy their good neighbor obligations in the separate FIP rulemaking whereas had the EPA acted by statutory deadlines using the older modeling, they might have had their SIP submissions approved. Some commenters suggest that the EPA never gave the state SIP submissions the appropriate review or suggest that the EPA's review of the SIP submissions was prejudiced by the FIP it had proposed.

EPA Response: The EPA acknowledges that the Agency's statutory deadlines to take final action on these SIP submissions generally fell in 2020 and 2021. However, the delay in acting caused no prejudice to the upwind states. First, this action to disapprove SIP submissions itself will not impose any requirements or penalties on any state or sources within that state. Second, these delays have primarily had the effect of deferring relief to downwind states and their citizens from excessive levels of ozone pollution under the good neighbor provision. Further, the EPA has generally had a practice of correcting its action on good neighbor SIP submittals if later information indicates that a prior action was in error—thus, it is not the case that simply having obtained an approval based on earlier modeling would have meant a state would be forever insulated from later being subject to corrective or remedial good neighbor actions. *See, e.g.,*86 FR 23056, 23067–68 (April 30, 2021) (error correcting Kentucky's approval to a disapproval and promulgating FIP addressing Kentucky's outstanding 2008 ozone NAAQS good neighbor obligations); 87 FR 20036, 20041 (April 6, 2022) (proposing error correction for Delaware's 2015 ozone NAAQS SIP approval to a disapproval based on updated air quality modeling). Finally, there is no basis in the CAA to use the Agency's own delay as a basis to nullify

[282] 87 FR 6095, 6097 at n. 15 (February 3, 2022) (Montana proposal); 87 FR 27050, 27056 (May 6, 2022) (Colorado, proposal), 87 FR 61249 (October 11, 2022) (Colorado, final).

[283] 87 FR 64412 (October 25, 2022).

[284] *EME Homer City Generation, L.P.* v. *EPA,* 696 F.3d 7 (D.C. Cir. 2012) (*EME Homer City I*).

the authority granted in the Act to address the nation's air pollution problems, as the statute itself contains other forms of adequate remedy. CAA section 304(a)(2) provides for judicial recourse where there is an alleged failure by the agency to perform a nondiscretionary duty, and that recourse is for the Agency to be placed on a court-ordered deadline to address the relevant obligations. *Accord Oklahoma,* 723 F.3d at 1223–24; *Montana Sulphur and Chemical Co.* v. *U.S. EPA,* 666 F.3d 1174, 1190–91 (9th Cir. 2012).

Comment: Some comments contend that the EPA's delay in acting on SIP submissions was a deliberate attempt to circumvent the SIP/FIP process, unduly burden the states, or to defer making information available to states. Comments allege that the EPA intentionally stalled an evaluative action until the perceived ''facts'' of the situation changed such that the analyses submitted by states were rendered outdated.

EPA Response: The EPA disagrees with both allegations. In this respect, it is important to review the recent history of the EPA's regulatory actions and litigation with respect to good neighbor obligations for both the 2008 and 2015 ozone NAAQS, and in particular, the substantial additional workload the Agency took on in the wake of the remand of the CSAPR Update in *Wisconsin.* In 2018, as the EPA issued the memoranda cited by commenters and planned to shift its focus to implementing the 2015 standards, it also issued the CSAPR Close-out, which made an analytical finding that there were no further obligations for 21 states for the 2008 standards following the CSAPR Update. 83 FR 65878 (Dec. 21, 2018). However, contrary to the EPA's understanding that it had fully addressed good neighbor obligations for the 2008 ozone NAAQS, the D.C. Circuit's decisions in *Wisconsin* (remanding the CSAPR Update) and in *New York* (vacating the CSAPR Close-out), forced the Agency to quickly pivot back to addressing remaining obligations under the 2008 standards. *Wisconsin* v. *EPA,* 938 F.3d 303 (D.C. Cir. 2019); *New York* v. *EPA,* 781 F. App'x. 4 (D.C. Cir. 2019). The EPA was subject to renewed deadline suit litigation under CAA section 304, which led to a March 15, 2021, deadline to take final action on several states whose FIPs had been remanded and were incomplete in the wake of the CSAPR Close-out vacatur. *New Jersey* v. *Wheeler,* 475 F.Supp.3d 308 (S.D.N.Y. 2020). Throughout 2020 and 2021, the EPA was therefore focused on an unexpected rulemaking obligation to complete good neighbor requirements as to the states with remanded CSAPR Update FIPs. This led to the EPA proposing and then issuing an economically significant, major rule assessing additional EGU emissions reduction obligations as well as presenting updated air quality modeling analysis using novel techniques and presenting information on a host of non-EGU industrial sources for the first time, *i.e.,* the Revised CSAPR Update, 86 FR 23054 (April 30, 2021). That rule is now currently subject to judicial review in the D.C. Circuit, *Midwest Ozone Group* v. *EPA,* No. 21–1146 (D.C. Cir. argued Sept. 28, 2022).[285] The EPA has also been in the process of reviewing and acting upon many states' good neighbor SIPs where the available information indicates that an approval of the state's submission was appropriate.[286]

Finally, the Agency needed time to review and evaluate the SIP submissions in a coordinated fashion to act on all the states' submissions in a consistent manner. As the EPA explained in the proposed disapproval action, consistency in defining CAA obligations is critically important in the context of addressing a regional-scale pollutant like ozone. *See, e.g.,* 87 FR 9807 n.48. Through coordinated development of the bases for how the Agency could act on the SIP submissions, while also evaluating the contours of a potential Federal plan to implement obligations where required, the EPA sequenced its deliberations and decision making to maximize efficient, consistent, and timely action, in recognition of the need to implement any necessary obligations ''as expeditiously as practicable.'' [287] The downsides of commenters' policy preference in favor of giving states another opportunity to develop SIP submissions, or in first acting on each SIP submission before proposing a FIP, are that such a sequence of actions would have led to multiple years of additional delay in addressing good neighbor obligations. Even if such a choice was available to the Agency using the CAA section 110(k)(5) SIP call mechanism, it was entirely reasonable for the EPA to decline to use that mechanism in this instance. (EPA further addresses comments in support of a SIP call approach in the RTC document.)

In short, commenters' notion that the EPA was deliberately or intentionally deferring or delaying action on these SIP submissions to circumvent any required legal process or reach any specific result is simply incorrect. Commenters have not supplied any evidence to support the claim either that any legal process was circumvented or that the Agency's conduct was in bad faith. *See Biden* v. *Texas,* 142 S.Ct. 2528, 2546–47 (2022) (presumption of regularity attends agency action absent a ''strong showing of bad faith or improper behavior'') (citing *Citizens to Protect Overton Park* v. *Volpe,* 401 U.S. 302, 420 (1971); *SEC* v. *Chenery,* 318 U.S. 80, 87 (1943)).

4. Use of Updated Modeling

Comment: Comments allege that by relying on modeling not available at the time of SIP submission development, the EPA ''moved the goal post.'' Comments note the timeframes set out for action on SIPs, citing section 110 of the Act, and allege that by failing to act on SIP submissions in a timely manner and basing such actions on new modeling, the EPA imposes an arbitrary and capricious standard. Comments state that the EPA should not disapprove a SIP based on data not available to states during development of the SIP submissions or to the EPA during the period statutorily allotted for the EPA to take final action on SIP submissions.

EPA Response: In response to comments' claims that the EPA has inappropriately changed states' obligations for interstate transport by relying on updated modeling not available to states at the time they prepared their SIP submissions, the EPA disagrees. As an initial matter, the EPA disagrees with comment's claiming that the agency expected state air agencies to develop a SIP submission based on

[285] During this time, the EPA also fulfilled its obligations to act on several petitions brought by downwind states under section 126(b) of the CAA. These actions culminated in litigation and ultimately adverse decisions in *Maryland* and *New York* v. *EPA. Maryland v,* 958 F.3d; *New York* v. *EPA,* 964 F.3d 1214, 2020 WL 3967838 (D.C. Cir. 2020). Further review and action on these remands remains pending before the agency.

[286] In chronological order: 83 FR 47568 (September 20, 2018) (Washington); 84 FR 69331 (December 18, 2019) (Alaska); 84 FR 22376 (May 17, 2019) (Oregon); 85 FR 5570 (January 31, 2020) (Washington, DC); 85 FR 5572 (January 31, 2020) (Massachusetts); 85 FR 20165 (April 10, 2020) (North Dakota); 85 FR 21325 (April 17, 2020) (Nebraska); 85 FR 25307 (May 1, 2020) (Delaware); 85 FR 34357 (June 4, 2020) (Vermont); 85 FR 65722 (October 16, 2020) (Idaho); 85 FR 67653 (October 26, 2020) (South Dakota); 86 FR 45870 (August 17, 2021) (Maine and New Hampshire); 86 FR 68413 (December 2, 2021) (Florida, Georgia, North Carolina, and South Carolina); 86 FR 70409 (December 10, 2021) (Rhode Island); 86 FR 71830 (December 20, 2021) (Connecticut); 86 FR 73129 (December 27, 2021) (Hawaii); 87 FR 19390 (April 4, 2022) (Kansas); 87 FR 21578 (April 12, 2022) (Montana); 87 FR 22463 (April 15, 2022) (Iowa); and 87 FR 61249 (October 11, 2022) (Colorado).

[287] CAA section 181(a); *Wisconsin,* 938 F.3d at 313–14 (citing *North Carolina,* 531 F.3d at 911–12).

some unknown future data. The EPA recognizes that states generally developed their SIP submissions with the best available information at the time of their development. As stated in the proposals, the EPA did not evaluate states' SIP submissions based solely on the 2016v2 emissions platform (or the 2016v3 platform, which incorporates comments generated during the public comment period on the proposed SIP actions and which supports these final SIP disapproval actions). We evaluated the SIP submissions based on the merits of the arguments put forward in each SIP submission, which included any analysis put forward by states to support their conclusions. Thus, we disagree with commenters who allege the Agency has ignored the information provided by the states in their submissions. Indeed, the record for this action reflects our extensive evaluation of states' air quality and contribution analyses. *See* generally Section IV, which summarizes our evaluation for each state.

We disagree with commenters who advocate that the EPA's evaluation of these submissions must be limited to the information available to states at the time they made their submissions, or information at the time of the deadline for the EPA to act on their submissions. It can hardly be the case that the EPA is prohibited from taking rulemaking action using the best information available to it at the time it takes such action. Nothing in the CAA suggests that the Agency must deviate from that general principle when acting on SIP submissions. While CAA section 110(k)(2) specifies a time period in which the Administrator is to act on a state submission, neither this provision nor any other provision of the CAA specifies that the remedy for the EPA's failure to meet a statutory deadline is to arrest or freeze the information the EPA may consider to what was available at the time of a SIP submission deadline under CAA section 110. Indeed, in the interstate transport context, this would lead to an anomalous result. For example, the D.C. Circuit rejected an argument made by Delaware against the CSAPR Update air quality analysis that the EPA was limited to reviewing air quality conditions in 2011 (rather than 2017) at the time of the statutory deadline for SIP submittals. The court explained,

> Delaware's argument leans too heavily on the SIP submission deadline. SIP submission deadlines, unlike attainment deadlines, are ''procedural'' and therefore not ''central to the regulatory scheme.'' *Sierra Club,* 294 F.3d at 161. Nor can Delaware's argument be reconciled with the text of the Good Neighbor Provision, which prohibits upwind States from emitting in amounts ''which *will*'' contribute to downwind nonattainment. 42 U.S.C. 7410(a)(2)(D)(i) (emphasis added). Given the use of the future tense, it would be anomalous for EPA to subject upwind States to good neighbor obligations in 2017 by considering which downwind States were once in nonattainment in 2011.

Wisconsin, 903 F.3d at 322. By the same token, here, holding the EPA to a consideration only of what information states had available regarding the 2023 analytic year at the time of their SIP submissions or at the time of a deadline under CAA section 110, would likewise elevate the ''procedural'' deadlines of CAA section 110 above the substantive requirements of the CAA that are ''central to the regulatory scheme.'' Doing so here would force the Agency to act on these SIP submissions knowing that more recent refined, high quality, state-of-the-science modeling and monitoring data would produce a different result in our forward-looking analysis of 2023 than the information available in 2018. Nothing in the CAA dictates that the EPA must be forced into making substantive errors in its good neighbor analysis on this basis.

We relied on CAMx Version 7.10 and the 2016v2 emissions platform to make updated determinations regarding which receptors would likely exist in 2023 and which states are projected to contribute above the contribution threshold to those receptors. As explained in the preamble of the EPA's proposed actions and further detailed in the document titled ''Air Quality Modeling TSD: 2015 Ozone National Ambient Air Quality Standards Proposed Interstate Transport Air Plan Disapproval'' and 2016v2 Emissions Inventory TSD, both available in Docket ID no. EPA–HQ–OAR–2021–0663, the 2016v2 modeling built off previous modeling iterations used to support the EPA's action on interstate transport obligations. The EPA continuously refines its modeling to ensure the results are as indicative as possible of air quality in future years. This includes adjusting our modeling platform and updating our emissions inventories to reflect current information.

Additionally, we disagree with comments claiming that the 2016v2 modeling results were sprung upon the states with the publication of the proposed disapprovals. The EPA has been publishing a series of data and modeling releases beginning as early as the publication of the 2016v1 modeling with the proposed Revised CSAPR Update in November of 2020, which could have been used to track how the EPA's modeling updates were potentially affecting the list of possible receptors and linkages for the 2015 ozone NAAQS in the 2023 analytic year. The 2016-based meteorology and boundary conditions used in the modeling have been available through the 2016v1 platform, which was used for the Revised CSAPR Update (proposed in November of 2020, 85 FR 68964). The updated emissions inventory files used in the current modeling were publicly released September 21, 2021, for stakeholder feedback, and have been available on our website since that time.[288] The CAMx modeling software that the EPA used has likewise been publicly available for over a year. CAMx version 7.10 was released by the model developer, Ramboll, in December 2020. On January 19, 2022, we released on our website and notified a wide range of stakeholders of the availability of both the modeling results for 2023 and 2026 (including contribution data) along with many key underlying input files.[289]

By providing the 2016 meteorology and boundary conditions (used in the 2016v1 version) in fall of 2020, and by releasing updated emissions inventory information used in 2016v2 in September of 2021,[290] states and other interested parties had multiple opportunities prior to the proposed disapprovals in February of 2022 to consider how our modeling updates could affect their status for purposes of evaluating potential linkages for the 2015 ozone NAAQS. Further, by using the updated modeling results, the EPA is using the most current and technically appropriate information for this rulemaking. This modeling was not performed to ''move the goal posts'' for states but meant to provide updated emissions projections, such as additional emissions reductions for EGUs following promulgation of the Revised CSAPR Update for the 2008 ozone NAAQS, more recent information on plant closures and fuel switches, and sector trends, including non-EGU sectors. The construct of the 2016v2 emissions platform is described in the 2016v2 Emissions Modeling TSD contained in Docket ID No. EPA–HQ–OAR–2021–0663.

Finally, comments related to the timing of the EPA's action to disapprove these SIP submissions are addressed in Section V.A.1. The EPA notes the statute provides a separate remedy for agency action unlawfully delayed. In section 304 of the CAA, there is a

[288] *See https://www.epa.gov/air-emissions-modeling/2016v2-platform.*

[289] *See https://www.epa.gov/scram/photochemical-modeling-applications.*

[290] *https://www.epa.gov/air-emissions-modeling/2016v2-platform.*

process for filing suit against the EPA for its failure to comply with a non-discretionary statutory duty under the CAA. The appropriate remedy in such cases is an order to compel agency action, not a determination that the agency, by virtue of missing a deadline, has been deprived of or constrained in its authority to act. *See Oklahoma,* 723 F.3d at 1224 (''[W]hen 'there are less drastic remedies available for failure to meet a statutory deadline'—such as a motion to compel agency action—'courts should not assume that Congress intended the agency to lose its power to act.' The Court 'would be most reluctant to conclude that every failure of an agency to observe a procedural requirement voids subsequent agency action, especially when important public rights are at stake.''') (cleaned up) (quoting *Brock* v. *Pierce County,* 476 U.S. 253, 260 (1986)).

Comment: Comments state that it is inappropriate for the EPA to revise its emissions inventory and to conduct new air quality modeling without allowing an appropriate opportunity for stakeholder review and comment and that the EPA must allow public comment on any updated (*i.e.,* 2016v3) modeling prior to use by the EPA in a final action. Comments claim that the EPA must withdraw the proposed disapproval and provide states time to develop new SIP submissions based on the updated information.

EPA Response: The EPA has evaluated a wide range of technical information and critiques of its 2016v2 emissions inventory and modeling platform following a solicitation of public feedback as well the public comment period on this action (and the proposed FIP action) and has responded to those comments and incorporated updates into the version of the modeling being used in this final action (2016v3). *See* Section III, the Final Action AQM TSD, and Section 4 of the RTC document for further discussion.

The EPA's development of and reliance on newer modeling to confirm modeling used at the proposal stage is in no way improper and is simply another iteration of the EPA's longstanding scientific and technical work to improve our understanding of air quality issues and causes going back decades. Where the 2016v3 modeling produced a potentially different outcome for states from proposal, that is reflected in this action (*e.g.,* our deferral of final action on Tennessee and Wyoming's SIP submissions).

Comment: Comments allege that EPA's modeling results have been inconsistent, questioning the reliability of the results.

EPA Response: Although some commenters indicate that our modeling iterations have provided differing outcomes and are therefore unreliable, this is not what the overall record indicates. Rather, in general, although the specifics of states' linkages may change slightly, our modeling overall has provided consistent outcomes regarding which states are linked to downwind air quality problems. For example, the EPA's modeling shows that most states that were linked to one or more receptors using the 2011-based platform (*i.e.,* the March 2018 data release) are also linked to one or more receptors using the newer 2016-based platform. Because each platform uses different meteorology (*i.e.,* 2011 and 2016) it is not at all unexpected that an upwind state could be linked to different receptors using 2011 versus 2016 meteorology.

In addition, although a state may be linked to a different set of receptors, states are often linked to receptors in the same area that has a persistent air quality problem. These differing results regarding receptors and linkages can be affected by the varying meteorology from year to year, but this does not indicate that the modeling or the EPA or the state's methodology for identifying receptors or linkages is inherently unreliable. Rather, for many states these separate modeling runs all indicated: (i) that there would be receptors in areas that would struggle with nonattainment or maintenance in the future, and (ii) that the state was linked to some set of these receptors, even if the receptors and linkages differed from one another in their specifics (*e.g.,* a different set of receptors were identified to have nonattainment or maintenance problems, or a state was linked to different receptors in one modeling run versus another).

The EPA interprets this common result as indicative that a state's emissions have been substantial enough to generate linkages at Step 2 to varying sets of downwind receptors generated under varying assumptions and meteorological conditions, even if the precise set of linkages changed between modeling runs. Under these circumstances, we think it is appropriate to proceed to a Step 3 analysis to determine what portion of a particular state's emissions should be deemed ''significant.'' We also note that only four states included in the proposed disapprovals went from being unlinked to being linked between the 2011-based modeling provided in the March 2018 memorandum and the 2016v2-based modeling—Alabama, Minnesota, Nevada, and Tennessee.

5. Cooperative Federalism and the EPA's Authority

Comment: Many comments point to the concept of cooperative federalism as embodied in the CAA to make various arguments as to why the EPA cannot or should not be allowed to exercise its independent judgment in evaluating the arguments presented by the states in the SIP submissions, and some also argue that the EPA must approve each state's submission in deference to how states choose to interpret the CAA requirements they must meet.

EPA Response: The CAA establishes a framework for state-Federal partnership to implement the NAAQS based on cooperative federalism. Under the general model of cooperative federalism, the Federal Government establishes broad standards or goals, states are given the opportunity to determine how they wish to achieve those goals, and if states choose not to or fail to adequately implement programs to achieve those goals, a Federal agency is empowered to directly regulate to achieve the necessary ends. Under the CAA, once the EPA establishes or revises a NAAQS, states have the obligation and opportunity in the first instance to develop an implementation plan under CAA section 110 and the EPA will approve SIP submissions under CAA section 110 that fully satisfy the requirements of the CAA. This sequence of steps is not in dispute.

The EPA does not, however, agree with the comments' characterization of the EPA's role in the state-Federal relationship as being ''secondary'' such that the EPA must defer to state choices heedless of the substantive objectives of the Act; such deference would be particularly inappropriate in the context of addressing interstate pollution. The EPA believes that the comments fundamentally misunderstand or inaccurately describe this action, as well as the '''division of responsibilities' between the states and the federal government'' they identify in CAA section 110 citing the *Train-Virginia* line of cases [291] and other cases.[292]

[291] *See Virginia* v. *EPA,* 108 F.3d 1397, 1407 (D.C. Cir. 1997) (*Virginia*) (quoting *Train* v. *Natural Resources Defense Council, Inc.,* 421 U.S. 60, 79 (1975) (*Train*)). The ''Train-Virginia line of cases'' are named for the U.S. Supreme Court case *Train,* 421 U.S. and to the D.C. Circuit case *Virginia,* 108 F.3d. The D.C. Circuit has described these cases as defining a ''federalism bar'' that generally recognizes states' ability to select emissions control measures in their SIPs so long as CAA requirements are met. *See, e.g., Michigan* v. *EPA,* 213 F.3d 663, 687 (D.C. Cir. 2000) (*Michigan*).

[292] *Union Elec. Co.* v. *EPA,* 427 U.S. 246 (1976), *Am. Elec. Power Co.* v. *Connecticut,* 565 U.S. 410 (2011), *Fla. Power & Light* v. *Costle,* 650 F.2d 579

Continued

Those cases, some of which pre-date the CAA amendments of 1990 resulting in the current Good Neighbor Provision,[293] stand only for the proposition that the EPA must approve state plans *if* they meet the applicable CAA requirements. But these cases say nothing about what those applicable requirements are. The EPA is charged under CAA section 110 with reviewing states' plans for compliance with the CAA and approving or disapproving them based on EPA's determinations. Thus, the EPA must ultimately determine whether state plans satisfy the requirements of the Act or not. Abundant case law reflects an understanding that the EPA must evaluate SIP submissions under the CAA section 110(k)(2) and (3).[294] If they are deficient, the EPA must so find, and become subject to the obligation to directly implement the relevant requirements through a Federal implementation plan under CAA section 110(c), unless EPA approves an applicable SIP first.[295]

The EPA responds in greater detail to these comments in the RTC document.

6. Availability of Guidance for SIP Submissions

Comment: Comments contend the EPA failed to issue guidance in a timely fashion by releasing its August 2018 memorandum 31 days prior to when SIPs addressing interstate ozone transport were due and issuing the October 2018 memorandum 18 days after those SIPs were due. Some comments additionally claim that it is unreasonable for the EPA to disapprove SIP submissions based on standards that were not defined, mandated, or required by official guidance.

EPA Response: Comments' contention is unsupported by the statute or applicable case law. Regarding the need for the EPA's guidance in addressing good neighbor obligations, in *EME Homer City,* the Supreme Court clearly held that ''nothing in the statute places the EPA under an obligation to provide specific metrics to States before they undertake to fulfill their good neighbor obligations.'' [296]

Nonetheless, as comments point out, the EPA issued three ''memoranda'' in 2018 to provide some assistance to states in developing these SIP submissions. In acting on the SIP submissions in this action, the EPA is neither rescinding nor acting inconsistently with the memoranda—to the extent the memoranda constituted agency guidance (not all the information provided did constitute guidance), information or ideas in the memoranda had not at that time been superseded by case law developments, and the memoranda's air quality and contribution data had not at that time been overtaken by updated modeling and other updated air quality information. While comments specific to each of those memoranda are addressed elsewhere in this record, we note in brief that each memorandum made clear that the EPA's action on SIP submissions would be through a separate notice-and-comment rulemaking process and that SIP submissions seeking to rely on or take advantage of any information or concepts in these memoranda would be carefully reviewed against the relevant legal requirements and technical information available to the EPA at the time it would take such rulemaking action.

B. Application of the 4-Step Interstate Transport Framework

1. Analytic Year

Comment: One comment asserted that 2023 is not an appropriate analytical year because, according to the commenter, the EPA and at least some downwind states have not in fact implemented mandatory emissions control requirements associated with their nonattainment areas, and *North Carolina* and *Wisconsin* require that upwind and downwind state obligations must be implemented ''on par.'' The comment also characterizes the EPA's invocation of *Maryland* as an inappropriate shifting of regulatory burden to upwind states.

EPA Response: This is an incorrect interpretation of the D.C. Circuit's holdings in *North Carolina, Wisconsin,* and *Maryland,* which held that the EPA and the states must align good neighbor obligations to the extent possible with the downwind areas' attainment dates. These are set by the statute and remain fixed regardless of whether downwind areas are delayed in implementing their own obligations. It would be unworkable to expect that upwind states' obligations could be perfectly aligned with each downwind area's actual timetable for implementing the relevant emissions controls, and no court has held that this is the EPA's or the states' obligation under the good neighbor provision. Further, this ignores the fact that upwind states must also address their interference with maintenance of the NAAQS, as well as the *Maryland* court's holding that good neighbor obligations should be addressed by the Marginal area attainment date for ozone under subpart 2 of part D of title I of the CAA. Both circumstances may involve situations in which the home state for an identified downwind receptor does not have a specific obligation to plan for and implement specific emissions controls while an upwind state may nonetheless be found to have good neighbor obligations. But, as the *Maryland* court recognized, the absence of specific enumerated requirements does not mean the downwind state does not have a statutorily binding obligation subject to burdensome regulatory consequences: ''Delaware must achieve attainment 'as expeditiously as practicable,''' and ''an upgrade from a marginal to a moderate nonattainment area carries significant consequences . . . .'' *Maryland,* 958 F.3d at 1204.

Further, where any downwind-state delays are unreasonable or violate statutory timeframes, the CAA provides recourse to compel the completion of such duties in CAA section 304, not to defer the elimination of significant contribution and thereby expose the public in downwind areas to the elevated pollution levels caused in part by upwind states' pollution. Regardless, in this action, 2023 aligns with the Moderate area attainment date in 2024, and all of the downwind nonattainment areas corresponding to receptor locations identified at Step 1 in this action are already classified as being in Moderate nonattainment or have been reclassified to Moderate and the relevant states face obligations to submit

(5th Cir. 1981), *Bethlehem Steel Corp.* v. *Gorsuch,* 742 F.2d 1028 (7th Cir. 1984), *Concerned Citizens of Bridesburg* v. *EPA,* 836 F.2d 777 (3d Cir. 1987), *North Carolina,* 531 F.3d 896, *Luminant,* 675 F.3d 917 (5th. Cir. 2012), *Luminant Co. LLC* v. *EPA,* 714 F.3d 841 (5th. Cir. 2013), *North Dakota* v. *EPA,* 730 F.3d 750 (8th. Cir. 2013), *EME Homer City II,* 795 F.3d 118 (D.C. Cir. 2015), and *Texas* v. *USEPA,* 829 F.3d 405 (5th. Cir. 2016).

[293] The 1970 version of the Act required SIPs to include ''adequate provisions for intergovernmental cooperation'' concerning interstate air pollution. CAA section 110(a)(2)(E), 84 Stat. 1681, 42 U.S.C. 1857c–5(a)(2)(E). In 1977, Congress amended the Good Neighbor Provision to direct States to submit SIP submissions that included provisions ''adequate'' to ''prohibi[t] any stationary source within the State from emitting any air pollutant in amounts which will . . . prevent attainment or maintenance [of air quality standards] by any other State.'' CAA section 108(a)(4), 91 Stat. 693, 42 U.S.C. 7410(a)(2)(E) (1976 ed., Supp. II). Congress again amended the Good Neighbor Provision in 1990 to its current form.

[294] *See, e.g., Virginia,* 108 F.3d at 1406. *See also, e.g., Westar Energy* v. *EPA,* 608 Fed. App'x 1, 3 (D.C. Cir. 2015) (''EPA acted *well within the bounds* of its delegated authority when it disapproved of Kansas's proposed [good neighbor] SIP.'') (emphasis added); *Oklahoma,* 723 F.3d at 1209 (upholding the EPA's disapproval of ''best available retrofit technology'' (BART) SIP, noting BART ''does not differ from other parts of the CAA—states have the ability to create SIPs, but they are subject to EPA review'').

[295] *EME Homer City Generation,* 572 U.S. at 508–510.

[296] *EME Homer City,* 572 U.S. at 510.

SIP submissions and implement reasonably available control technologies (RACT) by January 1, 2023. *See* 87 FR 60897, 60899 (October 7, 2022). The EPA further responds to this comment in the RTC document.

2. Attachment A to the March 2018 Memorandum

Comment: Comments state that states conducted their analyses based on the flexibilities listed in Attachment A of the March 2018 Memorandum. Comments cite the part of the memorandum where the EPA notes that ''in developing their own rules, states have flexibility to follow the familiar four-step transport framework (using [the] EPA's analytical approach or somewhat different analytical approaches within these steps) or alternative frameworks, so long as their chosen approach has adequate technical justification and is consistent with the requirements of the CAA.'' Comments state that the EPA's disapproval of SIP submissions that took advantage of the flexibilities is arbitrary and capricious because the EPA has changed, without communication, its consideration of what is deemed to be the ''necessary provisions'' required for an approvable SIP submission too late in the SIP submission process and because, in disapproving these SIPs, the EPA is applying a consistent set of policy judgments across all states.

EPA Response: Comments mistakenly view Attachment A to the March 2018 memorandum releasing modeling results as constituting agency guidance. The EPA further disagrees with commenters' characterization of the EPA's stance regarding the ''flexibilities'' listed (without analysis) in Attachment A. Attachment A to the March 2018 memorandum identified a ''Preliminary List of Potential Flexibilities'' that could potentially inform SIP development.[297] However, the 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'' from outside parties on which the EPA sought ''feedback from interested stakeholders.'' [298] Further, Attachment A stated, ''EPA is not at this time making any determination that the ideas discussed later are consistent with the requirements of the CAA, nor are we specifically recommending that states use these approaches.'' [299] 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. The EPA emphasized in this memorandum that any such alternative approaches must be technically justified and appropriate in light of the facts and circumstances of each particular state's submittal.[300] As stated in the proposed SIP disapprovals,[301] the March 2018 memorandum provided that, ''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.'' [302] In this final SIP disapproval action, the EPA again affirms that certain concepts included in Attachment A to the March 2018 memorandum require unique consideration, and these ideas do not constitute agency guidance with respect to transport obligations for the 2015 ozone NAAQS.

In response to comments' claims that since the time transport SIP submissions were submitted to the EPA for review, the EPA has changed, without communication, its consideration of what is deemed to be the ''necessary provisions'' required for an approvable SIP submission, the EPA disagrees. As comments note, and as stated in the proposed disapproval notifications, the EPA recognizes that states have discretion to develop their own SIP transport submissions and agrees that states are not bound to using the 4-step interstate transport framework the EPA has historically used. However, states must then provide sufficient justification and reasoning to support their analytical conclusions and emissions control strategies. *See, e.g.,* 87 FR 9798, 9801. In the SIP submissions being disapproved in this action, no state provided any enforceable emissions control strategies for approval into their SIP. The EPA has evaluated the merits of each state's arguments as to why no additional emissions reduction requirements are needed to satisfy their obligations under CAA section 110(a)(2)(D)(i)(I) for the more protective 2015 ozone NAAQS. While the EPA used its own 4-step interstate transport framework as a guide for its review to ensure a consistent and equitable evaluation of each states' submissions, the EPA has also considered states' individual arguments without predetermining the EPA's conclusions about the state's transport obligations.

It was never the Agency's intent in sharing Attachment A that states would invoke one or more of the potential ''flexibilities'' that outside parties advocated for as a basis for concluding that no additional emissions controls were necessary to address interstate transport for the more protective 2015 ozone NAAQS without proper justification. Nothing in Attachment A suggested that was the Agency's intended objective. Indeed, where certain approaches identified in Attachment A might have produced analytical conclusions requiring upwind states to reduce their emissions, no state invoking Attachment A followed through with implementing those controls. We observe this dynamic at work in Kentucky's submission, because Kentucky appended comments from the Midwest Ozone Group to its submission that demonstrated that applying a ''weighted'' approach to allocating upwind-state responsibility at Step 3 would have resulted in an emissions control obligation on Kentucky's sources, yet the State offered no explanation in its submittal why it was not adopting that approach or even what its views on that approach were. *See* 87 FR 9515. As another example, Michigan cited Attachment A to the March 2018 in developing a methodology for calculating significant contribution under which Michigan would have been responsible for eliminating up to 0.12 ppb of contribution to downwind receptors; however, the State suggested that uncertainty caused by modeling ''noise'' was too great to either require emissions reductions or demonstrate that Michigan had any linkages to receptors at all. *See* 87 FR 9860–9861. However, this explanation did not, as an analytical matter, demonstrate a level of scientific uncertainty which might allow for ignoring the results,[303]

[297] March 2018 memorandum, Attachment A.

[298] *Id.*

[299] *Id.*

[300] March 2018 memorandum.

[301] E.g., 87 FR 9487.

[302] *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, available in docket EPA–HQ–OAR–2021–0663 or at *https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices.*

[303] Scientific uncertainty may only be invoked to avoid comporting with the requirements of the CAA when ''the scientific uncertainty is so profound that it precludes . . . reasoned judgment'' *Massachusetts* v. *EPA,* 127 S.Ct. 1438 (2007). *See Wisconsin,* 938 F.3d at 318–19 (''Scientific uncertainty, however, does not excuse EPA's failure to align the deadline for eliminating upwind States' significant contributions with the deadline for downwind attainment of the NAAQS.''). *See also EME Homer City,* 795 F.3d at 135–36 (''We will not invalidate EPA's predictions solely because there might be discrepancies between those predictions

Continued

particularly when the Agency has implemented good neighbor requirements at levels of ''significant contribution'' comparable to or even less than 0.12 ppb. *See Wisconsin,* 938 F.3d at 322–23 (rejecting Wisconsin's argument that it should not face good neighbor obligations for the 2008 ozone NAAQS on the basis that its emission reductions would only improve a downwind receptor by two ten-thousandths of a part per billion).

The EPA continues to neither endorse the ''flexibilities'' in Attachment A, nor stakes a position that states are precluded from relying on these concepts in the development of their good neighbor SIP submissions, assuming they could be adequately justified both technically and legally. This has been demonstrated through the EPA's extensive evaluation of the merits of each states' SIP submissions, including their attempted use of flexibilities and derivatives of the EPA's historically applied 4-step interstate transport framework.[304]

3. Step 1: October 2018 Memorandum

Comments: Comments claimed that the EPA is not honoring its October 2018 memorandum, which they claim would allow for certain monitoring sites identified as maintenance-only receptors in the EPA's methodology to be excluded as receptors based on historical data trends. They assert that the EPA is inappropriately disapproving SIP submissions where the state sufficiently demonstrated certain monitoring sites should not be considered to have a maintenance problem in 2023.

EPA Response: The October 2018 memorandum recognized that states may be able to demonstrate in their SIPs that conditions exist that would justify treating a monitoring site as not being a maintenance receptor despite results from our modeling methodology identifying it as such a receptor. The EPA explained that this demonstration could be appropriate under two circumstances: (1) the site currently has ''clean data'' indicating attainment of the 2015 ozone NAAQS based on measured air quality concentrations, or (2) the state believes there is a technical reason to justify using a design value from the baseline period that is lower than the maximum design value based on monitored data during the same baseline period. To justify such an approach, the EPA anticipated that any such showing would be based on an analytical demonstration that: (1) Meteorological conditions in the area of the monitoring site were conducive to ozone formation during the period of clean data or during the alternative base period design value used for projections; (2) ozone concentrations have been trending downward at the site since 2011 (and ozone precursor emissions of NO_X and VOC have also decreased); and (3) emissions are expected to continue to decline in the upwind and downwind states out to the attainment date of the receptor. EPA evaluated state's analyses and found no state successfully applied these criteria to justify the use of one of these alternative approaches. The air quality data and projections in Section III indicate that trends in historic measured data do not necessarily support adopting a less stringent approach for identifying maintenance receptors for purposes of the 2015 ozone NAAQS. In fact, as explained in Section III, the EPA has found in its analysis for this final action that, in general, recent measured data from regulatory ambient air quality ozone monitoring sites suggest a number of receptors with elevated ozone levels will persist in 2023 even though our traditional methodology at Step 1 did not identify these monitoring sites as receptors in 2023. Thus, the EPA is not acting inconsistently with that memorandum—the factual conditions that would need to exist for the suggested approaches of that memorandum to be applicable have not been demonstrated as being applicable or appropriate based on the relevant data.

We further respond to comments related to the identification of receptors at Step 1 the RTC document.

4. Step 2: Technical Merits of a 1 Percent of the NAAQS Contribution Threshold

Comment: Several comments contend that for technical reasons, the 0.70 ppb threshold is inappropriate for determining whether a state is linked to a downwind receptor at Step 2 of the 4-step interstate transport framework. Comments state that the degree to which errors exist in modeling ozone concentrations and contributions make it inappropriate for a threshold as low as 0.70 ppb to be used. Some comments further state that the 0.70 ppb threshold is inappropriate because the concentration threshold is lower than what monitoring devices are capable of detecting. Comments reference the reported precision of Federal reference monitors for ozone and the rounding requirements found in 40 CFR part 50, appendix U, Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Ozone, for support. Comments note that the 1 percent contribution threshold of 0.70 ppb is lower than the manufacturer's reported precision of Federal reference monitors for ozone and that the requirements found in appendix U truncates monitor values of 0.70 ppb to 0 ppb.

EPA Response: The EPA disagrees that a 1 percent of the NAAQS contribution threshold at Step 2 is ''inappropriate'' for the 2015 ozone NAAQS due to modeling biases and errors. The explanation for how the 1 percent contribution threshold was originally derived is available in the 2011 CSAPR rulemaking. *See* 76 FR 48208, 48236–38 (Aug. 8, 2011). The EPA has effectively applied a 1 percent of the NAAQS threshold to identify linked upwind states in three prior FIP rulemakings and numerous state-specific actions. The D.C. Circuit has declined to establish bright line criteria for model performance. In upholding the EPA's approach to evaluating interstate transport in CSAPR, the D.C. Circuit held that it would not ''invalidate EPA's predictions solely because there might be discrepancies between those predictions and the real world. That possibility is inherent in the enterprise of prediction.'' *EME Homer City II,* 795 F.3d at 135. The court continued to note that ''the fact that a 'model does not fit every application perfectly is no criticism; a model is meant to simplify reality in order to make it tractable.' '' *Id.* at 135–36 (quoting *Chemical Manufacturers Association* v. *EPA,* 28 F.3d 1259, 1264 (DC Cir. 1994). *See also Sierra Club* v. *EPA,* 939 F.3d 649, 686–87 (5th Cir. 2019) (upholding the EPA's modeling in the face of complaints regarding an alleged ''margin of error,'' noting challengers face a ''considerable burden'' in overcoming a ''presumption of regularity'' afforded ''the EPA's choice of analytical methodology'') (citing *BCCA Appeal Grp.* v. *EPA,* 355 F.3d 817, 832 (5th Cir. 2003)).

Furthermore, it is not appropriate to compare the bias/error involved in the estimation of total ozone to the potential error in the estimation of the subset of ozone that is contributed by a single state.[305] For example, on a specific day

and the real world. That possibility is inherent in the enterprise of prediction.'').

[304] Nor in the course of this evaluation has the EPA uniformly ruled out the concepts in Attachment A. For example, we noted at proposal that California's identification of a flexibility in Attachment A related to excluding certain air quality data associated with atypical events may be generally consistent with the EPA's modeling guidance, but this does not affect the ultimate determination that California's SIP is not approvable. *See* 87 FR 31454.

[305] See, *e.g.,* 87 FR 9798 at 9816.

the modeled versus monitored ozone value may differ by 2 ppb but that is a relatively small percentage of the total modeled ozone, which for a receptor of interest would be on the order of 70 ppb. It would be unrealistic to assign all of the 2 ppb discrepancy in the earlier example to the estimated impact from a single state because the 2 ppb error would be the combination of the error from all sources of ozone that contribute to the total, including estimated impacts from other states, the home state of the receptor, and natural background emissions.

To address comments that compare the 0.70 ppb threshold to the Federal reference monitors for ozone and the rounding requirements found in 40 CFR part 50, appendix U, the EPA notes that the comment is mistaken in applying criteria related to the precision of monitoring data to the modeling methodology by which we project contributions when quantifying and evaluating interstate transport at Step 2. Indeed, contributions by source or state cannot be derived from the total ambient concentration of ozone at a monitor at all but must be apportioned through modeling. Under our longstanding methodology for doing so, the contribution values identified from upwind states are based on a robust assessment of the average impact of each upwind state's ozone-precursor emissions over a range of scenarios, as explained in the Final Action AQM TSD. This analysis is in no way connected with or dependent on monitoring instruments' precision of measurement. *See EME Homer City II,* 795 F.3d 118, 135–36 (''[A] model is meant to simplify reality in order to make it tractable.'').

5. Step 2: Justification of a 1 Percent of the NAAQS Contribution Threshold

Comment: Comments contend that the EPA has not provided enough basis for reliance on the 0.70 ppb threshold, claiming that its use is therefore arbitrary and capricious.

EPA Response: The EPA is finalizing its proposed approach of consistently using a 1 percent of the NAAQS contribution threshold at Step 2. This approach ensures both national consistency across all states and consistency and continuity with our prior interstate transport actions for other NAAQS. Comments have not established that this approach is either unlawful or arbitrary and capricious.

The 1 percent threshold is consistent with the Step 2 approach that the EPA applied in CSAPR for the 1997 ozone NAAQS, which has subsequently been applied in the CSAPR Update and revised CSAPR Update when evaluating interstate transport obligations for the 2008 ozone NAAQS. The EPA continues to find 1 percent to be an appropriate threshold. For ozone, as the EPA found in the CAIR, CSAPR, and CSAPR Update, a portion of the nonattainment and maintenance problems in the U.S. results from the combined impact of relatively small contributions from many upwind states, along with contributions from in-state sources and other sources. The EPA's analysis shows that much of the ozone transport problem being analyzed for purposes of evaluating 2015 ozone NAAQS SIP obligations 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. Where a great number of geographically dispersed emissions sources contribute to a downwind air quality problem, which is the case for ozone, EPA believes that, in the context of CAA section 110(a)(2)(D)(i)(I), a state-level threshold of 1 percent of the NAAQS is a reasonably small enough value to identify only the greater-than-de minimis contributers yet is not so large that it unfairly focuses attention for further action only on the largest single or few upwind contributers. Continuing to use 1 percent of the NAAQS as the screening metric to evaluate collective contribution from many upwind states also allows the 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 74504, 74518. *See also* 86 FR 23054, 23085 (reviewing and explaining rationale from CSAPR, 76 FR 48208, 48236–38, for selection of 1 percent threshold).

Further, the EPA notes that the role of the Step 2 threshold is limited and just one step in the 4-Step interstate transport framework. It serves to screen in states for further evaluation of emissions control opportunities applying a multifactor analysis at Step 3. Thus, as the Supreme Court has recognized, the contribution threshold essentially functions to exclude states with ''de minimis'' impacts. *EME Homer City,* 572 U.S. at 500.

Comment: Commenters contend that the EPA cannot use the 1 percent threshold as a determination for significance.

EPA Response: To clarify, the EPA does not use the 1 percent of the NAAQS threshold as the definition of ''significance.'' Rather, where a state's contribution equals or exceeds the 1 percent of the NAAQS threshold, the EPA expects states to further evaluate their emissions to determine whether their emissions constitute significant contribution or interference with maintenance. The contribution threshold is a screening threshold to identify states which may be ''contributing'' to an out of state receptor. The EPA has maintained this interpretation of the relevant statutory language across many rulemakings, though commenters continue to confuse the Step 2 threshold with a determination of ''significance,'' which it is not. *See EME Homer City,* 572 U.S. at 500–502 (explaining the difference between the ''screening'' analysis at Steps 1 and 2 whereby the EPA ''excluded as de minimis any upwind State that contributed less than one percent of the . . . NAAQS'' and the ''control'' analysis at Step 3 whereby the EPA determined ''cost thresholds'' to define significance).

Further, the EPA's air quality and contribution modeling for ozone transport is based on application of the model in a relative sense rather than relying upon absolute model predictions. All models have limitations resulting from uncertainties in inputs and scientific formulation. To minimize the effects of these uncertainties, the modeling is anchored to base period measured data in the EPA's guidance approach for projecting design values. Notably, the EPA also uses our source apportionment modeling in a relative sense when calculating the average contribution metric (used to identify linkages). In this method the magnitude of the contribution metric is tied to the magnitude of the projected average design value which is tied to the base period average measured design value. The EPA's guidance has recommended against applying bright-line criteria for judging whether statistical measures of model performance constitute acceptable or unacceptable model performance.

The Agency continues to find that this method using the CAMx model to evaluate contributions from upwind states to downwind areas is reliable. The agency has used CAMx routinely in previous notice and comment transport rulemakings to evaluate contributions relative to the 1 percent threshold for both ozone and $PM_{2.5}$. In fact, in the original CSAPR, the EPA found that ''[t]here was wide support from commenters for the use of CAMx as an

appropriate, state-of-the science air quality tool for use in the [Cross-State Air Pollution] Rule. There were no comments that suggested that the EPA should use an alternative model for quantifying interstate transport.'' 76 FR 48229 (August 8, 2011). In this action, the EPA has taken a number of steps based on comments and new information to ensure to the greatest extent the accuracy and reliability of its modeling projections at Step 1 and 2, as discussed elsewhere in this document.

6. Step 2: Prevention of Significant Deterioration Significant Impact Levels

Comment: Several comments insist that when identifying an appropriate linkage threshold at Step 2 of the 4-step framework, the EPA should consider or rely on the 1 ppb significant impact level (SIL) for ozone used as part of the prevention of significant deterioration PSD permitting process. Comments reference the EPA's April 17, 2018, guidance memorandum, ''Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program'' (SIL guidance), as well as the EPA's March 2018 memorandum's Attachment A flexibilities to lend support to their opinion that the 1 ppb SIL should also be used to determine linkages at Step 2.

EPA Response: The EPA's SIL guidance relates to a different provision of the Clean Air Act regarding implementation of the prevention of significant deterioration (PSD) permitting program. This program applies in areas that have been designated attainment of the NAAQS and is intended to ensure that such areas remain in attainment even if emissions were to increase as a result of new sources or major modifications to existing sources located in those areas. This purpose is different than the purpose of the good neighbor provision, which is to assist downwind areas (in some cases hundreds or thousands of miles away) in resolving ongoing nonattainment of the NAAQS or difficulty maintaining the NAAQS through eliminating the emissions from other states that are significantly contributing to those problems. In addition, as discussed earlier, the purpose of the Step 2 threshold within the EPA's interstate transport framework for ozone is to broadly sweep in all states contributing to identified receptors above a de minimis level in recognition of the collective-contribution problem associated with regional-scale ozone transport. The threshold used in the context of PSD SIL serves an entirely different purpose, and so it does not follow that they should be made equivalent. Further, comments incorrectly associate the EPA's Step 2 contribution threshold with the identification of ''significant'' emissions (which does not occur until Step 3), and so it is not the case that the EPA is interpreting the same term differently.

The EPA has previously explained this distinction between the good neighbor framework and PSD SILs. *See* 70 FR 25162, 25190–25191 (May 12, 2005); 76 FR 48208, 48237 (August 8, 2011). Importantly, the implication of the PSD SIL threshold is not that single-source contribution below this level indicates the absence of a contribution or that no emissions control requirements are warranted. Rather, the PSD SIL threshold addresses whether further, more comprehensive, multi-source review or analysis of air quality impacts are required of the source to support a demonstration that it meets the criteria for a permit. A source with estimated impacts below the PSD SIL may use this to demonstrate that it will not cause or contribute (as those terms are used within the PSD program) to a violation of an ambient air quality standard, but is still subject to meeting applicable control requirements, including best available control technology, designed to moderate the source's impact on air quality.

Moreover, other aspects of the technical methodology in the SIL guidance compared to the good neighbor framework make a direct comparison between these two values misleading. For instance, in PSD permit modeling using a single year of meteorology the maximum single-day 8-hour contribution is evaluated with respect to the SIL. The purpose of the contribution threshold at Step 2 of the 4-step good neighbor framework is to determine whether the average contribution from a collection of sources in a state is small enough not to warrant any additional control for the purpose of mitigating interstate transport, even if that control were highly cost effective. Using a 1 percent of the NAAQS threshold is more appropriate for evaluating multi-day average contributions from upwind states than a 1 ppb threshold applied for a single day, since that lower value of 1 percent of the NAAQS will capture variations in contribution. If EPA were to use a single day reflecting the maximum amount of contribution from an upwind state to determine whether a linkage exists at Step 2, comments' arguments for use of the PSD SIL might have more force. However, that would likely cause more states to become linked, not less. And in any case, consistent with the method in our modeling guidance for projecting future attainment/nonattainment, the good neighbor methodology of using multiple days provides a more robust approach to establishing that a linkage exists at the state level than relying on a single day of data.

7. Step 2: August 2018 Memorandum

Comment: Comments assert that in the August 2018 memorandum the EPA committed itself to approving SIP submissions from states with contributions below 1 ppb, and so now the EPA should or must approve the good neighbor SIP submission from any state with a contribution below 1 ppb, either based on modeling available at the time of the state's SIP submission or at any time.

EPA Response: These comments mischaracterize the content and the EPA's application of August 2018 memorandum. Further, the EPA disputes that the EPA misled states or that the EPA has not appropriately reviewed SIP submissions from states that attempted to rely on an alternative contribution threshold at Step 2.

Specifically, the EPA's August 2018 memorandum provided an analysis regarding ''the degree to which certain air quality threshold amounts capture the collective amount of upwind contribution from upwind states.'' [306] It interpreted ''that information to make recommendations about what thresholds *may* be appropriate for use in'' SIP submissions (emphasis added).[307] Specifically, the August 2018 memorandum said, ''Because the amount of upwind collective contribution capture with the 1 percent and the 1 ppb thresholds is generally comparable, overall, we believe it *may* be reasonable and appropriate for states to use a 1 ppb contribution threshold, as an alternative to a 1 percent threshold, at Step 2 of the 4-step framework in developing their SIP revisions addressing the good neighbor provision for the 2015 ozone NAAQS.'' (emphasis added).[308] Thus, the text of the August 2018 memorandum does not guarantee that any state with a contribution below 1 ppb has an automatically approvable good neighbor SIP. In fact, the August 2018 memorandum indicated that ''[f]ollowing these recommendations does not ensure that EPA will approve a SIP revision in all instances where the recommendations are followed, as the guidance may not apply to the facts and circumstances underlying a particular SIP. Final decisions by the EPA to approve a particular SIP revision will

[306] August 2018 memorandum, page 1.
[307] August 2018 memorandum, page 1.
[308] August 2018 memorandum, page 4.

only be made based on the requirements of the statute and will only be made following an air agency's final submission of the SIP revision to the EPA, and after appropriate notice and opportunity for public review and comment.'' [309] The August 2018 memorandum also stated, ''EPA and air agencies should consider whether the recommendations in this guidance are appropriate for each situation.'' [310] The EPA's assessment of every SIP submission that invoked the August 2018 memorandum considered the particular arguments raised by the state.[311]

Comment: Some comments allege that the EPA representatives led the states to believe that their SIP submission would be approved on the basis of a 1 ppb contribution threshold. The comments further claim that the EPA has now since reversed course on its August 2018 memorandum and imposed new requirements on states that were not included in the EPA's guidance. One comment suggested EPA switched position without explanation from the August 2018 guidance to its proposed disapprovals, which it viewed as unlawful under *FCC* v. *Fox TV Stations, Inc.,* 556 U.S. 502 (2009).

EPA Response: As an initial matter, we note that the salience of these comments is limited to only a handful of states. The August 2018 memorandum made clear that the Agency had substantial doubts that any threshold greater than 1 ppb (such as 2 ppb) would be acceptable, and the Agency is affirming that a threshold higher than 1 ppb would not be justified under any circumstance for purposes of this action. No comment provided a credible basis for using a threshold even higher than 1 ppb. So this issue is primarily limited to the difference between a 0.70 ppb threshold and a 1.0 ppb threshold. Therefore, we note that this issue is only relevant to a small number of states whose only contributions to any receptor are above 1 percent of the NAAQS but lower than 1 ppb. Under the 2016v3 modeling of 2023 being used in this final action, those states with contributions that fall between 0.70 ppb and 1 ppb included in this action are Alabama, Kentucky, and Minnesota.

The EPA disagrees with comments' claims that the Agency has reversed course on applying the August 2018 memorandum. In line with the memorandum, the EPA evaluated every justification put forward by every state covered by this SIP disapproval action that attempted to justify an alternative threshold under the August 2018 memorandum, which are Alabama,[312] Arkansas,[313] Illinois,[314] Indiana,[315] Kentucky,[316] Louisiana,[317] Michigan,[318] Mississippi,[319] Missouri,[320] and Oklahoma,[321] and Utah.[322] The EPA also addressed criticisms of the 1 percent of the NAAQS contribution threshold made by Ohio [323] and Nevada.[324] (The topic of the EPA's input during state's SIP-development processes is further discussed in the RTC document.)

For this reason, the EPA disagrees with comment that case law reviewing changes in agency positions as articulated in *FCC* v. *Fox TV Stations, Inc.,* is applicable to this action. The Agency has not imposed a requirement that states must use a 1 percent of the NAAQS threshold (which would reflect a change in position from the August 2018 memorandum). Rather, under the terms of the August 2018 memorandum, the Agency has found that Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Nevada, Ohio, Oklahoma, and Utah have not made a sufficient showing that the use of an alternative contribution threshold is justified for those States. Even if it were found that the Agency's position had fundamentally changed between this rulemaking action and the August 2018 memorandum (which we do not concede to be the case), we do not believe that any state had a legitimate reliance interest that would be sufficient to overcome the countervailing public interest that is served in declining to approve a state's use of the 1 ppb threshold where the state did not have adequate technical justification. First, neither states nor the emissions sources located in those states have incurred any compliance costs based on the August 2018 memorandum. Second, it is not clear that any states invested much of their own public resources in developing state-specific arguments in support of a 1 ppb threshold. As the EPA observed at proposal, in nearly all submittals, the states did not provide the EPA with analysis specific to their state or the receptors to which its emissions are potentially linked. In one case, the EPA's proposed approval of Iowa's SIP submittal, ''*the 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.'' E.g., 87 FR 9806–07 (emphasis added). The EPA emphasizes again that it was the 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. *Id.*

We acknowledge that certain states may have assumed the EPA would approve SIP submissions from states whose contribution to any receptor was below 1 ppb, but that assumption reflected a misunderstanding of the August 2018 memorandum, and in any case, an assumption is not, as a legal matter, the same thing as a reliance interest.

The EPA is not formally rescinding the August 2018 memorandum in this action or at this time, but since guidance memoranda are not binding in the first place, it is not required that agencies must ''rescind'' a guidance the moment it becomes outdated or called into question. As the Agency made clear in the August 2018 memorandum, all of EPA's proposals for action on interstate transport SIP submissions are subject to rulemaking procedure, including public notice and comment, before the EPA makes a final decision.

Although the EPA is not formally revoking the August 2018 memorandum at this time, and we have separately found that no state successfully established a basis for use of a 1 ppb threshold, we also continue to believe, as set forth in our proposed disapprovals, that national ozone transport policy associated with addressing obligations for the 2015 ozone NAAQS is not well-served by allowing for less protective thresholds at Step 2. Furthermore, the EPA disagrees that national consistency is an inappropriate consideration in the context of interstate ozone transport. The Good Neighbor provision, CAA section 110(a)(2)(D)(i)(I), requires to a unique degree of concern for consistency, parity, and equity across

[309] August 2018 memorandum, page 1.

[310] August 2018 memorandum, page 1.

[311] 87 FR 64423–64424 (Alabama); 87 FR 9806–9807 (Arkansas); 87 FR 9852–9853 (Illinois); 87 FR 9855–9856 (Indiana); 87 FR 9508–9511 (Kentucky); 87 FR 9812–9813 (Louisiana); 87 FR 9861–9862 (Michigan); 87 FR 9557 (Mississippi); 87 FR 9541–9543 (Missouri); 87 FR 31492 (Nevada); 87 FR 9870–9871 (Ohio); 87 FR 9818–9820 (Oklahoma); 87 FR 31477–31451 (Utah).

[312] 87 FR 64423–64424.

[313] 87 FR 9806–9807.

[314] 87 FR 9852–9853.

[315] 87 FR 9855–9856.

[316] 87 FR 9508–9511.

[317] 87 FR 9812–9813.

[318] 87 FR 9861–9862.

[319] 87 FR 9557.

[320] 87 FR 9541–9543.

[321] 87 FR 9818–9820.

[322] 87 FR 31477–31451.

[323] 87 FR 9870–9871.

[324] 87 FR 31492.

state lines.[325] For a regional air pollutant such as ozone, consistency in requirements and expectations across all states is essential. Based on the EPA's review of good neighbor SIP submissions 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 ozone NAAQS raises substantial policy consistency and practical implementation concerns. 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 SIP submission 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. While 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 emissions controls while other states with a similar level of contribution would proceed to a Step 3 analysis. This can create significant equity and consistency problems among states.

One comment suggested that the EPA could address this potentially inequitable outcome by simply adopting a 1 ppb contribution threshold for all states. However, the August 2018 memorandum did not conclude that 1 ppb would be appropriate for all states, and the EPA does not view that conclusion to be supported at present. The EPA recognized in the August 2018 memorandum that on a nationwide basis there was some similarity in the amount of total upwind contribution captured between 1 percent and 1 ppb. However, while this may be true in some sense, that is hardly a compelling basis to move to a 1 ppb threshold for every state. 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; in the EPA's 2016v2 and 2016v3 modeling, the amount lost is 5 percent). Further, this logic has no end point. A similar observation could be made with respect to any incremental change. For example, should the EPA next recognize a 1.2 ppb threshold because that would only cause some small additional loss in capture of upwind state contribution as compared to 1 ppb? If the only basis for moving to a 1 ppb threshold is that it captures a ''similar'' (but actually smaller) amount of upwind contribution, then there is no basis for moving to that threshold at all. Considering the core statutory objective of ensuring elimination of all significant contribution to nonattainment or interference with maintenance of the NAAQS in other states as well as the broad, regional nature of the collective contribution problem with respect to ozone, we continue to find no compelling policy reason to adopt a new threshold for all states of 1 ppb.

It also is unclear why use of a 1 ppb threshold would be appropriate for all states under a more protective NAAQS when a 1 percent of the NAAQS contribution threshold has been used for less protective NAAQS. To illustrate, a state contributing greater than 0.75 ppb but less than 1 ppb to a receptor under the 2008 ozone NAAQS was ''linked'' at Step 2 using the 1 percent of the NAAQS contribution threshold, but if a 1 ppb threshold were used for the 2015 ozone NAAQS, then that same state would not be ''linked'' to a receptor at Step 2 under a NAAQS that is set to be more protective of human health and the environment. 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 protective ozone NAAQS), is an important consideration. Continuing to use a 1 percent of NAAQS approach ensures that if the NAAQS are revised and made more protective, an appropriate increase in stringency at Step 2 occurs, to ensure an appropriately larger amount of total upwind-state contribution is captured for purposes of fully addressing interstate transport obligations. *See* 76 FR 48208, 48237–38.

One comment identified that if the EPA were to use a 1 percent of the NAAQS contribution threshold, the EPA would be obligated to seek feedback on that contribution threshold through a public notice and comment process. The EPA's basis and rationale for every SIP submission covered by this final SIP disapproval action, including the use of a 1 percent of the NAAQS contribution threshold, was in fact presented for public comment. The EPA received, and is addressing in this action, many detailed comments about contribution thresholds. Further, the EPA's application of a 1 percent of the NAAQS threshold has been consistently used in notice-and-comment rulemakings beginning with the CSAPR rulemaking in 2010–2011 and including both FIP actions (CSAPR Update and Revised CSAPR Update) and numerous actions on ozone transport SIP submissions. In each case, the 1 percent of the NAAQS threshold was subject to rigorous vetting through public comment and the Agency's response to those comments, including through analytical evaluations of alternative thresholds. *See, e.g.,* 81 FR 74518–19. By contrast, the August 2018 memorandum was not issued through notice-and-comment rulemaking procedures, and the EPA was careful to caveat its utility and ultimate reliability for that reason.

Comment: Some comments claim that the EPA is applying the August 2018 memorandum inconsistently based on the EPA's actions with regard to action good neighbor SIP submissions from Iowa and Oregon for the 2015 ozone NAAQS and Arizona's good neighbor SIP submission for the 2008 ozone NAAQS.

EPA Response: The EPA disagrees that there is any such inconsistency. The EPA withdrew a previously proposed approval of Iowa's SIP submission where the Agency had attempted to substantiate the use of a 1 ppb contribution threshold, and re-proposed and finalized approval of that SIP based on a different rationale using a 1 percent of the NAAQS contribution threshold. 87 FR 9477 (Feb. 22, 2022); 87 FR 22463 (April 15, 2022). As explained earlier in this section, this experience of the EPA attempting to justify 1 ppb for a state through additional air quality analysis, where the state had not conducted an analysis the Agency considered to be sufficient is part of the reason the Agency is moving away from attempting to justify use of this alternative contribution threshold.

The EPA also disputes the claim that Oregon and Arizona were the only states ''allowed'' to use a 1 ppb threshold. The EPA approved Oregon's SIP submission for the 2015 ozone NAAQS on May 17,

[325] The EPA notes that Congress has placed on the 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.

2019, and both Oregon and the EPA relied on a 1 percent of the NAAQS contribution threshold. 84 FR 7854, 7856 (March 5, 2019) (proposal); 84 FR 22376 (May 17, 2019) (final). In our FIP proposal for the 2015 ozone NAAQS, the EPA explained it was not proposing to conduct an error correction for Oregon even though updated modeling indicated Oregon contributed above 1 percent of the NAAQS to monitors in California, because the specific monitors in California are not interstate ozone transport ''receptors'' at Step 1. *See* 87 FR 20036, 20074–20075 (April 6, 2022). The EPA solicited public comment on its approach to Oregon's contribution to California receptors as part of the 2015 ozone NAAQS transport FIP development, and the Agency has not yet taken final action on that FIP. In 2016, the EPA previously approved Arizona's good neighbor SIP for the earlier 2008 ozone NAAQS based on a similar rationale with regard to certain monitors in California in 2016. 81 FR 15200 (March 22, 2016) (proposal); 81 FR 31513 (May 19, 2016) (final rule). The Agency's view with respect to its evaluation of both Arizona and Oregon is that specific monitors in California are not interstate ozone transport ''receptors'' at Step 1. The EPA has not approved or applied an alternative Step 2 threshold for any state.

Comments related to the specific circumstances of an individual state and/or its arguments put forth in its SIP submission as it pertains to the August 2018 Memorandum are further addressed in the RTC document.

8. Step 3: States' Step 3 Analyses for the 2015 Ozone NAAQS

Comment: Comments state that the EPA has not provided any guidance on what an appropriate Step 3 analysis would entail, and therefore any decision where the Agency rejects a Step 3 analysis is arbitrary and capricious. One comment claims that not a single state has successfully made a Step 3 demonstration leading to an approvable interstate transport SIP for the 2015 ozone NAAQS. Comments note that there is no requirement in the CAA that states must complete an analysis similar to the EPA's, and the EPA cannot substitute its own judgment for that of the state's in crafting a SIP. Rather, the EPA is obligated to defer to state choices. One comment asserts that the EPA is required to interpret the term ''significant contribution'' in a manner ''which ties contribution to an amount which contributes significantly to downwind maintenance or nonattainment problems.'' Another comment claims the EPA is intentionally exploiting the Supreme Court decision in *EME Homer City* to justify any requirements it deems necessary to further Federal policy decisions. Some comments identify that some states did not conduct a Step 3 analysis in their submitted SIPs because, using the flexibilities provided in the 2018 memoranda, these states concluded in Step 1 and Step 2 that no controls were required. One comment suggests that the EPA propose an 18-month period to allow these states to proceed with Steps 3 and 4.

EPA Response: The EPA disagrees that it is obligated to defer to states' choices in the development of good neighbor SIP submissions. As required by the Act, the EPA has evaluated each of the SIP submissions for compliance with the CAA, including whether an adequate Step 3 analysis was conducted—or whether states had offered an approvable alternative approach to evaluating their good neighbor obligations—and found in each case that what these states submitted was not approvable. The Supreme Court has recognized that the EPA is not obligated to provide states with guidance before taking action to disapprove a SIP submission. *EME Homer City,* 572 U.S. at 508–10. Nonetheless, throughout the entire history of the EPA's actions to implement the good neighbor provision for ozone, starting with the 1998 NO_X SIP Call, we have consistently adopted a similar approach at Step 3 that evaluates emissions reduction opportunities for linked states applying a multifactor analysis. States could have performed a similar analysis of emissions control opportunities. The EPA has not directed states that they must conduct a Step 3 analysis in precisely the manner the EPA has done in its prior regional transport rulemakings; however, SIPs 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 seeking to rely on an alternative approach to defining ''significance'' must use an approach 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. Further, the approach selected must be reasonable and technically justified. Therefore, while the EPA does not direct states to use a particular framework, nonetheless, each state must show that its decision-making was based on a ''technically appropriate or justifiable'' evaluation.

Further, the Agency has a statutory obligation to review and approve or disapprove SIP submittals according to the requirements of the Clean Air Act. *See* CAA section 110(k)(3). And the Agency is empowered to interpret those statutory requirements and exercise both technical and policy judgment in acting on SIP submissions. Indeed, the task of allocating responsibility for interstate pollution particularly necessitates Federal involvement. *See EME Homer City,* 572 U.S. at 514 (''The statute . . . calls upon the Agency to address a thorny causation problem: How should EPA allocate among multiple contributing upwind States responsibility for a downwind State's excess pollution?''); *see also Wisconsin,* 938 F.3d at 320. Further, we have consistently disapproved states' good neighbor SIP submissions addressing prior ozone NAAQS when we have found those states linked through our air quality modeling and yet the state failed to conduct an analysis of emissions control opportunities, or such analysis was perfunctory or otherwise unsatisfactory. We have been upheld in our judgment that such SIPs are not approvable. *See Westar Energy* v. *EPA,* 608 Fed. App'x 1, 3 (DC Cir. 2015) (''EPA acted *well within the bounds* of its delegated authority when it disapproved of Kansas's proposed SIP.'') (emphasis added).

With respect to the assertion that no state has successfully avoided a FIP with an approvable Step 3 analysis, we note first that at this time, no final FIP addressing the 2015 ozone NAAQS has been promulgated. More directly to the point, no state submission that is the subject of this disapproval action offered any additional emissions control measures. While it is conceivable that a Step 3 analysis may result in a determination that no additional controls are needed, EPA expects that such circumstances will generally be rare, else the CAA's interstate transport provisions are rendered ineffective. For example, the EPA determined in the CSAPR Update that even though the District of Columbia and Delaware were linked to out of state receptors at Steps 1 and 2 of the 4-step interstate transport framework, no additional control measures were required of either jurisdiction. As to the District of Columbia, we found that there were no affected EGU sources that would fall under the CSAPR Update's control program. For Delaware, we found that

there were no emissions reductions available from any affected sources for any of the emissions control stringencies that were analyzed. *See* 81 FR 74504, 74553. No state's submission covered in this action contained an emissions control analysis that would allow for these types of conclusions to be reached for all of its sources.[326] States generally did not conduct any comparative analysis of available emissions control strategies—nor did they prohibit any additional ozone-precursor emissions.

We are unclear what another comment intends in asserting that the EPA is required to interpret ''significant contribution'' in a manner ''which ties contribution to an amount which contributes significantly to downwind maintenance or nonattainment problems.'' The EPA disagrees that: (1) It has imposed or mandated a specific approach to Step 3 in this action, (2) this action established a particular level of emissions reduction that states were required to achieve, or (3) it mandated a particular methodology for making such a determination. To the extent the comment suggests that the Agency cannot mandate that states use cost as a method of allocating responsibility in their transport SIPs, first, the Agency has not done so. Further, as to whether cost could be used as a permissible method of allocating responsibility, the comment ignores the Supreme Court's holding to the contrary in *EME Homer City,* 572 U.S. at 518, and the D.C. Circuit's earlier holding to the same effect in *Michigan,* 213 F.3d at 687–88, both of which upheld the EPA's approach of using uniform cost-effectiveness thresholds to allocate upwind state responsibilities under the good neighbor provision for prior NAAQS. While this approach may be reasonable to apply again for the 2015 ozone NAAQS (and the EPA has proposed to do so in the proposed FIP action published on April 6, 2022), the EPA did not impose such a requirement on states in developing SIP submissions, nor is the EPA finding any SIP submission not approvable based on a failure to use this particular methodology.

In its March 2018 memorandum, Attachment A, the Agency acknowledged that there could be multiple ways of conducting a Step 3 analysis. The Agency did not endorse any particular approach and noted the Attachment was merely a list of stakeholder ideas that the EPA was not recommending any state follow. The apparent result of this ''flexibility,'' however, was that no state presented a Step 3 analysis that resulted in including any enforceable emissions reductions to address good neighbor obligations for the 2015 ozone NAAQS in their interstate transport SIP submittals. Likewise, the comment here did not include information or analysis establishing that any particular alternative Step 3 approach should have been approved or that any state performed such an analysis in a manner that would have addressed ''significant contribution'' even in the manner the comment appears to be suggesting.

Notably, materials appended to one State's SIP submission, developed by the Midwest Ozone Group (MOG), did present an analysis applying an approach to ''significant contribution'' that was based on calculating a proportional share of each state's contribution to a downwind receptor, and this methodology would have imposed on that State's, Kentucky's, sources an obligation to eliminate 0.02 ppb of ozone at the relevant receptor. *See* 87 FR 9507. While the EPA does not endorse or here evaluate the merits of such an approach, it is noteworthy that the State in that instance did not adopt that approach, did not impose that obligation on its sources through enforceable measures by revising its SIP, and offered no explanation for its decision not to do so. *See id.* 9516 (''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 emissions reductions, even though it appended this recommendation to its SIP submittal.'').

9. Step 4: Attempt To Rely on FIPs in a SIP Submission

Comment: One comment states that FIPs or other Federal emissions control measures do not have to be incorporated into and enforceable under state law to be an approvable SIP measure. They view it as acceptable for a state to rely in its SIP Submission on the emissions reductions achieved by prior ozone transport FIPs, such as the CSAPR Update or the Revised CSAPR Update, as a permissible means of achieving emissions reductions to eliminate significant contribution for the 2015 ozone NAAQS.

EPA Response: The EPA disagrees. As the EPA has noted on page 16 of our September 2013 memorandum ''Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act sections 110(a)(1) and 110(a)(2)'' (2013 Infrastructure SIP Guidance): ''a FIP is not a state plan and thus cannot serve to satisfy the state's obligation to submit a SIP.'' [327] Indeed, the general principle that measures relied on to meet states' CAA obligations must be part of the SIP has been recognized by courts, such as in *Committee for a Better Arvin,* 786 F.3d 1169 (9th Cir. 2015).

This principle is grounded in the recognition that if such measures are not rendered enforceable within the SIP itself, then they may be modified or amended in ways that would undermine the basis for the state's reliance on them, while the approved SIP itself would purport to have addressed the relevant obligation merely by outdated reference to that modified or nonexistent control measure residing outside the SIP. For example, to be credited for attainment demonstration purposes, requirements that may otherwise be federally enforceable (such as new source review permit limits or terms in federally enforceable consent orders), must be in the state's implementation plan so that they could not later be changed without being subject to the EPA's approval. This principle is instrumental to ensuring that states cannot take credit for control measures that might be changed (even by the EPA itself) without the EPA's required approval action under CAA section 110, which includes the obligation to ensure there is no interference or backsliding with respect to all applicable CAA requirements. *See* CAA section 110(l). *See also Montana Sulfur and Chemical Co.* v. *EPA,* 666 F.3d 1174, 1195–96 (9th Cir. 2012) (''The EPA correctly reads 42 U.S.C. 7410(a)(2) as requiring states to include enforceable emissions limits and other control measures *in the plan itself.*'') (emphasis in original); 40 CFR 51.112(a) (''Each plan must demonstrate that the measures, rules, and regulations *contained in it* are adequate to provide for the timely attainment and

[326] We note that California's SIP submission is not approvable at Step 3, despite the fact that the EPA has not identified NO_X emissions control opportunities at the state's EGUs. Nonetheless, the SIP submission is not approvable because the state attempted to rely on the CSAPR Update cost threshold to justify a no-control determination when that threshold was in relation to a partial remedy for a less protective NAAQS, and even if it could be reasonably concluded that no emissions reductions are appropriate at EGUs in California, the SIP submission did not conduct an adequate analysis of emissions control opportunities at its non-EGU industrial sources. *See* 87 FR 31459–60.

[327] Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Sections 110(a)(1) and 110(a)(2), September 13, 2013 (available at *https://www.epa.gov/sites/default/files/2015-12/documents/guidance_on_infrastructure_sip_elements_multipollutant_final_sept_2013.pdf*).

maintenance of the national standard that it implements.'') (emphasis added).

The EPA has applied this same interpretation in implementing other infrastructure SIP requirements found in CAA section 110(a)(2). For example, in implementing CAA section 110(a)(2)(C), (D)(i)(II), (D)(ii), and (J) relating to the permitting program for PSD, the EPA has developed FIPs that incorporate by reference provisions codified at 40 CFR 51.21, and some states have taken delegation of that FIP to implement the relevant requirements. But the EPA does not and cannot approve the state as having met these infrastructure SIP elements, even by virtue of taking delegation of the FIP. *See, e.g.,* 83 FR 8818, 8820 (March 1, 2018). Likewise, under one of the pathways presented in our 2013 Infrastructure SIP Guidance, the EPA does not approve SIPs addressing interstate visibility transport obligations under CAA section 110(a)(2)(D)(i)(II) (''prong 4'') until the state itself has a fully approved regional haze plan, and states cannot rely on the CSAPR ''better than BART'' FIPs to meet their prong 4 requirements until they have replaced that FIP with an approved SIP. *See, e.g.,* 84 FR 13800, 13801 (April 8, 2019); 84 FR 43741, 43744 (Aug. 22, 2019).

The comment does not provide contrary examples where the EPA has approved, as a SIP-based emissions control program, requirements that are established through Federal regulation or other types of emissions control programs that are outside the SIP. It is true that in the first two steps of the 4-step interstate transport framework, the EPA conducts air quality modeling based on emissions inventories reflective of on-the-books state and Federal emissions control requirements, to make determinations about air quality conditions and contribution levels that can be anticipated *in the baseline* in a future analytic year. If the comment's examples were intended to reference this consideration of Federal measures in prior actions on SIP submittals, the EPA agrees that it does consider such measures at these steps of its analysis, and the EPA has consistently taken this approach throughout its prior ozone transport actions. But here we are discussing Step 3 and 4 of the framework, where states that have been found to contribute to downwind nonattainment and maintenance problems, *e.g.,* are linked at Steps 1 and 2 to an out of state receptor, would need to evaluate their continuing emissions to determine what if any of those emissions should be deemed ''significant'' (*e.g.,* Step 3) and eliminated through enforceable emissions control requirements (*e.g.,* Step 4). The EPA is not aware of any good neighbor SIP submission that it has approved where a state purported to eliminate its significant contribution (*e.g.,* satisfy Steps 3 and 4) simply by referring to Federal measures that were not included in its SIP and enforceable as a matter of state law. Finally, it bears emphasizing that the EPA's assessment of the 2015 ozone transport SIPs has already accounted for the emissions-reducing effects of both the CSAPR Update and the Revised CSAPR Update in its baseline air quality modeling at Steps 1 and 2, and so pointing to either of those rules as measures that would eliminate significant contribution at Step 3, for purposes of the 2015 ozone NAAQS, would be impermissible double-counting.

C. Good Neighbor Provision Policy

1. Mobile Source Emissions

Comment: Several comments assert that mobile source emissions within the home state of the location of receptors are the primary source of nonattainment problems in downwind areas. Some comments additionally state that a larger portion of their own upwind state emissions is from mobile source emissions. These comments request that the EPA focus on these emissions sources rather than stationary sources to reduce ongoing nonattainment problems. These comments claim mobile sources are federally regulated and, therefore, the EPA bears the responsibility to either take action to reduce mobile source emissions nationwide or encourage downwind states to implement strategies to reduce their own local mobile source emissions.

Response: The EPA recognizes that nationwide, mobile sources represent a large portion of ozone-precursor emissions and, as such, would be expected to have a large impact on nonattainment and maintenance receptors.

The EPA has been regulating mobile source emissions since it was established as a Federal agency in 1970 and is committed to continuing the effective implementation and enforcement of current mobile source emissions standards and evaluating the need for additional standards.[328] The EPA believes that the NO_X reductions from its Federal programs are an important reason for the historical and long-running trend of improving air quality in the United States. The trend helps explain why the overall number of receptors and severity of ozone nonattainment problems under the 1997 and 2008 ozone NAAQS have declined. As a result of this long history, NO_X emissions from onroad and nonroad mobile sources have substantially decreased and are predicted to continue to decrease into the future as newer vehicles and engines that are subject to the more recent and more stringent standards replace older vehicles and engines.[329]

The EPA included mobile source emissions in the 2016v2 modeling used to support the proposal of these SIP disapproval actions to help determine state linkages at Steps 1 and 2 of the 4-step interstate transport framework and has done likewise in its 2016v3 modeling. However, whether mobile source emissions are a large portion of an upwind or downwind state's NO_X emissions, and whether they represent a large portion of the contribution to downwind nonattainment and maintenance receptors, does not answer the question regarding the adequacy of an upwind state's SIP submission. The question is whether ''any source or other type of emissions activity'' (in the collective) in an upwind state is contributing significantly to downwind receptors, *see* CAA section 110(a)(2)(D)(i). A state's transport SIP must include a technical and adequate justification to support its conclusion that the state has satisfied its interstate transport obligations for the 2015 ozone NAAQS.

To the extent that comments argue that mobile source emissions should be the focus of emissions reductions for the purposes of resolving interstate transport obligations, states could have provided such an analysis for how mobile source reductions might achieve necessary reductions. *See, e.g.,* 70 FR 25209. However, states conducted no such analysis of methods or control techniques that could be used to reduce mobile source emissions, instead claiming that states cannot control mobile source emissions, as this is a federally-regulated sector, or states cannot reasonably control these emissions. States do have options, however, to reduce emissions from certain aspects of their mobile source

[328] On December 20, 2022, the EPA finalized more stringent emissions standards for NO_X and other pollutants from heavy-duty vehicles and engines, beginning with model year 2027. *See https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-and-related-materials-control-air-pollution.* The EPA is also developing new multi-pollutant standards for light- and medium-duty vehicles as well as options to address pollution from locomotives.

[329] *https://gispub.epa.gov/air/trendsreport/2022/#home.*

sectors, and to the extent a state is attributing its contribution to out of state receptors to its mobile sources, it could have conducted an analysis of possible programs or measures that could achieve emissions reductions from those sources. (For example, a general list of types of transportation control measures can be found in CAA section 108(f).[330])

State-specific issues raised by comments are further addressed in the RTC document.

2. International Contributions

Comment: Several comments state that international emissions contribute to nonattainment and maintenance receptors downwind, and these emissions are not within the jurisdiction of the states. They advocate for the EPA should considering this when acting on SIP submissions. Some comments claim that, in the west, international contributions are even greater than in eastern portions of the U.S. and support their notion that the EPA's evaluation of interstate transport should take special consideration of unique regional factors when determining upwind state obligations, or that the Agency should otherwise explain why it is still inappropriate to factor in higher international contributions, as the Agency has done in Oregon's case.

Response: The EPA responded to similar arguments related to international emissions included in the SIP submissions of Arkansas, California, Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio, Utah, Wyoming, and West Virginia in the proposed disapprovals.[331] No comments on the proposed disapprovals provided new information to indicate the EPA's initial assessment was incorrect. These comments' reasoning related to international emissions is inapplicable to the requirements of CAA section 110(a)(2)(D)(i)(I). The good neighbor provision requires states and the EPA to address interstate transport of air pollution that significantly contributes to downwind states' ability to attain and maintain the NAAQS. Whether emissions from other states or other countries also contribute to the same downwind air quality issue is typically not relevant in assessing whether a downwind state has an air quality problem, or whether an upwind state is significantly contributing to that problem. (Only in rare cases has EPA concluded that certain monitoring sites should not be considered receptors at Step 1 due to the very low collective upwind-state contribution at those receptors. *See* the RTC document.) States are not obligated under CAA section 110(a)(2)(D)(i)(I) to act alone to reduce emissions in amounts sufficient to resolve a downwind receptor's nonattainment or maintenance problem. Rather, states are obligated to eliminate their own ''significant contribution'' to that receptor or ''interference'' with the ability of other states to attain or maintain the NAAQS. The statutory standard is, fundamentally, one of contribution, not causation.

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 Wisconsin,* 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.'' *Id.* 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 (DC 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 (DC 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.

To the extent comments compare the influence of international emissions with the EPA's treatment of receptors in California to which Oregon contributes greater than 0.70 ppb, the EPA responds to these comments in the RTC document.

3. Western Interstate Transport Policy

Comment: Several comments argue that the EPA should consider an alternative approach to evaluating interstate transport in the western U.S. Comments assert there are considerations unique to the western states, such as increased background, international, and wildfire contributions to ozone concentrations in the west. Some commenters believe a ''case-by-case'' assessment is more appropriate for evaluating western states' interstate transport obligations, as they claim the EPA had done for the 2008 ozone standards. They additionally argue that the EPA modeling is not able to accurately project ozone concentrations in the west because of these factors, along with the west's unique topographical influence on ozone transport.

Response: The EPA disagrees that either its nationwide photochemical grid modeling or the 4-step interstate transport framework for ozone cannot generally be applied to states in the western region of the U.S. and has maintained that position consistently throughout numerous actions.[332] Though at times the EPA has found it appropriate to examine more closely discreet issues for some western states,[333] the 4-step interstate transport framework itself is appropriate for assessing good neighbor obligations of western states in the absence of those circumstances. The EPA evaluated the contents of the western states' SIP submissions covered by this action on the merits of the information the states provided. As described at proposal and reiterated in Section IV, the EPA is finalizing its disapproval of California,

[330] In making this observation, the EPA is not suggesting that mobile source emissions reductions are necessarily required to address a state's good neighbor obligations, but merely pointing out that if the state itself attributes the problem to mobile sources, then it is reasonable to expect that further analysis of such control strategies would be explored.

[331] 87 FR 9798, 9809–9810 (Feb. 22, 2022) (Arkansas); 87 FR 31443, 31460–31461 (May 24, 2022) (California); 87 FR 9854 (Illinois); 87 FR 9859–9860 (Indiana); 87 FR 9498, 9508 (Feb. 22, 2022) (Kentucky); 87 FR 9838, 9865 (Michigan); 87 FR 9533, 9543 (Feb. 22, 2022) (Missouri); 87 FR 9838 at 9874 (Ohio); 87 FR 31470, 31482 (May 24, 2022) (Utah); 87 FR 9516, 9527 (Feb. 22, 2022) (West Virginia); 87 FR 31495, 31507 (May 24, 2022) (Wyoming).

[332] For a discussion of this history, *see* for example 87 FR 31480–81 (proposed disapproval of Utah SIP submission) and 87 FR 31453–56 (proposed disapproval of California SIP submission).

[333] *See, e.g.,* Approval of Arizona's 2008 ozone NAAQS interstate transport SIP submission, 81 FR 15200 (March 22, 2016) (Step 1 analysis concluding certain monitors in California should not be considered interstate transport receptors for purposes of the good neighbor provision for the 2008 ozone NAAQS); *see also* 87 FR 61249, 61254–55 (Oct. 11, 2022) (in approving Colorado's interstate transport SIP for the 2015 ozone NAAQS, analyzing unique issues associated with wintertime inversion conditions in certain western areas).

Nevada, and Utah's SIP submissions. This final determination is based on these evaluations, as well as the EPA's 2016v2 and 2016v3 modeling following stakeholder feedback.

The EPA continues to find it appropriate to rely on the results of its nationwide modeling in the western U.S., despite comments concerning the ability for the EPA's modeling to accurately project ozone concentrations and contributions in western states, as well as its ability to support the EPA's 4-step framework for assessing interstate transport. The EPA's nationwide photochemical grid modeling considers multiple complex factors, including those raised in comments, such as terrain complexities, variability in emissions (*e.g.,* wildfire emissions), meteorology, and topography. While the EPA continues to believe its 2016v2 modeling performs equally as well in both the west and the east, the EPA has adjusted its 2016v3 modeling to ensure its predictions more closely replicate the relative magnitude of concentrations and day-to-day variability that are characteristic of observed 8-hour daily maximum ozone concentrations in each region, as explained in Section III.A and the RTC document. As such, the EPA continues to find its modeling reliable for characterizing ozone concentrations and contribution values in the western U.S. Further responses regarding the reliability of the EPA's modeling in the western U.S. is provided in the RTC document.

The EPA disagrees with comments noting that the Agency took an alternative approach for western states when assessing interstate transport obligations under the 2008 ozone NAAQS. As explained in our proposed disapproval of California's 2015 ozone NAAQS interstate transport SIP submission, while the EPA has in limited circumstances found unique issues associated with addressing ozone transport in western states, the EPA has consistently applied the 4-step interstate transport framework in western states, as it has done here, and has identified ozone transport problems in the west that are similar to those in the east.[334] [335] At proposal, the EPA addressed states' arguments regarding the impact of unique factors such as topography and, as part of the EPA's evaluation of the contents of the SIP submission, provided explanation as to why the EPA found the states' arguments did not support their conclusions regarding long range transport of ozone in the west.[336]

While comments point to relatively higher level of contributions from non-anthropogenic, local, or international contributions in the west as reason for evaluating interstate transport differently in the west, a state is not excused from eliminating its significant contribution due to contributions from these sources, where the data shows that anthropogenic emissions from upwind states also contribute collectively to identified receptors at levels that indicate there to be an interstate contribution problem as well. As stated in Section V.C.2, 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. This same principle applies broadly to other arguments as to which emissions are the ''cause'' of the problem; the good neighbor provision established a contribution standard, not a but-for causation standard. *See Wisconsin,* 938 F.3d at 323–25.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

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

This 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 action does not impose an information collection burden under the provisions of the Paperwork Reduction Act. This final action does not establish any new information collection requirement apart from what is already required by law. This finding relates to the requirement in the CAA for states to submit SIPs under CAA section 110(a)(2)(D)(i)(I) addressing interstate transport obligations associated with the 2015 ozone NAAQS.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This action is disapproving SIP submissions for not containing the necessary provisions to satisfy interstate transport requirements under CAA section 110(a)(2)(D)(i)(I).

D. Unfunded Mandates Reform Act of 1995 (UMRA)

This 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. The action imposes no enforceable duty on any state, local or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This 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 action has tribal implications. However, this action does not impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law. This action includes disapproving the portion of Oklahoma's SIP submission addressing the state's good neighbor obligations under CAA section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS and applies to certain areas of Indian country as discussed in Section IV.C of the proposed action, ''Air Plan Disapproval; Arkansas, Louisiana, Oklahoma, and Texas; Interstate Transport of Air Pollution for the 2015 Ozone National Ambient Air Quality Standards'' (87 FR 9798 at 9824, February 2, 2022). However, this action does not impose substantial direct compliance costs on federally recognized tribal governments because no actions will be required of tribal governments. This action will also not preempt tribal law as no Oklahoma tribe implements a regulatory program under the CAA, and thus does not have applicable or related tribal laws. The EPA consulted with tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes early in the process of developing this regulation to permit them to have meaningful and timely input into its development. A summary of that

[334] 87 FR 31443, 31453.

[335] 81 FR 74503, 74523.

[336] *See, e.g.,* 87 FR 31443, 31457. The EPA evaluated California's qualitative consideration of unique topographic factors that may influence the transport of emissions from sources within the state to downwind receptors in Colorado and Arizona. The EPA concluded that the State's arguments do not present sufficient evidence that called into question the results of the EPA's modeling.

consultation is provided in the file ''2015 Ozone Transport OK Tribal Consultation Meeting Record 3–3–2022,'' in the docket for this action.

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

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern health or safety risks that the 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 action is not subject to Executive Order 13045 because it merely disapproves SIP submissions as not containing the necessary provisions to satisfy interstate transport requirements under CAA section 110(a)(2)(D)(i)(I).

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

This 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 (NTTAA)

This rulemaking does not involve technical standards.

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

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, Feb. 16, 1994) directs Federal agencies to identify and address ''disproportionately high and adverse human health or environmental effects'' of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. The EPA defines environmental justice (EJ) as ''the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.'' The EPA further defines the term fair treatment to mean that ''no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.''

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to review state choices, and approve those choices if they meet the minimum criteria of the Act. As articulated in this final action, the EPA is determining that certain SIPs do not meet certain minimum requirements, and the EPA is disapproving those SIPs. Specifically, this action disapproves certain SIP submissions as not containing the necessary provisions to satisfy ''good neighbor'' requirements under CAA section 110(a)(2)(D)(i)(I). The EPA did not perform an EJ analysis and did not consider EJ in this action. The CAA and applicable implementing regulations neither prohibit nor require such an evaluation. In a wholly separate regulatory action, the EPA will fully address the CAA ''good neighbor'' requirements under section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS as it regards the SIP disapprovals included in this final action. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898 of achieving EJ for people of color, low-income populations, and Indigenous peoples.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

L. Judicial Review

Section 307(b)(1) of the CAA governs judicial review of final actions by the 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, but ''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 the EPA complete discretion whether to invoke the exception in (ii).[337]

This rulemaking is ''nationally applicable'' within the meaning of CAA section 307(b)(1). In this final action, the EPA is applying a uniform legal interpretation and common, nationwide analytical methods with respect to the requirements of CAA section 110(a)(2)(D)(i)(I) concerning interstate transport of pollution (*i.e.,* ''good neighbor'' requirements) to disapprove SIP submissions that fail to satisfy these requirements for the 2015 ozone NAAQS. Based on these analyses, the EPA is disapproving SIP submittals for the 2015 ozone NAAQS for 21 states located across a wide geographic area in eight of the ten EPA Regions and ten Federal judicial circuits. Given that on its face this action addresses implementation of the good neighbor requirements of CAA section 110(a)(2)(D)(i)(I) in a large number of states located across the country and given the interdependent nature of interstate pollution transport and the common core of knowledge and analysis involved in evaluating the submitted SIPs, this is a ''nationally applicable'' action within the meaning of CAA section 307(b)(1).

In the alternative, to the extent a court finds this action to be locally or regionally applicable, the Administrator is exercising the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on a determination of ''nationwide scope or effect'' within the meaning of CAA section 307(b)(1). In this final action, the EPA is interpreting and applying 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 the same, nationally consistent 4-step interstate transport framework for assessing obligations for the 2015 ozone NAAQS that it has applied in other nationally applicable rulemakings, such as CSAPR, the CSAPR Update, and the Revised CSAPR Update. The EPA is relying on the results from nationwide photochemical grid modeling using a 2016 base year and 2023 projection year as the primary basis for its assessment of air quality conditions and pollution contribution levels at Step 1 and Step 2 of that 4-step framework and applying a nationally uniform approach to the identification of nonattainment and

[337] 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.

maintenance receptors across the entire geographic area covered by this final action.[338] The EPA has also evaluated each state's arguments for the use of alternative approaches or alternative sets of data with an eye to ensuring national consistency and avoiding inconsistent or inequitable results among upwind states (*i.e.,* those states for which good neighbor obligations are being evaluated in this action) and between upwind and downwind states (*i.e.,* those states that contain receptors signifying ozone nonattainment or maintenance problems).

The Administrator finds that this is a matter on which national uniformity in judicial resolution of any petitions for review is desirable, to take advantage of the D.C. Circuit's administrative law expertise, and to facilitate the orderly development of the basic law under the Act. The Administrator also finds that consolidated review of this action in the D.C. Circuit will avoid piecemeal litigation in the regional circuits, further judicial economy, and eliminate the risk of inconsistent results for different states, and that a nationally consistent approach to the CAA's mandate concerning interstate transport of ozone pollution constitutes the best use of agency resources. The EPA's responses to comments on the appropriate venue for petitions for review are contained in the RTC document.

For these reasons, this final action is nationally applicable or, alternatively, the Administrator is exercising the complete discretion afforded to him by the CAA and finds that this final action is based on a determination of nationwide scope or effect for purposes of CAA section 307(b)(1) and is publishing that finding in the **Federal Register**. Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by April 14, 2023.

List of Subjects in 40 CFR Part 52

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

Michael S. Regan,

Administrator.

For the reasons set forth in the preamble, 40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

Subpart B—Alabama

■ 2. Section 52.56 is added to read as follows:

§ 52.56 Control strategy: Ozone.

(a) The state implementation plan (SIP) revision submitted on June 21, 2022, addressing Clean Air Act section 110(a)(2)(D)(i)(I) (prongs 1 and 2) for the 2015 ozone national ambient air quality standards (NAAQS) is disapproved.

(b) [Reserved]

Subpart E—Arkansas

■ 3. Section 52.174 is amended by adding paragraph (b) to read as follows:

§ 52.174 Control strategy and regulations: Ozone.

* * * * *

(b) The portion of the SIP submittal from October 10, 2019, addressing Clean Air Act section 110(a)(2)(D)(i)(I) for the 2015 ozone national ambient air quality standards (NAAQS) is disapproved.

Subpart F—California

■ 4. Section 52.223 is amended by adding paragraph (p)(7) to read as follows:

§ 52.223 Approval status.

* * * * *

(p) * * *

(7) The interstate transport requirements for Significant Contribution to Nonattainment (Prong 1) and Interstate Transport—Interference with Maintenance (Prong 2) of Clean Air Act (CAA) section 110(a)(2)(D)(i)(I).

■ 5. Section 52.283 is amended by adding paragraph (h) to read as follows:

§ 52.283 Interstate Transport.

* * * * *

(h) *2015 ozone NAAQS.* The 2018 Infrastructure SIP Revision, submitted on October 1, 2018, does not meet the following specific requirements of Clean Air Act section 110(a)(2)(D)(i)(I) for the 2015 ozone national ambient air quality standards (NAAQS).

(1) The requirements of CAA section 110(a)(2)(D)(i)(I) regarding significant contribution to nonattainment of the 2015 ozone NAAQS in any other State and interference with maintenance of the 2015 ozone NAAQS by any other State.

(2) [Reserved]

Subpart O—Illinois

■ 6. Section 52.720 is amended in the table in paragraph (e), under the heading ''Section 110(a)(2) Infrastructure Requirements,'' by revising the entry for ''2015 Ozone NAAQS Infrastructure Requirements'' to read as follows:

§ 52.720 Identification of plan.

* * * * *

(e) * * *

EPA-Approved Illinois Nonregulatory and Quasi-Regulatory Provisions

Name of SIP provision	Applicable geographic or non-attainment area	State submittal date	EPA approval date	Comments
*	*	*	*	*
Section 110(a)(2) Infrastructure Requirements				

[338] 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.

EPA-APPROVED ILLINOIS NONREGULATORY AND QUASI-REGULATORY PROVISIONS—Continued

Name of SIP provision	Applicable geographic or non-attainment area	State submittal date	EPA approval date	Comments
* *	*	*	* *	* *
2015 Ozone NAAQS Infrastructure Requirements.	Statewide ...	5/16/2019 and 9/22/2020.	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	All CAA infrastructure elements under 110(a)(2) have been approved except (D)(i)(I) Prongs 1, 2, which are disapproved, and no action has been taken on (D)(i)(II) Prong 4.

Subpart P—Indiana

■ 7. Section 52.770 is amended in the table in paragraph (e) by adding an entry for ''Section 110(a)(2) Infrastructure Requirements for the 2015 Ozone NAAQS'' after the entry for ''Section 110(a)(2) Infrastructure Requirements for the 2008 8-Hour Ozone NAAQS'' to read as follows:

§ 52.770 Identification of plan.

* * * * *

(e) * * *

EPA-APPROVED INDIANA NONREGULATORY PROVISIONS AND QUASI-REGULATORY PROVISIONS

Title	Indiana date	EPA approval	Explanation
* *	*	*	* * *
Section 110(a)(2) Infrastructure Requirements for the 2015 Ozone NAAQS.	11/2/2018	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	All CAA infrastructure elements have been approved except (D)(i)(I) Prongs 1 and 2, which are disapproved, and no action has been taken on the visibility portion of (D)(i)(II).
* *	*	*	* * *

Subpart S—Kentucky

■ 8. Section 52.930 is amended by adding paragraph (n) to read as follows:

§ 52.930 Control strategy: Ozone.

* * * * *

(n) *Disapproval.* The state implementation plan (SIP) revision submitted on January 11, 2019, addressing Clean Air Act section 110(a)(2)(D)(i)(I) (prongs 1 and 2) for the 2015 ozone national ambient air quality standards (NAAQS) is disapproved.

Subpart T—Louisiana

■ 9. Section 52.996 is amended by adding paragraph (b) to read as follows:

§ 52.996 Disapprovals.

* * * * *

(b) The SIP submittal from November 13, 2019, addressing Clean Air Act section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS is disapproved.

Subpart V—Maryland

■ 10. Section 52.1076 is amended by adding paragraph (gg) to read as follows:

§ 52.1076 Control strategy plans for attainment and rate-of-progress: Ozone.

* * * * *

(gg) *Disapproval.* EPA is disapproving Maryland's October 16, 2019, State Implementation Plan (SIP) revision intended to address the Clean Air Act (CAA) section 110(a)(2)(D)(i)(I) interstate transport requirements for the 2015 8-hour ozone national ambient air quality standard (NAAQS).

Subpart X—Michigan

■ 11. Section 52.1170 is amended in the table in paragraph (e), under the heading ''Infrastructure,'' by revising the entry for ''Section 110(a)(2) infrastructure requirements for the 2015 ozone NAAQS'' to read as follows:

§ 52.1170 Identification of plan.

* * * * *

(e) * * *

EPA-APPROVED MICHIGAN NONREGULATORY AND QUASI-REGULATORY PROVISIONS

Name of nonregulatory SIP provision	Applicable geographic or non-attainment area	State submittal date	EPA approval date	Comments
* *	*	*	* *	* *
Infrastructure				

EPA-APPROVED MICHIGAN NONREGULATORY AND QUASI-REGULATORY PROVISIONS—Continued

Name of nonregulatory SIP provision	Applicable geographic or non-attainment area	State submittal date	EPA approval date	Comments
* *	*	*	* *	* *
Section 110(a)(2) infrastructure requirements for the 2015 ozone NAAQS.	Statewide ...	3/8/2019	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	*Approved CAA elements:* 110(a)(2)(A), (B), (C), (D)(i)(II) Prong 3, D(ii), (E)(i), (F), (G), (H), (J), (K), (L), and (M). *Disapproved CAA elements:* 110(a)(2)(D)(i)(I) Prongs 1 and 2, and 110(a)(2)(D)(i)(II) Prong 4. No action on CAA element 110(1)(2)(E)(ii).
* *	*	*	* *	* *

Subpart Y—Minnesota

■ 12. Section 52.1220 is amended in the table in paragraph (e) by revising the entry for ''Section 110(a)(2) Infrastructure Requirements for the 2015 Ozone NAAQS'' to read as follows:

§ 52.1220 Identification of plan.

* * * * *

(e) * * *

EPA-APPROVED MINNESOTA NONREGULATORY PROVISIONS

Name of nonregulatory SIP provision	Applicable geographic or non-attainment area	State submittal date/ effective date	EPA approved date	Comments
* *	*	*	* *	* *
Section 110(a)(2) Infrastructure Requirements for the 2015 Ozone NAAQS.	Statewide ...	10/1/2018	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	Fully approved for all CAA elements except transport elements of (D)(i)(I) Prong 2, which are disapproved, and no action has been taken on the visibility protection requirements of (D)(i)(II).

Subpart Z—Mississippi

■ 13. Section 52.1273 is amended by adding paragraph (b) read as follows:

§ 52.1273 Control strategy: Ozone.

* * * * *

(b) *Disapproval.* The state implementation plan (SIP) revision submitted on September 3, 2019, addressing Clean Air Act section 110(a)(2)(D)(i)(I) (prongs 1 and 2) for the 2015 ozone national ambient air quality standards (NAAQS) is disapproved.

Subpart AA—Missouri

■ 14. Section 52.1323 is amended by adding paragraph (p) to read as follows:

§ 52.1323 Approval status.

* * * * *

(p) For the 2015 8-hour ozone NAAQS:

(1) *Disapproval.* Missouri state implementation plan (SIP) revision submitted on June 10, 2019, to address the Clean Air Act (CAA) infrastructure requirements of section 110(a)(2) for the 2015 8-hour ozone NAAQS, is disapproved for section 110(a)(2)(D)(i)(I) (prongs 1 and 2).

(2) [Reserved]

Subpart DD—Nevada

■ 15. Section 52.1472 is amended by adding paragraph (k) to read as follows:

§ 52.1472 Approval status.

* * * * *

(k) *2015 8-hour ozone NAAQS.* The SIP submittal from October 1, 2018, is disapproved for Clean Air Act (CAA) section 110(a)(2)(D)(i)(I) (prongs 1 and 2) for the NDEP, Clark County, and Washoe County portions of the Nevada SIP submission.

Subpart FF—New Jersey

■ 16. Section 52.1586 is amended by adding paragraph (c) and reserved paragraph (d) to read as follows:

§ 52.1586 Section 110(a)(2) infrastructure requirements.

* * * * *

(c) *2015 8-hour ozone NAAQS*—(1) *Disapproval.* New Jersey SIP revision submitted on May 13, 2019, to address the CAA infrastructure requirements of section 110(a)(2) for the 2015 8-hour ozone NAAQS, is disapproved for section 110(a)(2)(D)(i)(I) (prongs 1 and 2).

(2) [Reserved]

(d) [Reserved]

Subpart HH—New York

■ 17. Section 52.1683 is amended by adding paragraph (v) to read as follows:

§ 52.1683 Control strategy: Ozone.

* * * * *

(v) *Disapproval.* The portion of the SIP revision submitted on September 25, 2018, addressing Clean Air Act section 110(a)(2)(D)(i)(I) (prongs 1 and 2) for the 2015 ozone NAAQS is disapproved.

Subpart KK—Ohio

■ 18. Section 52.1870 is amended in the table in paragraph (e), under ''Infrastructure Requirements,'' by revising the entry for ''Section 110(a)(2) infrastructure requirements for the 2015 ozone NAAQS'' to read as follows:

§ 52.1870 Identification of plan.

(e) * * *

* * * * *

EPA-APPROVED OHIO NONREGULATORY AND QUASI-REGULATORY PROVISIONS

Title	Applicable geographic or non-attainment area	State date	EPA approval	Comments
*	*	*	*	*
Infrastructure Requirements				
*	*	*	*	*
Section 110(a)(2) infrastructure requirements for the 2015 ozone NAAQS.	Statewide ...	9/28/2018	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	Approved CAA elements: 110(a)(2)(A), (B), (C), (D)(i)(II) prongs 3 and 4, (E), (F), (G), (H), (J), (K), (L), and (M). Elements (D)(i)(I) prongs 1 and 2 are disapproved.
*	*	*	*	*

Subpart LL—Oklahoma

■ 19. Section 52.1922 is amended by adding paragraph (c) to read as follows:

§ 52.1922 Approval status.

* * * * *

(c) The portion of the SIP submittal from October 25, 2018, addressing Clean Air Act section 110(a)(2)(D)(i)(I) for the 2015 ozone national ambient air quality standards (NAAQS) is disapproved.

Subpart SS—Texas

■ 20. Section 52.2275 is amended by:

■ a. Removing the first paragraph (m); and

■ b. Adding paragraph (o).

The addition reads as follows:

§ 52.2275 Control strategy and regulations: Ozone.

* * * * *

(o) *Disapproval.* The portion of the SIP submittal from September 12, 2018, addressing Clean Air Act section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS is disapproved.

Subpart XX—West Virginia

■ 21. Section 52.2520 is amended in the table in paragraph (e) by adding the entry ''Section 110(a)(2) Infrastructure Requirements for the 2015 8-Hour Ozone NAAQS'' at the end of the table to read as follows:

§ 52.2520 Identification of plan.

* * * * *

(e) * * *

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
*	*	*	*	*
Section 110(a)(2) Infrastructure Requirements for the 2015 8-Hour Ozone NAAQS.	Statewide ...	2/4/2019	2/13/2023, [INSERT **FEDERAL REGISTER** CITATION].	Disapproval—EPA is disapproving West Virginia's February 4, 2019, State Implementation Plan (SIP) revision intended to address the CAA section 110(a)(2)(D)(i)(I) interstate transport requirements for the 2015 8-hour ozone national ambient air quality standard (NAAQS).

Subpart YY—Wisconsin

■ 22. Section 52.2591 is amended by adding paragraph (l) to read as follows:

§ 52.2591 Section 110(a)(2) infrastructure requirements.

* * * * *

(l) *Partial approval/disapproval.* In a September 14, 2018, submission, WDNR certified that the State has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2015 ozone NAAQS. For section 110(a)(2)(D)(i)(I), prong 1 is approved and prong 2 is disapproved. EPA did not take action on any other elements. We will address the remaining requirements in a separate action.

[FR Doc. 2023–02407 Filed 2–10–23; 8:45 am]

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