

*E. Executive Order 13132: Federalism*

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

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

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

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

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

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

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

*I. National Technology Transfer and Advancement Act*

This proposed rulemaking does not involve technical standards.

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

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

*K. CAA Section 307(b)(1)*

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

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

<sup>71</sup>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.

nonattainment and maintenance receptors and a nationally uniform approach to contribution threshold analysis.<sup>72</sup> For these reasons, the Administrator intends, if this proposed action is finalized, to exercise the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on one or more determinations of nationwide scope or effect for purposes of CAA section 307(b)(1).<sup>73</sup>

**List of Subjects in 40 CFR Part 52**

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

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

Dated: February 3, 2022.

**Daniel Blackman,**

*Regional Administrator, Region 4.*

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**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 52**

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

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

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

**ACTION:** Proposed rule.

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

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

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

transport” provisions require 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. This disapproval, if finalized, will establish a 2-year deadline for the EPA to promulgate a Federal Implementation Plan (FIP) to address the relevant interstate transport requirements, unless the EPA approves a subsequent SIP submittal that meets these requirements. Disapproval does not start a mandatory sanctions clock.

**DATES:** Written comments must be received on or before April 25, 2022.

**ADDRESSES:** You may send comments, identified as Docket No. EPA–R03–OAR–2021–0873, by any of the following methods: Federal eRulemaking Portal at <https://www.regulations.gov> following the online instructions for submitting comments or via email to [gordon.mike@epa.gov](mailto:gordon.mike@epa.gov). For additional methods for submitting comments, contact the person in the **FOR FURTHER INFORMATION CONTACT** section. Include Docket ID No. EPA–R03–OAR–2021–0873 in the subject line of the message.

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

**FOR FURTHER INFORMATION CONTACT:** Michael Gordon, Planning & Implementation Branch (3AD30), Air & Radiation Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania

19103. The telephone number is (215) 814–2039. Mr. Gordon can also be reached via electronic mail at [gordon.mike@epa.gov](mailto:gordon.mike@epa.gov).

**SUPPLEMENTARY INFORMATION: Public Participation:** Submit your comments, identified by Docket ID No. EPA–R03–OAR–2021–0873, at <https://www.regulations.gov> (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. The EPA may publish any comment received to its public docket. Do not submit to EPA’s docket at <https://www.regulations.gov> any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system).

There are two dockets supporting this action, EPA–R03–OAR–2021–0873 and EPA–HQ–OAR–2021–0663. Docket No. EPA–R03–OAR–2021–0873 contains information specific to West Virginia, including the notice of proposed rulemaking. Docket No. EPA–HQ–OAR–2021–0663 contains additional modeling files, emissions inventory files, technical support documents, and other relevant supporting documentation regarding interstate transport of emissions for the 2015 8-hour ozone NAAQS which are being used to support this action. All comments regarding information in either of these dockets are to be made in Docket No. EPA–R03–OAR–2021–0873. For additional submission methods, please contact Michael Gordon, 215–814–2039, [gordon.mike@epa.gov](mailto:gordon.mike@epa.gov). For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>. Due to public health concerns related to COVID–19, the EPA Docket Center and Reading Room are open to the public by appointment only. Our Docket Center staff also continues to provide remote customer service via email, phone, and webform. For further information and updates on EPA Docket Center services, please visit us online at <https://www.epa.gov/dockets>.

The EPA continues to carefully and continuously monitor information from the Centers for Disease Control and Prevention (CDC), local area health departments, and our Federal partners so that we can respond rapidly as conditions change regarding COVID–19. The index to the docket for this action, Docket No. EPA–R03–OAR–2021–0873, is available electronically at [www.regulations.gov](https://www.regulations.gov). While all documents in the docket are listed in the index, some information may not be publicly available via the online docket, such as modeling data files, due to docket file size restrictions or content (*e.g.*, CBI). Please contact the EPA Docket Center Services for further information on how to obtain these files.

Throughout this document, “we,” “us,” and “our” means the EPA.

## I. Background

### A. Description of Statutory Background

On October 1, 2015, the EPA promulgated a revision to the ozone NAAQS (2015 8-hour ozone NAAQS), lowering the level of both the primary and secondary standards to 0.070 parts per million (ppm).<sup>1</sup> Section 110(a)(1) of the CAA requires states to submit, within 3 years after promulgation of a new or revised standard, SIP submissions meeting the applicable requirements of section 110(a)(2).<sup>2</sup> One of these applicable requirements is found in CAA section 110(a)(2)(D)(i)(I), otherwise known as the “interstate transport” or “good neighbor” provision, which generally requires SIPs to contain adequate provisions to prohibit in-state emissions activities from having certain adverse air quality effects on 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

<sup>1</sup> 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.

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

significance to prong 1 and prong 2 when evaluating downwind air quality problems under CAA section 110(a)(2)(D)(i)(I).<sup>3</sup>

#### *B. Description of the EPA's Four-Step Interstate Transport Regulatory Process*

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

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

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

#### *C. Background on 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. To quantify the contribution of emissions from specific upwind states on 2023 ozone design values for the identified downwind nonattainment and maintenance receptors, the EPA performed nationwide, state-level ozone source apportionment modeling for 2023. The source apportionment modeling provided contributions to ozone at receptors from precursor emissions of anthropogenic nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) in individual upwind states.

The EPA has released several documents containing projected ozone design values, contributions, and information relevant to evaluating interstate transport with respect to the 2015 8-hour ozone NAAQS. First, on January 6, 2017, the EPA published a notice of data availability (NODA) in which we requested comment on preliminary interstate ozone transport data including projected ozone design values (DVs) and interstate contributions for 2023 using a 2011 base year platform.<sup>8</sup> 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 8-hour ozone NAAQS.<sup>9</sup> On October 27, 2017, we released a memorandum (October 2017 memorandum) containing updated modeling data for 2023, which incorporated changes made in response to comments on the NODA, and noted that the modeling may be useful for states developing SIPs to address interstate transport obligations for the

2008 ozone NAAQS.<sup>10</sup> On March 27, 2018, we issued a memorandum (March 2018 memorandum) noting that the same 2023 modeling data released in the October 2017 memorandum could also be useful for identifying potential downwind air quality problems with respect to the 2015 8-hour ozone NAAQS at Step 1 of the 4-step interstate transport framework.<sup>11</sup> The March 2018 memorandum also included the then newly available contribution modeling data for 2023 to assist states in evaluating their impact on potential downwind air quality problems for the 2015 8-hour ozone NAAQS under Step 2 of the 4-step interstate transport framework.<sup>12</sup> 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 8-hour ozone NAAQS concerning, respectively, potential contribution thresholds that may be appropriate to apply in Step 2 of the 4-step interstate transport framework, and considerations for identifying downwind areas that may have problems maintaining the standard at Step 1 of the 4-step interstate transport framework.<sup>13</sup>

Since the release of the modeling data shared in the March 2018

<sup>10</sup> 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, available in the docket for this action or at <https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices>.

<sup>11</sup> 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 the docket for this action or at <https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices>.

<sup>12</sup> 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."

<sup>13</sup> See Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, August 31, 2018) ("August 2018 memorandum"), and Considerations for Identifying Maintenance Receptors for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, October 19, 2018, available in the docket for this action or at <https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs>.

<sup>3</sup> See *North Carolina v. EPA*, 531 F.3d 896, 909–11 (D.C. Cir. 2008).

<sup>4</sup> See Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 FR 48208 (August 8, 2011).

<sup>5</sup> Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 81 FR 74504 (October 26, 2016).

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

<sup>7</sup> In addition to the CSAPR rulemakings, other regional rulemakings addressing ozone transport include the "NO<sub>x</sub> SIP Call," 63 FR 57356 (October 27, 1998), and the "Clean Air Interstate Rule" (CAIR), 70 FR 25162 (May 12, 2005).

<sup>8</sup> 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).

<sup>9</sup> See 82 FR 1733, 1735 (January 6, 2017).

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.<sup>14</sup> 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.<sup>15</sup> Although the Revised CSAPR Update addressed transport for the 2008 ozone NAAQS, the projected design values and contributions from the 2016v1 platform are also useful for identifying downwind ozone problems and linkages with respect to the 2015 ozone NAAQS.<sup>16</sup>

Following the final Revised CSAPR Update, the EPA made further updates to the 2016 emissions platform to include mobile emissions from the EPA's Motor Vehicle Emission Simulator MOVES3 model<sup>17</sup> and updated emissions projections for electric generating units (EGUs) that reflect the emissions reductions from the Revised CSAPR Update, recent information on plant closures, and other sector trends. The construct of the updated emissions platform, 2016v2 (2016v2 emissions platform), is described in the emissions modeling technical support document (TSD) for this proposed rulemaking.<sup>18</sup> The EPA performed air quality modeling of the 2016v2 emissions using the most recent public release version of the

Comprehensive Air-quality Model with extensions (CAMx) photochemical modeling, version 7.10.<sup>19</sup> The EPA now proposes to primarily rely on modeling based on the updated and newly available 2016v2 emissions platform in evaluating these submissions with respect to Steps 1 and 2 of the 4-step interstate transport framework and generally referenced within this action as 2016v2 modeling for 2023. By using the updated modeling results, the EPA is using the most current and technically appropriate information for this proposed rulemaking. Section III of this document and the Air Quality Modeling TSD for 2015 8-hour Ozone NAAQS Transport SIP Proposed Actions, included in Docket ID No. EPA-HQ-OAR-2021-0663 for this proposal, contain additional detail on the EPA's 2016v2 modeling. In this document, the EPA is accepting public comment on this updated 2023 modeling, which uses a 2016v2 emissions platform. Comments on the EPA's air quality modeling should be submitted in the Regional docket for this action, Docket ID No. EPA-R03-OAR-2021-0873. No comments on any topic are being accepted in docket ID No. EPA-HQ-OAR-2021-0663.

States may have chosen to rely on the results of EPA modeling and/or alternative modeling performed by states or MJOs to evaluate downwind air quality problems and contributions as part of their submissions. EPA's evaluation of how West Virginia used air quality modeling information in their submission is in Section III of this document.

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

The EPA proposes to apply a consistent set of policy judgments across all states for purposes of evaluating interstate transport obligations and the approvability of interstate transport SIP submittals for the 2015 8-hour ozone NAAQS. These policy judgments reflect consistency with relevant case law and past agency practice as reflected in the CSAPR and related rulemakings. Nationwide consistency in approach is particularly important in the context of interstate ozone transport, which is a regional-scale pollution problem involving many smaller contributors. Effective policy solutions to the problem of interstate ozone transport going back to the NO<sub>x</sub> SIP Call have necessitated the application of a uniform framework of

policy judgments in order to ensure an "efficient and equitable" approach. *See EME Homer City Generation, LP v. EPA*, 572 U.S. 489, 519 (2014).

In the March, August, and October 2018 memoranda, the EPA recognized that states may be able to establish alternative approaches to addressing their interstate transport obligations for the 2015 8-hour ozone NAAQS that vary from a nationally uniform framework. 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 submittal. 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 relevant case law. Where states submitted SIPs that rely on any such potential "flexibilities" as may have been identified or suggested in the past, the EPA will evaluate whether the state adequately justified the technical and legal basis for doing so. The EPA's proposed framework with respect to analytic year, definition of nonattainment and maintenance receptors, selection of contribution threshold, and multifactor control strategy assessment is described in this section. The EPA notes that certain concepts included in an attachment to the March 2018 memorandum require unique consideration, and these ideas do not constitute agency guidance with respect to transport obligations for the 2015 ozone NAAQS. Attachment A to the March 2018 memorandum identified a "Preliminary List of Potential Flexibilities" that could potentially inform SIP development.<sup>20</sup> However, EPA made clear in that Attachment that the list of ideas were not suggestions endorsed by the Agency but rather "comments provided in various forums" on which EPA sought "feedback from interested stakeholders."<sup>21</sup> Further, Attachment A stated, "EPA is not at this time making any determination that the ideas discussed below are consistent with the requirements of the CAA, nor is the EPA specifically recommending that states use these approaches."<sup>22</sup> 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

<sup>14</sup> The results of this modeling, as well as the underlying modeling files, are included in docket EPA-HQ-OAR-2021-0663.

<sup>15</sup> See 85 FR 68964, 68981.

<sup>16</sup> See the Air Quality Modeling Technical Support Document for the Final Revised Cross-State Air Pollution Rule Update, included in the Headquarters docket ID No. EPA-HQ-OAR-2021-0663.

<sup>17</sup> 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>.

<sup>18</sup> See Technical Support Document (TSD) Preparation of Emissions Inventories for the 2016v2 North American Emissions Modeling Platform, included in the Headquarters docket ID No. EPA-HQ-OAR-2021-0663.

<sup>19</sup> Ramboll Environment and Health, January 2021, [www.camx.com](http://www.camx.com).

<sup>20</sup> March 2018 memorandum, Attachment A.

<sup>21</sup> *Id.* at A-1.

<sup>22</sup> *Id.*

states sought to develop or rely on these ideas in support of their SIP submittals, the EPA will thoroughly review the technical and legal justifications for doing so.

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

#### 1. Selection of Analytic Year

In general, the states and the EPA must implement the interstate transport provision in a manner "consistent with the provisions of [title I of the CAA.]" 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).<sup>23</sup> Several D.C. Circuit court decisions address the issue of the relevant analytic year for the purposes of evaluating ozone transport air-quality problems. On September 13, 2019, the D.C. Circuit issued a decision in *Wisconsin v. EPA*, remanding the CSAPR Update to the extent that it failed to require upwind states to eliminate their significant contribution by the next applicable attainment date by which downwind states must come into compliance with the NAAQS, as established under CAA section 181(a). 938 F.3d 303 at 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. EPA*, 958 F.3d 1185, 1203–04 (D.C. Cir. 2020). The court noted that "section 126(b) incorporates the Good Neighbor Provision," and, therefore, "EPA must find a violation [of section 126] if an upwind source will significantly contribute to downwind nonattainment at the next downwind attainment deadline. Therefore, the agency must evaluate downwind air quality at that

deadline, not at some later date." *Id.* at 1204 (emphasis added). The EPA interprets the court's holding in *Maryland* as requiring 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,<sup>24</sup> which is now the Moderate area attainment date under CAA section 181 for ozone nonattainment. The Moderate area attainment date for the 2015 8-hour ozone NAAQS is August 3, 2024.<sup>25</sup> The EPA believes that 2023 is now the appropriate year for analysis of interstate transport obligations for the 2015 8-hour ozone NAAQS because the 2023 ozone season is the last relevant ozone season during which achieved emissions reductions in linked upwind states could assist downwind states with meeting the August 3, 2024 Moderate area attainment date for the 2015 8-hour ozone NAAQS.

The EPA recognizes that the attainment date for nonattainment areas classified as Marginal for the 2015 8-hour ozone NAAQS was August 3, 2021. Under the *Maryland* holding, any necessary emissions reductions to satisfy interstate transport obligations should have been implemented by no later than this date. At the time of the statutory deadline to submit interstate transport SIPs (October 1, 2018), many states relied upon the EPA modeling of the year 2023, and no state provided an alternative analysis using a 2021 analytic year (or the prior 2020 ozone season). However, the EPA must act on SIP submittals using the information available at the time it takes such action. 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 at 23074 (April 30, 2021); *see also Wisconsin*, 938 F.3d at 322. 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 8-hour 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, we proceed to the next step of our 4-step interstate transport framework by identifying the upwind state's contribution to those receptors.

The EPA's approach to identifying ozone nonattainment and maintenance receptors in this action is consistent with the approach used in previous transport rulemakings. The EPA's approach gives independent consideration to both the "contribute significantly to nonattainment" and the "interfere with maintenance" prongs of CAA section 110(a)(2)(D)(i)(I), consistent with the D.C. Circuit's direction in *North Carolina v. EPA*.<sup>26</sup>

For the purpose of this proposal, 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 future analytic year (*i.e.*, 2023).<sup>27</sup>

In addition, in this proposal, the EPA identifies a receptor to be a "maintenance" receptor for purposes of defining interference with maintenance, consistent with the method used in the 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.

<sup>24</sup> We note 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.

<sup>25</sup> *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).

<sup>26</sup> *See North Carolina v. EPA*, 531 F.3d 896, 910–11 (D.C. Cir. 2008) (holding that the EPA must give "independent significance" to each prong of CAA section 110(a)(2)(D)(i)(I)).

<sup>27</sup> *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 (January 14, 2005); *see also North Carolina*, 531 F.3d at 913–14 (affirming as reasonable EPA's approach to defining nonattainment in CAIR).

<sup>23</sup> For attainment dates for the 2015 8-hour ozone NAAQS, refer to CAA section 181(a), 40 CFR 51.1303, and Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, 83 FR 25776 (June 4, 2018, effective August 3, 2018).

2015).<sup>28</sup> 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 above, 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 design values.

### 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 parts per billion (ppb) for the 2015 8-hour ozone NAAQS), the upwind state is not “linked” to a downwind air quality problem, and the EPA, therefore, concludes that the state does not significantly contribute to nonattainment or interfere with maintenance of the NAAQS in the downwind states. However, if a state’s contribution equals or exceeds the 1 percent threshold, the state’s emissions are further evaluated in Step 3, considering both air quality and cost as part of a multi-factor analysis, to determine what, if any, emissions might be deemed “significant” and, thus, must be eliminated under CAA section 110(a)(2)(D)(i)(I). The EPA is proposing to rely in the first instance on the 1 percent threshold (*i.e.*, 0.70 ppb) for the purpose of evaluating a state’s contribution to nonattainment or maintenance of the 2015 8-hour ozone NAAQS at downwind receptors. This is consistent with the Step 2 approach that EPA applied in CSAPR for the 1997 ozone NAAQS, which has subsequently been applied in the CSAPR Update when evaluating interstate transport obligations for the 2008 ozone NAAQS. The EPA continues to find 1 percent to be an appropriate threshold. For ozone, as the EPA found in the Clean Air Interstate Rule (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 from many upwind states, along with contributions from in-state sources and, in some cases, substantially larger contributions from a subset of particular upwind states. The EPA’s analysis shows that much of the ozone transport problem being analyzed in this proposed rulemaking is still the result of the collective impacts of contributions from many upwind states. Therefore, application of a consistent contribution threshold is necessary to identify those upwind states that should have responsibility for addressing their contribution to the downwind nonattainment and maintenance problems to which they collectively

contribute. Continuing to use 1 percent of the NAAQS as the screening metric to evaluate collective contribution from many upwind states also allows 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 at 74518 (October 26, 2016). *See also* 86 FR at 23085 (April 30, 2021) (reviewing and explaining rationale from CSAPR, 76 FR at 48237–38 (August 8, 2011), for selection of 1 percent threshold).

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

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

Consistent with the EPA’s longstanding approach to eliminating significant contribution or interference with maintenance, at Step 3, states linked at Steps 1 and 2 are generally expected to prepare a multifactor assessment of potential emissions controls. 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 adequately supported. In general, where the EPA’s or alternative air quality and contribution modeling establishes that a state is linked at Steps 1 and 2, it will be insufficient at Step 3 for a state merely to point to its existing rules requiring control measures as a basis for approval. In general, the emissions-reducing effects of all existing emissions control requirements are already reflected in the air quality results of the modeling for Steps 1 and 2. If the state is shown to still be linked to one or more downwind receptor(s), states must provide a well-

<sup>28</sup> *See* 76 FR 48208 (August 8, 2011). CSAPR Update and Revised CSAPR Update also used this approach. *See* 81 FR 74504 (October 26, 2016) and 86 FR 23054 (April 30, 2021).

documented evaluation determining whether their emissions constitute significant contribution or interference with maintenance by evaluating additional available control opportunities by preparing a multifactor assessment. While the EPA has not prescribed a particular method for this assessment, 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 and costs, cost effectiveness, and downwind air quality impacts of the estimated reductions, before concluding that no additional emissions controls should be required.<sup>29</sup>

#### 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. 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. U.S. E.P.A.*, 786 F.3d 1169, 1175–76 (9th Cir. 2015) (holding that measures relied on by state to meet CAA requirements must be included in the SIP).

## II. West Virginia's SIP Submission Addressing Interstate Transport of Air Pollution for the 2015 8-Hour Ozone NAAQS

On September 14, 2018, the West Virginia Department of Environmental Protection (WVDEP), on behalf of the State of West Virginia, made a SIP submission to address most of the 2015 8-hour ozone NAAQS i-SIP requirements under CAA section 110(a)(2), except for the CAA section

110(a)(2)(D)(i)(I) (the "Good Neighbor" or "interstate transport") requirements, which West Virginia proposed to address in a separate SIP submittal. The EPA published a final approval of this SIP submission on March 17, 2020. 85 FR 15071. On February 4, 2019, WVDEP submitted a separate, supplemental SIP revision addressing only the CAA Section 110(a)(2)(D)(i)(I) interstate transport requirements for the 2015 8-hour ozone NAAQS (the 2019 SIP).<sup>30</sup> West Virginia's 2019 SIP submittal evaluated different modeling options, provided an analysis of ozone monitoring data and emission trends, and argued that the State has already implemented adequate measures to address pollutant transport that may significantly contribute to downwind states' ozone maintenance and nonattainment problems, before concluding that West Virginia has satisfied its section 110(a)(2)(D)(i)(I) Good Neighbor obligations for the 2015 8-hour ozone NAAQS.

WVDEP requested that the EPA "conditionally" approve the 2019 SIP submittal, because at the time of submission, WVDEP had a proposed rulemaking pending before the West Virginia Legislature for approval during the 2019 legislative session. The proposed rulemaking, entitled "45CSR43—Cross-State Air Pollution Rule to Control Annual Nitrogen Oxide Emissions, Annual Sulfur Dioxide Emissions and Ozone Season Nitrogen Oxide Emissions," would incorporate by reference into the West Virginia regulations the following emissions trading programs set forth in the CSAPR and CSAPR Update regulations: 40 CFR part 97, subpart AAAAA (CSAPR NO<sub>x</sub> Annual Trading Program), subpart CCCCC (CSAPR SO<sub>2</sub> Group 1 Trading Program), and subpart EEEEE (CSAPR NO<sub>x</sub> Ozone Season Group 2 Trading Program). Following the submission of this 2019 SIP revision, the West Virginia Legislature approved the state regulation incorporating by reference these subparts, and WVDEP submitted a SIP revision requesting that the EPA approve this regulation into the West Virginia SIP on June 5, 2019. The EPA proposed approval of this SIP revision

on August 16, 2019. 84 FR 41944.<sup>31</sup> WVDEP claimed that following the EPA final approval of the SIP revision incorporating these programs, the West Virginia SIP would contain all the measures necessary to ensure that it met the good neighbor obligations of the CAA section 110(a)(2)(D)(i)(I) for the 2015 8-hour ozone NAAQS. The EPA has not taken final action on that SIP revision.<sup>32</sup>

WVDEP's submittal to address interstate transport for the 2015 8-hour ozone NAAQS roughly followed the 4-step interstate transport framework, as briefly described here. At Step 1, WVDEP discussed and compared the EPA's transport modeling provided in the March 2018 memorandum against transport modeling provided by Alpine and LADCO and decided that the Alpine modeling was the "most appropriate, robust modeling available to identify the nonattainment and maintenance receptors to which West Virginia significantly contributes." Alpine released air quality modeling in June 2018, which used a 12-km grid (supplemented with two 4-km nested grids) based on the EPA's 2023en modeling platform and preliminary source contribution assessment. In addition to air quality modeling, the Alpine TSD<sup>33</sup> included a discussion of "Selected SIP Revision Approaches" based on information on the "flexibilities" listed in an appendix to the EPA's March 2018 Memorandum. Alpine's air quality modeling incorporated meteorological data from the WRF model along with emissions data developed using SMOKE, MOVES2014, and BEIS version 3.61. Alpine used CAMx, and the OSAT/APCA tool to project ozone concentrations at downwind receptors. The modeling used 2023 as the projection year based on the EPA's guidance in the 2017 Memorandum stating that 2023 was the appropriate year to use. As shown in Table 1 of this document, Alpine modeling projected that in the Mid-Atlantic region, one receptor would have nonattainment issues and nine receptors would have maintenance problems in 2023 with respect to the 2015 ozone NAAQS.

<sup>29</sup> As examples of general approaches for how such an analysis could be conducted for their sources, states could look to the CSAPR Update, 81 FR 74504, 74539–51; CSAPR, 76 FR 48208, 48246–63 (August 8, 2011); CAIR, 70 FR 25162, 25195–229 (May 12, 2005); or the NO<sub>x</sub> SIP Call, 63 FR 57356, 57399–405 (October 27, 1998). See also Revised CSAPR Update, 86 FR 23054, 23086–23116 (April 30, 2021). Consistently across these rulemakings,

the EPA has developed emissions inventories, analyzed different levels of control stringency at different cost thresholds, and assessed downwind air quality improvements.

<sup>30</sup> See the 2019 SIP submittal included in docket EPA–R03–OAR–2021–0873.

<sup>31</sup> Docket No. EPA–R03–OAR–2019–0349.

<sup>32</sup> The D.C. Circuit court's decision in *Wisconsin v. EPA*, 938 F.3d 303 (September 13, 2019)

remanding the CSAPR Update rule to EPA for further consideration prevented final approval of West Virginia's SIP submission.

<sup>33</sup> See Appendix E of the WVDEP submittal. "Good Neighbor" Modeling Technical Support Document for 8-Hour Ozone State Implementation Plans." Alpine Geophysics, June 2018.



TABLE 1—RECEPTORS IDENTIFIED BY WEST VIRGINIA USING ALPINE'S JUNE 2018 MODELING

Receptor ID	Location	Nonattainment/ maintenance	2023 Average design value (ppb)	2023 Maximum design value (ppb)	2014–2016 Actual design value (ppb)
240251001 .....	Harford, MD .....	Nonattainment .....	71.1	73.5	73
551170006 .....	Sheboygan, WI .....	Nonattainment .....	71.7	74.0	79
90010017 .....	Fairfield, CT .....	Maintenance .....	69.2	71.5	80
90013007 .....	Fairfield, CT .....	Maintenance .....	69.7	73.6	81
90019003 .....	Fairfield, CT .....	Maintenance .....	69.9	72.7	83
90099002 .....	New Haven, CT .....	Maintenance .....	70.3	73.0	76
90110124 .....	New London, CT .....	Maintenance .....	68.2	71.3	72
260050003 .....	Allegan, MI .....	Maintenance .....	70.3	73.1	75
340150002 .....	Gloucester, NJ .....	Maintenance .....	68.8	71.0	74
360850067 .....	Richmond, NY .....	Maintenance .....	69.6	71.0	76
361030002 .....	Suffolk, NY .....	Maintenance .....	70.7	72.1	72
421010024 .....	Philadelphia, PA .....	Maintenance .....	68.0	71.0	77

At Step 2 of the analysis, WVDEP noted that the Alpine modeling projected that West Virginia would be “linked” to the only downwind 2023 nonattainment receptor and three

maintenance receptors in the Mid-Atlantic 4-km region. The contribution results of the Alpine modeling are shown in Table 2 of this document. WVDEP noted that the Alpine modeling

projected that West Virginia's largest identified contribution to downwind 8-hour ozone nonattainment and maintenance receptors was 2.52 ppb and 1.63 ppb, respectively.

TABLE 2—WEST VIRGINIA'S CONTRIBUTION TO RECEPTORS BASED ON ALPINE'S JUNE 2018 MODELING

Receptor ID	Location	Nonattainment/maintenance	2023 Average design value (ppb)	2023 Maximum design value (ppb)	West Virginia contribution (ppb)
240251001 .....	Harford County, MD .....	Nonattainment .....	71.1	73.5	2.52
340150002 .....	Gloucester County, NJ .....	Maintenance .....	68.8	71.0	1.63
360850067 .....	Richmond County, NY .....	Maintenance .....	69.6	71.0	0.71
421010024 .....	Philadelphia County, PA .....	Maintenance .....	68.0	71.0	1.21

WVDEP identified specific receptors for further analysis, based upon the Alpine modeling that indicated that emissions from the State would be “linked” to the downwind ozone nonattainment receptor at Harford, Maryland, and to three maintenance receptors at Gloucester, New Jersey; Richmond, New York; and Philadelphia, Pennsylvania. Therefore, WVDEP stated that further review and analysis relevant to those areas was warranted. With respect to these specific monitors, WVDEP also presented further analysis of the air pollution problems at these four locations in Section 4 of the SIP submittal, entitled “Flexibilities.”

At Step 3, WVDEP noted that it is necessary to identify the emissions reductions necessary (if any), considering cost and air quality factors, to prevent the identified upwind state from contributing significantly to downwind air quality problems. To do this, WVDEP reviewed NO<sub>x</sub> emissions data from EPA's 2008, 2011, 2014 and 2017 NEI Air Pollution Emissions Trends Data website, to evaluate emissions' trends data for all Tier 1

Categories from 1990 through 2017.<sup>34</sup> This review determined that six categories of Tier 1 sources accounted for approximately 95% of the State's NO<sub>x</sub> emissions in 2017, and thus WVDEP focused its evaluation of potential controls and the cost-effectiveness of those controls on these six categories of sources in West Virginia.

For two of these categories—highway vehicles and off-highway vehicles—WVDEP determined that these emission sources are regulated by the Federal government, and therefore declined to conduct any further analysis of emissions reduction opportunities. For the other four categories—fuel combustion electric utilities, fuel combustion industrial, fuel combustion other, and petroleum and related industries—WVDEP grouped these into two categories for analysis: EGUs and non-EGUs. For the EGU category, WVDEP identified the shutdown of six EGUs since 2011 and the amount of

emissions that these sources emitted prior to shutdown. For those EGUs still operating, WVDEP relied upon the EPA's analysis in the proposed CSAPR Update for its finding that “because all identified highly cost-effective emission reductions have already been implemented with respect to EGUs, WV finds that no additional highly cost-effective reductions are available for EGUs for the 2015 ozone NAAQS.”

For the non-EGU categories, WVDEP relied upon a technical support document (TSD) developed by the EPA analyzing available controls and the costs for non-EGU sources for the CSAPR Update. This TSD identified nine non-EGU sources in West Virginia emitting more than 100 tons per year of NO<sub>x</sub>, and 21 West Virginia sources emitting between 25 and 100 tons per year of NO<sub>x</sub>. WVDEP then listed those sources in these two groupings which have shut down, or will shut down in the near future, and the reduction in NO<sub>x</sub> emissions from the 2011 base year attributable to these past and future shutdowns and various other information before determining that “[t]he shutdown of the identified 10 sources; the required shutdown of the

<sup>34</sup> This website provides current emissions trends data for all Tier 1 Categories from 1990 through 2017. See also <https://www.epa.gov/air-emissions-inventories/what-sources-make-tier-1-categories-used-emissions-trends>.



additional five sources; and the current level of control on the remaining 20 sources, in conjunction with the implementation of the Control Measures programs listed in Section 6, represent the implementation of reasonable control measures in West Virginia.”

For the petroleum category, WVDEP separately opined that its approved permitting programs would prevent new or modified sources from causing or contributing to a violation of the NAAQS and included a discussion of these programs in section 6.1 of the SIP submittal.

At Step 4 of its analysis, WVDEP identified the control measures it has already implemented or is subject to that “reasonably” reduce emissions from relevant sources located in the State. Among the measures identified by WVDEP in its SIP submittal are permitting programs, stationary source control measures, and mobile source control measures. WVDEP also determined that the adoption of a regional trading program to replace the CSAPR Update FIP under 45CSR43 was sufficient to address the State’s significant contribution to the downwind receptors. Upon approval of West Virginia’s 45CSR43 into the SIP, WVDEP states that its SIP will contain the necessary measures to reduce the State’s impact on the identified downwind receptors for purposes of the 2015 ozone NAAQS.

Under the permitting programs, WVDEP referenced the State’s NSR permit program, which includes revision of applications, determination of permit applicability and issuance of permits for both minor<sup>35</sup> and major<sup>36</sup> sources. Under the minor source NSR program, the construction or modification of a source with the potential to emit six or more pounds per hour (lbs/hr), or greater than 144 pounds per calendar day, of a regulated pollutant, including ozone precursors, requires that the source obtain a permit under the state rule 45CSR13. WVDEP stated that “45CSR13 is the mechanism under which NSPS are applied to a given minor source,” and reductions

from sources subject to NSPS are assumed to be equivalent to reasonably available control technology/reasonably available control measures (RACT/RACM).

For major stationary sources, WVDEP referenced two additional permitting programs: One that satisfies the prevention of significant deterioration (PSD) requirements under Part C of Title 1 of the CAA, and another that satisfies the nonattainment area NSR (NNSR) requirements under Part D of the CAA. These are codified at 45CSR14<sup>37</sup> and 45CSR19,<sup>38</sup> respectively. WVDEP asserts that the PSD regulations at 45CSR14 regulate future growth and thus provide for continued maintenance of the 2015 8-hour ozone NAAQS. WVDEP also notes that, pursuant to CAA section 165(a)(3), WVDEP is authorized to implement the existing PSD permit program to ensure that construction and modification of a major source will not cause or contribute to violations of the NAAQS.<sup>39</sup> The State explained that the NNSR regulations at 45CSR19 cover new major sources and major modifications, not subject to PSD, in nonattainment areas. The State explained that this regulation contains a significance level for ozone of 40 tons per year of VOC or NO<sub>x</sub>. WVDEP specified in its SIP submittal that there are no areas designated as nonattainment for the 2008 or 2015 ozone NAAQS in West Virginia.

For stationary sources, WVDEP’s submittal also included a list of other federally established control measures including: (i) New source performance standards (40 CFR part 60); (ii) the Acid Rain Program; (iii) the NO<sub>x</sub> SIP call; (iv) the CAIR; (v) CSAPR; (vi) the CSAPR Update; (vii) solid waste combustion rules (40 CFR part 60); and (viii) the maximum achievable control technology (MACT) program (*i.e.*, the NESHAPS at 40 CFR part 63).

In addition, WVDEP included a list of control measures for mobile sources that EPA has established. These control measures include: (i) The 2007 heavy-duty highway rule in 40 CFR part 86, subpart P; (ii) Tier 2 vehicle and gasoline sulfur program at 40 CFR part 80, subpart H, 40 CFR part 85 and 40 CFR part 86; (iii) Tier 3 motor vehicle emission and fuel standards codified under 40 CFR parts 79, 80, 85, 86, 600,

1036, 1037, 1039, 1042, 1048, 1054, 1065, and 1066; (iv) Tier 4 vehicle standards; and (v) the nonroad diesel emissions program at 40 CFR part 89.

In conclusion, following a review of the emission reductions created by shutdowns, and various existing emission control requirements, WVDEP states that “upon incorporation of 45CSR43 into the SIP, no additional highly cost-effective reductions are available for the 2015 8-hour ozone NAAQS.”

### III. EPA Evaluation

The EPA is proposing to find that WVDEP’s February 4, 2019 SIP submission does not meet the State’s obligations with respect to prohibiting emissions that contribute significantly to nonattainment or interfere with maintenance of the 2015 8-hour ozone NAAQS in any other state. The proposed disapproval is based on both newer, updated modeling performed by the EPA that was not available when WVDEP submitted its SIP submission to address the requirements of section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS, and the EPA’s evaluation of WVDEP’s SIP submission using the 4-step interstate transport framework.

#### A. West Virginia

##### 1. Evaluation of Information Provided by West Virginia Regarding Steps 1 and 2

As explained in Section II of this document, at Step 1 of the 4-Step interstate transport framework, WVDEP used the Alpine modeling released in June 2018 to identify any areas where that modeling would project nonattainment or maintenance problems in 2023. Although Alpine’s June 2018 modeling TSD describes several potential concepts identified by outside parties and listed in an appendix to the EPA’s March 2018 Memorandum, it does not appear that WVDEP relied on those so-called “flexibilities.”<sup>40</sup> The nonattainment and maintenance receptors identified in Alpine’s modeling under Step 1 are listed in Table 1 in Section II of this document. Based on the results of the Alpine modeling alone, WVDEP acknowledged

<sup>35</sup> Permitting requirements for minor sources are codified at 45CSR13—*Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation*.

<sup>36</sup> Permitting requirements for major sources are codified at 45CSR14—*Permits for the Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*, and 45CSR19—*Permits for Construction and Major Modification of Major Stationary Sources Which Cause or Contribute to Nonattainment Areas and 45CSR30—Requirements for Operating Permits*.

<sup>37</sup> *Permits for the Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*.

<sup>38</sup> *Permits for Construction and Major Modification of Major Stationary Sources Which Cause or Contribute to Nonattainment Areas*.

<sup>39</sup> See 45CSR 14–9.1 and 40 CFR 51.166(k).

<sup>40</sup> The “flexibilities” identified in the Alpine modeling TSD, but not used by West Virginia, include removing Canadian and Mexican contributions from modeling results, using an alternate significant contribution threshold in Step 2 of EPA’s four-step transport interstate framework, using relative significant impact amongst those states similarly contributing to a downwind receptor under Step 3 of EPA’s four-step transport interstate framework, and using alternative timeframes to address the “interference with maintenance” prong of the good neighbor provision.

in its SIP submission that it should proceed to Step 2 of the analysis.

At Step 2 of its analysis, WVDEP again relied on Alpine's June 2018 modeling results and highlighted any receptors to which emissions from the State contributed more than 1 percent of the NAAQS (*i.e.*, >0.70 ppb). Table 2 in Section II of this document identifies receptors from Alpine's June 2018 modeling that are projected to receive contribution levels from emissions in West Virginia above the 1 percent threshold. According to Alpine's June 2018 modeling projections, emissions from West Virginia would significantly contribute to the Harford, MD nonattainment receptor, with a 2.52 ppm contribution, and to the Gloucester, NJ, Richmond, NY, and Philadelphia, PA maintenance receptors with contributions of 1.63, 0.71, and 1.21 ppb, respectively.

WVDEP concluded in its own analysis that it was linked using the 1 percent of the NAAQS threshold and

acknowledged that "it is [then] necessary to identify the emissions reductions (if any), considering cost and air quality factors, to prevent West Virginia from contributing to downwind air quality problems,"<sup>41</sup> which is Step 3 of the 4-step interstate transport framework.

Although WVDEP relied on alternative modeling instead of the EPA's modeling included in the March 2018 memorandum, WVDEP acknowledged in its SIP submission that it is linked to downwind receptors and is projected to contribute above the 1 percent threshold to certain nonattainment and/or maintenance receptors in 2023. Because the alternative modeling relied on by the state also demonstrates that a linkage exists between the state and downwind receptors at Step 2, the EPA need not conduct a comparative assessment of the alternative modeling. The State's analysis corroborates the conclusion in the EPA's most recent modeling.

2. Results of the EPA's Step 1 and Step 2 Modeling and Findings for West Virginia

As described in Section I of this document, the EPA performed air quality modeling using the 2016v2 emissions platform to project design values and contributions for 2023. These data were examined to determine if West Virginia contributes at or above the threshold of 1 percent of the 2015 8-hour ozone NAAQS (*i.e.*, 0.70 ppb) to any downwind nonattainment or maintenance receptor. As shown in Table 1 of this document, the data<sup>42</sup> indicate that in 2023, emissions from West Virginia contribute greater than 1 percent of the NAAQS to nonattainment or maintenance-only receptors in Fairfield County-Westport, Fairfield County-Stratford, and New Haven County in Connecticut, as well as Bucks County, Pennsylvania.<sup>43</sup>

TABLE 3—WEST VIRGINIA'S LINKAGE RESULTS BASED ON EPA 2016v2-BASED MODELING

Receptor ID	Location	Nonattainment/maintenance	2023 Average design value (ppb)	2023 Maximum design value (ppb)	West Virginia contribution (ppb)
90099002 .....	New Haven, CT .....	Nonattainment .....	71.8	73.9	1.45
420170012 .....	Bucks, PA .....	Maintenance .....	70.7	72.2	1.44
90019003 .....	Fairfield-Westport, CT .....	Nonattainment .....	76.1	76.4	1.34
90013007 .....	Fairfield-Stratford, CT .....	Nonattainment .....	74.2	75.1	1.30

We recognize that the results of EPA (2011 and 2016 base year) and Alpine (2011 base year) modeling indicated different receptors and linkages at Steps 1 and 2 of the framework. 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, these three 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 West Virginia 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 West Virginia was linked to different receptors in one modeling run versus another). The EPA thinks this common result indicates that West Virginia's emissions have been substantial enough to generate linkages at Steps 1 and 2 to some set of downwind receptors, 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 West Virginia's emissions should be deemed "significant." In doing so, the EPA does not necessarily agree with the methods and assumptions contained in the Alpine modeling relied on by WVDEP in this action, nor that we consider our own earlier modeling to be of equal reliability relative to more recent

modeling. However, where alternative or older modeling generated linkages, even if those linkages differ from linkages in the EPA's most recent set of modeling, that information provides further evidence, not less, in support of a conclusion that the state is required to proceed to Step 3 to further evaluate its emissions.

Therefore, based on the EPA's evaluation of the information submitted by West Virginia, and based on the EPA's most recent modeling results for 2023, the EPA proposes to find that West Virginia is linked at Steps 1 and 2 and has an obligation to assess potential emissions reductions from sources or other emissions activity at Step 3 of the 4-step framework.

<sup>41</sup> See the February 4, 2019 SIP submittal included in docket EPA-R03-OAR-2021-0873.

<sup>42</sup> Design values and contributions at individual monitoring sites nationwide are provided in the file: 2016v2\_DVs\_state\_contributions.xlsx which is included in docket ID No. EPA-HQ-OAR-2021-0663.

<sup>43</sup> These modeling results are consistent with the results of a prior round of 2023 modeling using the 2016v1 emissions platform which became available to the public in the fall of 2020 in the Revised CSAPR Update, as noted in Section I of this document. That modeling showed that West Virginia had a maximum contribution greater than

0.70 ppb to at least one nonattainment or maintenance-only receptor in 2023. These modeling results are included in the file "Ozone Design Values And Contributions Revised CSAPR Update.xlsx" in docket EPA-HQ-OAR-2021-0663.

### 3. West Virginia's Analysis of "Flexibilities"

Before proceeding to Step 3 of the analysis, WVDEP examined several so-called "flexibilities" identified in Attachment A to the EPA's March 2018 Memorandum in section 4 of its SIP submission,<sup>44</sup> ostensibly to show that West Virginia should not be seen as contributing significantly to certain 2023 nonattainment or maintenance receptors identified by the Alpine modeling. Although the Alpine modeling is now out of date, and the EPA is primarily relying upon the updated 2023 modeling using the 2016v2 emissions platform to inform its decision, the EPA has evaluated the "flexibilities" discussed by West Virginia to see if any of these ideas continue to have relevance to this proposed disapproval action.

#### a. HYSPLIT Back Trajectories

WVDEP evaluated the potential interstate impacts of emissions from West Virginia on other states, using HYSPLIT modeling. To do so, WVDEP considered impacts at the one nonattainment receptor (Harford, MD) and three maintenance receptors (Philadelphia, PA; Gloucester, NJ; Richmond, NY) to which West Virginia was linked by the Alpine 4-km modeling. WVDEP identified the exceedance days for each of those receptors during the 2015–2017 time period. For the identified exceedance days, West Virginia then used the National Oceanic and Atmospheric Administration's (NOAA) Air Resources Laboratory's Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model to develop a back trajectory analysis for each day to show the origin of air masses and establish emission source-receptor relationships. These back trajectory analyses are shown in Appendix H of the West Virginia 2019 SIP submittal. Using this approach, WVDEP concluded that the 291 back trajectory analyses "demonstrate that on the majority of the days on which ozone exceedances occurred at the subject receptors, the origin of the air masses impacting the receptors did not originate within, or pass through, West Virginia's borders in the 48 hours preceding the exceedance."<sup>45</sup>

The EPA notes that WVDEP's own back trajectory analysis did not indicate that there were no cases when air masses associated with exceedance days at linked receptors passed over West Virginia. Rather, the state claimed that

air masses did not move across West Virginia on a "majority" of the days the State examined "in the 48 hours preceding" the exceedance. WVDEP further argued that only some of the air masses moving across the state moved across "an industrial area where air emissions are more predominate." Thus, WVDEP's evaluation of HYSPLIT back trajectories still show linkages between some downwind exceedances and air masses originating or passing through West Virginia.

In addition, the data in Appendix H of the WVDEP submittal indicate that one or more of the daily back trajectories from the Harford, Maryland receptor moved across West Virginia on 50 percent of the exceedance days between 2015 and 2017 at this receptor. Furthermore, the line thickness displayed on trajectory plots does not represent the geographic extent of the transported air mass, but rather they represent the centerline of an air parcel's motion, calculated to understand the trajectory line itself. Uncertainties are clearly present in these results and these uncertainties change with trajectory time and distance traveled. In this regard, one should avoid concluding a region is not along a trajectory's path if the center line of that trajectory missed the region by a relatively small distance.<sup>46</sup> In contrast, the EPA's analysis of transported emissions as discussed in Section I.C of this document, above, uses updated, photochemical grid modeling designed to assess ozone transported to downwind monitors across the entire region and over extended timeframes that fully account for fate and transport of ozone-precursors over longer distances. Thus, the EPA finds that WVDEP's back trajectory analysis does not show that West Virginia should not be linked to downwind nonattainment or maintenance receptors in 2023.

#### b. Downwind Air Quality Context

As the "context" surrounding certain downwind receptors, WVDEP presented information regarding other local sources of emissions also contributing to the nonattainment or maintenance problems at those locations. In Section 4.2 of the SIP submittal, WVDEP analyzed various types of information.<sup>47</sup> From this analysis, WVDEP concluded that all of the projected receptors in the Alpine modeling are located in 2015 8-hour ozone NAAQS nonattainment areas within the Interstate 95 highway

corridor, that high population areas "closely correspond" to the nonattainment areas, and that high Vehicle Miles Traveled (VMT) also "closely correlate" with the nonattainment areas. WVDEP included a more detailed analysis of these factors in Appendix I of the West Virginia 2019 SIP Submittal.

While the EPA would generally agree that the high VMT along the Interstate 95 corridor, along with high population densities in the various existing and predicted 2023 nonattainment areas, have a large impact on the ozone nonattainment status of these areas, this does not prove that West Virginia's emissions do not also contribute to nonattainment and maintenance problems at those locations. The fact that local sources of emissions also contribute to high ozone levels is neither surprising nor outcome determinative. The EPA has developed the 4-step process to help evaluate whether or not a given state is linked to downwind nonattainment and maintenance problems, and that analysis starts at the question of whether the state's emissions have a projected impact above the 1 percent of the NAAQS threshold in 2023. That value at Step 2 is set relatively low in light of the "collective contribution" problem associated with regional ozone transport. The Alpine modeling that WVDEP relied upon shows such impacts above the Step 2 threshold from West Virginia at a number of receptors. The more recent modeling that the EPA has conducted indicates impacts above that threshold at other monitors. Thus, the EPA does not agree that WVDEP's analysis of the relative impacts of local sources compared to the projected impacts of emissions from the state establishes that West Virginia does not significantly contribute to these nonattainment and maintenance areas. Nor would the EPA agree that similar arguments about the "context" of local emissions would apply at the more recently identified receptors.

#### c. International Emissions

The last consideration noted by WVDEP is Section 179B of the CAA, entitled "International border areas." The State focused not on section 179B(a), applicable to states that are required to submit nonattainment plan SIP submissions to address applicable requirements in nonattainment areas, but rather section 179B(b), which applies in the case of a state with a designated ozone nonattainment area that fails to meet the applicable attainment date and thus may trigger a reclassification to the next highest

<sup>44</sup> See West Virginia 2019 SIP submittal, p. 14.

<sup>45</sup> *Id.* at 17.

<sup>46</sup> See Area Designations for the 2015 Ozone National Ambient Air Quality Standards memorandum from Janet G. McCabe to the EPA Regional Administrators, February 25, 2016.

<sup>47</sup> *Id.*

classification of ozone nonattainment. Section 179B(b) states: “Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to an ozone nonattainment area in such State, such State would have attained the national ambient air quality standard for ozone by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to the provisions of section 7511(a)(2) or (5) of this title or section 7511d of this title.”<sup>48</sup>

West Virginia cites a statement in the TSD for the Alpine modeling which notes that if anthropogenic emissions from Canada and Mexico, tracked as a single tag, are taken into account, then both the EPA and Alpine’s modeling demonstrate attainment at the Harford Maryland receptor with the 2015 ozone NAAQS.<sup>49</sup> In other words, simply subtracting the projected impact of international emissions from Canada and Mexico at that receptor would result in “attainment” at that location. WVDEP asserts that this fact would allow the State to “stop at Step 1 of the four-factor process.” EPA notes that WVDEP only raised this issue with respect to the nonattainment receptor it identified in Harford, Maryland, rather than the maintenance receptors, presumably in recognition of the fact that section 179B(b) pertains to nonattainment areas, rather than maintenance areas.

The EPA disagrees with the theory that section 179B applies in this way. First, the EPA notes that section 179B(b), relied upon and quoted by WVDEP, has no bearing on the issue of interstate transport as posited in the State’s SIP submission. That specific statutory provision, by its explicit terms, only applies in the event a state with a designated ozone nonattainment area fails to attain the NAAQS by the applicable attainment date. If, in those circumstances, the state at issue would have attained the NAAQS but for the impacts of international transport, then that state may seek to avoid reclassification to the next level of ozone nonattainment that would otherwise occur upon the EPA making the requisite finding of failure to attain. WVDEP misapplies section 179B(b) when it suggests that it alters the State’s

obligations with respect to section 110(a)(D)(i)(I), using the example of the impacts at the Harford Maryland receptor identified in the Alpine modeling. However, even if Maryland could in the future seek to invoke section 179B(b), the only effect would be to excuse Maryland from certain additional nonattainment plan requirements of CAA sections 7511(a)(2) and (5) and 7511D. Further, if Maryland were to do so, the mere existence of international transport impacts would not be outcome determinative—even in that context where CAA section 179B(b) actually applies.<sup>50</sup> Section 179B does not supplant the separate obligation of upwind states such as West Virginia to address their interstate transport impacts on other downwind states. It is a separate provision of the CAA intended to address the impacts of international emissions on nonattainment areas.

Second, and more importantly, West Virginia’s 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 *contributes to* downwind states’ ability to attain and maintain NAAQS. Whether emissions from other states or other countries also contribute to the same downwind air quality issue is irrelevant in assessing whether a downwind state has an air quality problem, or whether an upwind state is significantly contributing to that problem. States are not obligated under CAA section 110(a)(2)(D)(i)(I) to reduce emissions sufficient on their own to resolve downwind receptors’ nonattainment or maintenance problems. Rather, states are obligated to eliminate their own “significant contribution” or “interference” with the ability of other states to attain or maintain the NAAQS.

Indeed, the D.C. Circuit in *Wisconsin* specifically rejected petitioner arguments suggesting that upwind states should be excused from good neighbor obligations on the basis that some other source of emissions (whether international or another upwind state) could be considered the “but-for” cause of downwind air quality problem. 938 F.3d 303 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.” 938 F.3d 303 at 324. The court explained that “an upwind State can ‘contribute’ to downwind nonattainment even if its emissions are not the but-for cause.” *Id.* at 324–325. *See also Catawba County v. EPA*, 571 F.3d 20, 39 (D.C. Cir. 2009) (rejecting the argument “that ‘significantly contribute’ unambiguously means ‘strictly cause’” because there is “no reason why the statute precludes EPA from determining that [an] addition of [pollutant] into the atmosphere is significant even though a nearby county’s nonattainment problem would still persist in its absence”); *Miss. Comm’n o Env’tl. Quality v. EPA*, 790 F.3d 138, 163 n.12 (D.C. Cir. 2015) (observing that the argument that “there likely would have been no violation at all . . . if it were not or 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.

Therefore, the EPA proposes to find that Section 179B(b) of the CAA does not serve to alleviate West Virginia of any potential obligations under Section 110(a)(2)(D)(i)(I).

EPA will proceed to evaluate the information and analysis WVDEP provided at Step 3 of the 4-step interstate transport framework.

#### 4. Evaluation of Information Provided Regarding Step 3

At Step 3 of the 4-step interstate transport framework, the state should further evaluate its sources of emissions that may impact the relevant downwind receptors, in light of multiple factors, including air quality and cost considerations, to determine what, if any, emissions significantly contribute to nonattainment or interfere with maintenance and, thus, must be eliminated under CAA section 110(a)(2)(D)(i)(I).

To evaluate effectively which emissions in the state should be deemed “significant” and therefore prohibited, states generally should prepare an accounting of sources and other emissions activity for relevant pollutants and assess potential, additional emissions reduction opportunities and resulting downwind air quality improvements. The EPA has consistently applied this general approach (*i.e.*, Step 3 of the 4-step

<sup>48</sup> Section 7511(a)(2) relates to the attainment date for severe ozone nonattainment areas, and (a)(5) describes the conditions necessary for a one-year extension of ozone attainment dates. Section 7511d pertains to enforcement for severe and extreme ozone nonattainment areas for failure to attain. Neither provision is germane to this action.

<sup>49</sup> *Id.* at p. 20.

<sup>50</sup> See Guidance on the Preparation of Clean Air Act Section 179B Demonstrations for Nonattainment Areas Affected by International Transport of Emissions (December 2020), pages 10–12, available at [https://www.epa.gov/sites/default/files/2020-01/documents/draft\\_179b\\_guidance-final\\_draft\\_for\\_posting.pdf](https://www.epa.gov/sites/default/files/2020-01/documents/draft_179b_guidance-final_draft_for_posting.pdf).

interstate transport framework) when identifying emissions contributions that the Agency has determined to be “significant” (or interfere with maintenance) in each of its prior Federal, regional ozone transport rulemakings, and this interpretation of the statute has been upheld by the Supreme Court. *See EME Homer City*, 572 U.S. 489, 519 (2014). While 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, state implementation plans addressing the obligations in CAA section 110(a)(2)(D)(i)(I) must prohibit “any source or other type of emissions activity within the State” from emitting air pollutants which will contribute significantly to downwind air quality problems. Thus, states must complete something similar to the EPA’s analysis (or an alternative approach to defining “significance” that comports with the statute’s objectives) to determine whether and to what degree emissions from a state should be “prohibited” to eliminate emissions that will “contribute significantly to nonattainment in, or interfere with maintenance of,” the NAAQS in any other state.

In Step 3, West Virginia evaluated statewide NO<sub>x</sub> emissions data from the triennial National Emissions Inventory (NEI) for 2008, 2011, 2014 and 2017, as updated on August 2, 2018, on the EPA’s NEI Air Pollution Emissions Trends Data website. This website provides current emissions trends data for all Tier 1 Categories of NO<sub>x</sub> emissions from 1990 through 2020.<sup>51</sup> WVDEP’s analysis found that of the Tier 1 Categories, six of those categories represented 95% of the total 2017 NO<sub>x</sub> emissions from sources in the State. These categories are: (i) Fuel Combustion—Electric Utilities (29.5%); (ii) Fuel Combustion—Industrial (9.1%); (iii) Fuel Combustion—Other (4.8%); (iv) Petroleum and Related Industries (22.8%); (v) Highway Vehicles (21.5%); (vi) and Off-Highway (7.6%). West Virginia therefore focused its Step 3 control and cost analysis on these six categories of sources.

#### a. Highway Vehicles and Off-Highway

West Virginia’s analysis of NEI data indicated that these two Tier 1 source categories combined produced 29.1% of the NO<sub>x</sub> emissions in the State in 2017. For these categories of mobile sources,

WVDEP noted that such sources are regulated at the Federal level and not the state level, so WVDEP concluded that no further analysis of the Highway Vehicles and Off-Highway categories for additional potential reductions is required. In Section 6.1 of the SIP submission, WVDEP noted and described a number of EPA programs designed to reduce NO<sub>x</sub> emissions from mobile sources, including the 2007 Heavy-Duty Highway Rule (40 CFR part 86, subpart P); the Tier 2 Vehicle and Sulfur Program (40 CFR part 80, subpart H; 40 CFR part 85, 40 CFR part 86), Tier 3 Motor Vehicle Emission and Fuel Standards (40 CFR parts 79, 80, 85, 86, 600, 1036, 1037, 1042, 1048, 1054, 1065, and 1066); Tier 4 Vehicle Standards; and the Nonroad Diesel Emissions Program (40 CFR part 89).

Given the magnitude of NO<sub>x</sub> emission reductions in West Virginia reflected in the NEI, the EPA agrees that it is appropriate for WVDEP to evaluate these source categories for potential additional controls to reduce interstate transport for the purposes of the 2015 8-hour ozone NAAQS. The EPA does not agree, however, with the State’s attempt to categorize certain sectors of emissions as per se beyond its regulatory control. Clearly the State possesses regulatory authority over many categories of sources and other types of “emissions activity within the state,” *see* CAA section 110(a)(2)(D)(i). While the EPA generally regulates mobile sources at the Federal level under title II of the CAA, the state also has the authority to undertake any number of measures to reduce emissions from mobile sources through means and techniques that are not preempted by title II. *See, e.g.,* CAA sections 182(b)(3), 182(b)(4), 182(c)(3), 182(c)(4), 182(c)(5), 182(d)(1), 182(e)(3), and 182(e)(4) (identifying programs to control mobile source emissions that states are required to implement depending on the degree of ozone nonattainment). Pursuant to CAA section 116, states retain authority to regulate sources in SIPs, and to do so more stringently than the EPA, unless preempted. For example, many states, including states with receptors to which West Virginia is linked, have adopted California motor vehicle standards as permitted under CAA section 177.<sup>52</sup>

WVDEP’s listing of existing Federal control measures for mobile sources does not in and of itself serve as an

adequate substitute for a Step 3 analysis of additional potential emission reductions. First, these standards, to the extent they are “on-the-books,” are already reflected in the base case air quality modeling conducted at Steps 1 and 2. Further, the listing of existing or on-the-way control measures, whether approved into the State’s SIP or not, does not substitute for a complete Step 3 analysis under the EPA’s 4-step framework to define “significant contribution.”

#### b. Petroleum and Related Industries

For the Petroleum and Related Industries Tier 1 category, WVDEP’s analysis indicated that sources of this type produced 22.8% of the 2017 NO<sub>x</sub> emissions in the State. West Virginia further acknowledged that this category has been a growing source of emissions in more recent years, but argued that West Virginia’s New Source Review (NSR) permitting programs will adequately ensure that emissions from any new or modified sources in this category do not cause or contribute to nonattainment of the NAAQS.<sup>53</sup> West Virginia has a PSD program that requires new or modified major stationary sources located in designated attainment areas to obtain a permit and impose emission controls that meet the best available control technology (BACT) level of control. Similarly, West Virginia has a Nonattainment NSR program that requires new or modified major stationary sources located in designated nonattainment areas to obtain a permit and impose emission controls that meet the lowest achievable emission rate (LAER) level of control. WVDEP asserts that the BACT and LAER requirements are by definition more stringent than the RACT/RACM level of control required in nonattainment plans that states must impose in designated nonattainment areas. As a component of these permitting programs, the State noted that there is also a requirement to consider whether the emissions from the source “will interfere with attainment or maintenance of an applicable ambient air quality standard.” The State therefore did not perform an analysis of potential additional control measures or costs for this category of sources.

The EPA agrees with WVDEP’s identification of the sources in the Petroleum and Related Industries category from the NEI as sufficiently significant to warrant evaluation for NO<sub>x</sub> emission controls. As the State reflected in its SIP submission, the

<sup>51</sup> At the time West Virginia submitted its SIP in 2019, NEI data for 2020 was not available, so West Virginia limited its analysis to data available at that time.

<sup>52</sup> California Air Resources Board, States That Have Adopted California’s Vehicle Standards Under Section 177 of the Federal Clean Air Act (Current as of December 6, 2021), <https://ww2.arb.ca.gov/resources/documents/states-have-adopted-californias-vehicle-standards-under-section-177-federal>.

<sup>53</sup> *Id.* at 25.

cumulative NO<sub>x</sub> emissions from this category comprise 22.8% of West Virginia's emissions, and thus a proportion of emissions second only to the category that includes EGUs. Further, WVDEP acknowledged that unlike other source categories, the NO<sub>x</sub> emissions from this category have been increasing in recent years. In Table 6 of the SIP submission, the State reflected the large increase in such emissions from 2008 through 2017.

Notwithstanding these increases in emissions, WVDEP relies primarily on the existing permitting programs (minor source, PSD, and NNSR) as the basis for concluding that no further controls would be necessary for these sources to address interstate transport problems for purposes of the 2015 8-hour ozone NAAQS. First, WVDEP seems to have done no more than describe the general framework for new source permitting that is mandated of all states under the CAA and has not identified how its state programs in particular go beyond those basic requirements in any manner relevant to ozone transport. Nonetheless, the State is correct that these permitting programs do impose control requirements (e.g., BACT or LAER) and do require an analysis of potential impacts on attainment and maintenance of the NAAQS. But there are likewise important distinctions between the permitting program requirements and interstate transport requirements, including but not limited to: (i) The permitting programs generally apply only to new sources or major modification of existing sources; (ii) the evaluation of impacts on attainment and maintenance in other states in the context of a permit for a single source may not be as robust and have the same geographic scope as that undertaken by states and the EPA for purposes of section 110(a)(2)(D)(i)(I); and (iii) the timing of the permitting process evaluation may have no bearing on the NAAQS at issue (i.e., a permit issued in 2005 would not have considered impacts vis a vis the 2015 8-hour ozone NAAQS). Further, existing sources may have been permitted under a new source permitting program years or even decades ago, before more effective or cheaper emissions control technologies became available.

Thus, even if the permitting programs address new sources of emissions for the intended purposes of those programs, it does not necessarily follow that they automatically meet all other CAA requirements as well. The EPA disagrees, therefore, with the conclusion that the existence of these permitting programs resolves the issue of whether there are additional control measures

that the State should impose specifically for purposes of eliminating significant contribution to nonattainment or interference with maintenance at downwind receptors for the 2015 8-hour ozone NAAQS.<sup>54</sup>

In general, the listing of existing or on-the-way control measures, whether approved into the State's SIP or not, does not substitute for a complete Step 3 analysis under EPA's 4-step framework to define "significant contribution." WVDEP did not provide an assessment of the overall effects of these measures, when the emissions reductions would be achieved, and what the overall resulting air quality effects would be at identified out of state receptors. WVDEP did not evaluate additional, potential emissions control opportunities, or their costs or impacts, or attempt to analyze whether, if applied more broadly across linked states, the emissions reductions would constitute the elimination of significant contribution. Although the EPA acknowledges states are not necessarily bound to follow its own analytical framework at Step 3, we note that WVDEP did not do a meaningful analysis of what other potential controls may be necessary to achieve NO<sub>x</sub> emission reductions from these sources for the 2015 ozone NAAQS. This would have been similar to the approach to defining significant contribution that EPA has applied in prior rulemakings such as CSAPR and the CSAPR Update, even if such an analysis is not technically mandatory.

#### c. Fuel Combustion—Electric Utilities

West Virginia's analysis of NEI data indicated that EGUs produced 30.2% of the NO<sub>x</sub> emissions in the State in 2017.<sup>55</sup> The State noted that NO<sub>x</sub> emissions from EGUs have already declined as a result of other CAA requirements, such as the Acid Rain Program, the NO<sub>x</sub> Budget Trading Program, the CAIR, and the CSAPR programs. As a result of these programs and actions, WVDEP estimated a reduction in ozone season emissions of 75 percent, or almost 2 million tons, since 1997. The EPA acknowledges that these existing programs have already reduced NO<sub>x</sub> emissions substantially

from EGUs, but the question at issue at this time is whether more NO<sub>x</sub> emissions reductions are necessary from such sources for purposes of CAA section 110(a)(2)(D)(i)(I) for the 2015 8-hour ozone NAAQS. Notwithstanding the past reductions of NO<sub>x</sub> from EGUs, WVDEP correctly concluded that further analysis of potential controls is necessary.

As one part of this analysis, West Virginia relied on the shutdown of specific EGUs that would further reduce NO<sub>x</sub> emissions from the state. West Virginia identified the retirements of six coal-fired power plants (consisting of 17 units total) that have occurred in recent years. Three power plants shut down in September 2012. Three additional power plants shut down in June 2015. WVDEP provided documentation for these units showing that the units were permanently retired, and the Title V permits were surrendered. The State further indicated that should operations resume at any of the shut-down units in the future, the source<sup>56</sup> would have to complete the permitting process as a new facility.

The EPA agrees that these shutdowns will eliminate NO<sub>x</sub> emissions from these sources, and thus this may help to reduce the impacts of such emissions from West Virginia at the identified nonattainment and maintenance receptors. Evaluation of further control of these specific EGU sources is not required. However, EPA's most recent 2016v2 emissions platform-based modeling has already taken these shutdowns into account, and projects impacts at nonattainment or maintenance receptors in Connecticut, New York, and Maryland notwithstanding these reductions in emissions. Further, the mere fact that a particular EGU has shutdown does not mean that all associated emissions should be subtracted from the total inventory of a state's emissions. Typically, a shutdown is accompanied by a shift in generation to new sources or existing sources with available capacity, which in turn produces some incremental increase in emissions at those sources. WVDEP did not analyze the net emissions effects of the shutdowns it listed. By contrast, in its most recent modeling, the EPA has thoroughly and comprehensively evaluated emissions from EGUs in West Virginia and other states. The EPA's latest projections of the baseline EGU emissions uses the version 6—Summer 2021 Reference Case of the Integrated Planning Model (IPM). IPM is a multi-

<sup>54</sup> The EPA notes that WVDEP has not explained why new source permitting was a sufficient control measure for interstate ozone transport from the "Petroleum and Related Industries" category, but not other source categories, when the new source permitting requirements apply to all new sources.

<sup>55</sup> The narrative text of West Virginia's SIP submission at page 27 says that EGUs contribute 30.2%, while Table 6 of the SIP submission identifies the EGU contribution as 29.5%. This difference in attributed contribution does not change the outcome of EPA's analysis.

<sup>56</sup> The documentation is in Appendix M of West Virginia's 2019 SIP submittal.

regional, dynamic, and deterministic linear programming model of the U.S. electric power sector.<sup>57</sup> The model provides forecasts of least cost capacity expansion, electricity dispatch, and emission control strategies, while meeting energy demand, environmental, transmission, dispatch, and reliability constraints.

The IPM version 6—Summer 2021 Reference Case incorporated recent updates through the Summer of 2021 to account for updated Federal and State environmental regulations for EGUs. This projected base case accounts for the effects of the finalized Mercury and Air Toxics Standards rule, CSAPR, the CSAPR Update, the Revised CSAPR Update, New Source Review 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 SO<sub>2</sub>, NO<sub>x</sub>, directly emitted particulate matter, CO<sub>2</sub>, and power plant operations. It also includes final actions EPA has taken to implement the Regional Haze Rule and best available retrofit technology (BART) requirements. Further, the IPM Platform v6 uses demand projections from the Energy Information Agency's (EIA) Annual Energy Outlook (AEO) 2020.<sup>58</sup>

The IPM version 6—Summer 2021 Reference Case uses the National Electric Energy Data System (NEEDS) v6 database as its source for data on all existing and planned-committed units. Units are removed from the NEEDS inventory only if a high degree of certainty could be assigned to future implementation of the announced future closure or retirement.<sup>59</sup> The available retirement-related information was reviewed for each unit, and the following rules are applied to remove:

(i) Units that are listed as retired in the December 2020 EIA Form 860M;

(ii) Units that have a planned retirement year prior to June 30, 2023 in the December 2020 EIA Form 860M;

(iii) Units that have been cleared by a regional transmission operator (RTO) or independent system operator (ISO) to retire before 2023, or whose RTO/ISO clearance to retire is contingent on actions that can be completed before 2023;

(iv) Units that have committed specifically to retire before 2023 under Federal or state enforcement actions or regulatory requirements; and

(v) Finally, units for which a retirement announcement can be corroborated by other available information. Units required to retire pursuant to enforcement actions or state rules on July 1, 2023 or later are retained in NEEDS v6.

Retirement of EGU units that follow this process are excluded from the NEEDS inventory. This includes EGU units as highlighted in the West Virginia SIP submission (Appendix G and Appendix M).<sup>60</sup> Thus, the modeling already accounts for the NO<sub>x</sub> emission reductions in West Virginia that resulted from the source shutdowns identified by WVDEP. Further, closures taking place on or after July 1, 2023 are captured as constraints on those units in the IPM modeling, and the units are retired in future year projections per the terms of the related requirements.

As a second part of its Step 3 evaluation of potential controls for EGUs, West Virginia also relied on the EPA's own analysis of potential NO<sub>x</sub> emission reductions in connection with the CSAPR Update for the 2008 ozone NAAQS. WVDEP noted that the EPA itself considered the adequacy of NO<sub>x</sub> controls for EGUs as part of the CSAPR Update rulemaking. The State pointed to the EPA's analytical process in the CSAPR Update rulemaking concerning factors such as cost, available emissions reductions, and downwind air impacts, and the resulting emission budgets that EPA derived using the "knee in the curve" evaluation of cost effectiveness as described in the proposed "Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard." In particular, WVDEP emphasized the EPA statement in the proposal that it "considers the turning on and optimizing of existing SCR controls and the installation of combustion controls to be NO<sub>x</sub> control strategies that have already been

appropriately evaluated and implemented in the final CSAPR Update." The State also pointed to the EPA's proposed CSAPR Close-Out Rule, in which the EPA similarly stated, "the EPA considers the turning on and optimizing of existing SCR controls and the installation of combustion controls to be NO<sub>x</sub> control strategies that have already been appropriately evaluated and implemented in the final CSAPR Update."

In support of this argument, WVDEP also included a Table containing the ozone season NO<sub>x</sub> emission rates in 2017 and 2018 for EGU sources located in West Virginia. Table 7 presents information about the size, fuel type, control type, and emission rates in pounds (lbs) per million British thermal unit (MMBtu) (lbs/MMBtu). This table provides key information about the existing control measures and emission rates for these individual sources, at the time of the SIP submission. However, WVDEP does not provide analysis of any potential additional or strengthened control measures at these sources, that may or may not be needed for purposes of the 2015 8-hour ozone NAAQS.

Finally, for EGUs, WVDEP asserted that because the EPA's CSAPR Update concluded that all identified highly cost-effective emission reductions have already been implemented with respect to EGUs for the 2008 ozone NAAQS, no additional highly cost-effective reductions are available for EGUs for the 2015 8-hour ozone NAAQS. WVDEP argues that because its EGUs are subject to the CSAPR Update (which reflected a stringency at the nominal marginal cost threshold of \$1400/ton (2011\$) for the 2008 ozone NAAQS), it has already implemented all cost-effective emissions reductions for its EGU fleet.

The EPA disagrees. First, the so-called CSAPR Close-Out has been vacated for unlawfully permitting significant contribution to continue beyond the next attainment date. *New York v. EPA*, 781 Fed. App'x 4 (D.C. Cir. 2019). See also *Wisconsin*, 938 F.3d at 318–20. Second, in the CSAPR Update, EPA had promulgated only a partial remedy as to EGUs even with respect to the less stringent 2008 ozone NAAQS, a conclusion affirmed by the D.C. Circuit in *New York v. EPA*, 964 F.3d 1214, 1225 (D.C. Cir. 2020). EPA has recently completed action on remand from the *Wisconsin* decision and has promulgated a full remedy as to West Virginia's obligations for the 2008 ozone NAAQS in the Revised CSAPR Update. EPA found that additional, cost-effective emissions reductions from West Virginia's EGUs were indeed necessary to resolve its obligations under the 2008

<sup>57</sup> Detailed information and documentation of EPA's Base Case, including all the underlying assumptions, data sources, and architecture parameters can be found on EPA's website at: <https://www.epa.gov/airmarkets/epas-power-sector-modeling-platform-v6-using-ipm-summer-2021-reference-case>.

<sup>58</sup> Detailed information and documentation of EPA's Base Case, including all the underlying assumptions, data sources, architecture parameters, and IPM comments form can be found on EPA's website at: <https://www.epa.gov/airmarkets/epas-power-sector-modeling-platform-v6-using-ipm-summer-2021-reference-case>.

<sup>59</sup> The "Capacity Dropped" and the "Retired Through 2023" worksheets in NEEDS lists all units that are removed from the NEEDS v6 inventory—NEEDS v6 Summer 2021 Reference Case. This data can be found on EPA's website at: <https://www.epa.gov/airmarkets/national-electric-energy-data-system-needs-v6>.

<sup>60</sup> The "Capacity Dropped" and the "Retired Through 2023" worksheets in NEEDS lists all units that are removed from the NEEDS v6 inventory—NEEDS v6 Summer 2021 Reference Case. This data can be found on EPA's website at: <https://www.epa.gov/airmarkets/national-electric-energy-data-system-needs-v6>.



ozone NAAQS, *see* 86 FR 23054, 23100, 23123–24 (April 30, 2021). Therefore, WVDEP's conclusions that no further cost-effective emission reductions are available from its EGUs cannot be sustained.

More fundamentally, relying on the CSAPR Update's (or any other CAA program's) determination of cost-effectiveness without further Step 3 analysis is insufficient. Cost-effectiveness must be assessed in the context of the specific CAA program; assessing cost-effectiveness in the context of ozone transport should reflect a more comprehensive evaluation of the nature of the interstate transport problem, the total emissions reductions available at several cost thresholds, and the air quality impacts of the reductions at downwind receptors. While the EPA has not established a benchmark cost-effectiveness value for the 2015 8-hour ozone NAAQS interstate transport obligations, because the 2015 8-hour ozone NAAQS is a more stringent and more protective air quality standard, it is reasonable to expect control measures or strategies to address interstate transport under this NAAQS to reflect higher marginal control costs. As such, the marginal cost threshold of \$1,400/ton for the CSAPR Update (which addresses the 2008 ozone NAAQS and is in 2011\$) is not an appropriate cost threshold and cannot be approved as a benchmark to use for interstate transport SIP submissions for the 2015 8-hour ozone NAAQS.

In addition, the updated 2016v2 emissions platform captures all existing CSAPR trading programs in the baseline, and that modeling confirms that these control programs were not sufficient to eliminate West Virginia's linkage at Steps 1 and 2 under the 2015 8-hour ozone NAAQS. Although the state provided an inventory of existing controls on its EGU fleet, based on updated modeling results, the State was therefore obligated at Step 3 to assess *additional* control measures using a multifactor analysis.

#### d. Fuel Combustion—Industrial and Fuel Combustion—Other

WVDEP's analysis indicated that NO<sub>x</sub> emissions from non-EGU sources in two other NEI source categories, Fuel Combustion—Industrial and Fuel Combustion—Other, together comprised 13.9% of the NO<sub>x</sub> emissions in West Virginia in 2017. For non-EGU sources of NO<sub>x</sub> emissions, WVDEP similarly reviewed EPA documentation for the CSAPR Update, specifically a cost-effectiveness evaluation provided by SRA International (SRA), which was contracted by the EPA to perform this

analysis. The analysis split the sources subject to the cost-effectiveness analysis into two groups: Sources with NO<sub>x</sub> emissions greater than 100 tons per year (tpy) in 2017, and sources with NO<sub>x</sub> emissions between 25 and 100 tpy in 2017. The analysis then reviewed these sources using a \$10,000 per ton cost effectiveness threshold. In West Virginia, the analysis identified nine emissions units in the “greater than 100 tpy” group and 21 emission units in the “25 to 100 tpy” group for further evaluation based on potential for controls.

Of the nine “greater than 100 tpy” units, WVDEP noted that four had permanently shutdown, two were subject to a Consent Order to shutdown by December 31, 2021, and one was subject to a Consent Order which established a 0.20 lbs/MMBtu during the ozone season. For the remaining two sources, WVDEP claims that the EPA determined in the CSAPR Close-Out Rule that one source was well controlled and the other did not have any technically and economically available controls. However, EPA made no such determinations with respect to any non-EGUs in the CSAPR Close-Out. Of the 21 “25 to 100 tpy” units, WVDEP noted that six units have permanently shutdown and three are subject to a Consent Order to shutdown by December 31, 2021.<sup>61</sup> West Virginia's SIP submission concludes that “[t]he shutdown of the identified 10 sources; the required shutdown of the additional five sources; and the current level of control on the remaining 20 sources, in conjunction with the implementation of the Control Measures programs listed in Section 6, represent the implementation of reasonable control measures in West Virginia.”<sup>62</sup>

Given that the emissions from these source categories comprise 13.9% of the total NO<sub>x</sub> emissions from West Virginia in the 2017 NEI, the EPA agrees that it is appropriate for WVDEP to evaluate them. The EPA does not, however, agree with this analysis for certain non-EGU sources. First, many of the source shutdowns identified by West Virginia have generally been captured in the data the EPA used to perform the 2016v2 emissions platform-based modeling. Even with the shutdowns, the results of that updated modeling continue to show that West Virginia's sources contribute to nonattainment and maintenance receptors. Moreover, because the 2015 8-hour ozone NAAQS is more stringent than the 2008 ozone NAAQS, the EPA's findings of an acceptable cost threshold

for controls (which did not include non-EGUs) in the CSAPR Update, which only addresses transport for the 2008 ozone NAAQS, are not sufficient to evaluate whether West Virginia has adopted all reasonable control measures for these non-EGU sources for purposes of the 2015 8-hour ozone NAAQS. Additional reductions above and beyond those amounts may be needed for a more stringent 2015 8-hour ozone NAAQS, so WVDEP's analysis showing the NO<sub>x</sub> reductions attributable to sources shutdown since 2011 did not address the quantity of additional reductions that may be needed from these types of sources for purposes of meeting section 110(a)(2)(D)(i)(I) requirements for the 2015 8-hour ozone NAAQS. Although the State provided an inventory of non-EGU sources based on previous CoST outputs, the State did not assess *additional* control measures using a multifactor analysis for sources that were not shut down, not under the obligations of a consent order, or were not considered well controlled based on the EPA's assessment. The inventory of non-EGU stationary sources included in EPA's most recent emissions inventory indicates that there are a number of such sources that continue to emit NO<sub>x</sub> in excess of 100 tpy.<sup>63</sup> WVDEP conducted no analysis of additional emissions control opportunities at these sources.

Finally, relying on a FIP at Step 3 is per se not approvable if the state has not adopted that program into its SIP and instead continues to rely on the FIP. States may not rely on non-SIP measures to meet SIP requirements. *See* CAA section 110(a)(2)(D) (“Each such [SIP] shall . . . contain adequate provisions. . . .”). *See also* CAA section 110(a)(2)(A); *Committee for a Better Arvin v. U.S. E.P.A.*, 786 F.3d 1169, 1175–76 (9th Cir. 2015) (holding that measures relied on by state to meet CAA requirements must be included in the SIP). In this matter, West Virginia has adopted a state regulation, 45CSR43,<sup>64</sup> incorporating by reference 40 CFR part 97, subparts AAAAA, CCCCC, and EEEEE, which are the CSAPR NO<sub>x</sub> Annual, SO<sub>2</sub> Group 1, and Ozone Season NO<sub>x</sub> trading programs. The State designed the SIP submission to incorporate into the West Virginia SIP the requirements of the CSAPR Update

<sup>63</sup> *See* “wv\_og\_nonegu\_unit\_comparison\_16\_17\_18\_19\_20.xlsx” in Docket ID No. EPA–R03–OAR–2021–0873.

<sup>64</sup> *See* “Cross State Air Pollution Rule to Control Annual Nitrogen Oxide Emissions, Annual Sulfur Dioxide Emissions, and Ozone Season Nitrogen Oxide Emission,” at [https://dep.wv.gov/daq/public\\_noticeandcomment/Documents/45CSR43Prop\\_wAttachments.pdf](https://dep.wv.gov/daq/public_noticeandcomment/Documents/45CSR43Prop_wAttachments.pdf).

<sup>61</sup> *See* Appendix N of West Virginia's SIP submittal.

Group 2 trading program, in order to meet the State's obligations under the good neighbor provision for the 2008 ozone NAAQS. WVDEP submitted this as a SIP revision to the EPA on June 5, 2019, and the EPA proposed approval of the revision.<sup>65</sup> However, following EPA's proposed approval of this SIP submission, a court decision and EPA's subsequent rulemaking in the Revised CSAPR Update have rendered it inadequate. As explained in Section I of this document, the D.C. Circuit issued a decision in *Wisconsin v. EPA*, remanding the CSAPR Update because the EPA had 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). 938 F.3d at 313. The EPA has since issued the Revised CSAPR Update, which released updated budgets and requirements for states, including West Virginia, in order to fully resolve interstate transport obligations for the 2008 ozone NAAQS. As such, the ozone season NO<sub>x</sub> budgets in the West Virginia SIP submission for which the EPA proposed approval no longer satisfy the State's interstate transport obligations under the 2008 ozone NAAQS. The EPA is not in this action addressing the pending June 5, 2019 SIP submission and will address it in a separate action. The EPA encourages West Virginia to withdraw the June 5, 2019 SIP submission.

#### 5. Evaluation of Information Provided Regarding Step 4

Step 4 of the 4-step interstate transport framework calls for development of permanent and federally enforceable control strategies to achieve the emissions reductions determined to be necessary at Step 3 to eliminate significant contribution to nonattainment or interference with maintenance of the NAAQS. As mentioned previously, WVDEP's SIP submission did not contain an evaluation of additional emission control opportunities or establish that no additional controls are required beyond their existing controls and regulatory mechanisms to eliminate significant contribution to nonattainment or interference with maintenance of the 2015 8-hour ozone NAAQS. WVDEP additionally identified the incorporation by reference into its SIP certain emission budgets and trading programs created by CSAPR and the CSAPR Update and the EPA's pending final action on this proposed

SIP revision to meet its requirements for the good neighbor provisions under the 2015 8-hour ozone NAAQS. However, as explained in our evaluation of Step 3 of WVDEP's 2019 SIP submittal, we do not agree that the requirements of the CSAPR Update satisfy West Virginia's good neighbor obligations under the 2015 8-hour ozone NAAQS (or the 2008 ozone NAAQS). Additionally, the budgets and trading programs created by CSAPR and the CSAPR Update is not a new measure with new requirements, as the FIP implementing these programs has been in effect for several years and the emissions reductions associated have been taken into account in the EPA's modeling of 2023 nonattainment and maintenance receptors using the 2016v2 emissions platform. As a result, EPA proposes to disapprove West Virginia's submittal on the separate, additional basis that the State has not developed the appropriate permanent and enforceable emissions reductions necessary to meet the obligations of CAA section 110(a)(2)(d)(i)(I).

#### 6. Conclusion

Based on the EPA's evaluation of West Virginia's SIP submission, the EPA is proposing to find that West Virginia's February 4, 2019 SIP submission addressing CAA section 110(a)(2)(D)(i)(I) does not meet the State's interstate transport obligations, because it fails to contain the necessary provisions to eliminate emissions that will contribute significantly to nonattainment or interfere with maintenance of the 2015 8-hour ozone NAAQS in any other state.

#### IV. Proposed Action

We are proposing to disapprove West Virginia's February 4, 2019 SIP submission pertaining to interstate transport of air pollution which will significantly contribute to nonattainment or interfere with maintenance of the 2015 8-hour ozone NAAQS in other states. Under CAA section 110(c)(1), disapproval would establish a 2-year deadline for the EPA to promulgate a FIP for West Virginia to address the CAA section 110(a)(2)(D)(i)(I) interstate transport requirements pertaining to significant contribution to nonattainment and interference with maintenance of the 2015 8-hour ozone NAAQS in other states, unless the EPA approves a new West Virginia SIP submission that meets these requirements. Disapproval does not start a mandatory sanctions clock for West Virginia.

#### V. Statutory and Executive Order Reviews

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

This action is not a significant regulatory action as defined by E.O. 12866 and was therefore not submitted to the Office of Management and Budget for review.

*B. Paperwork Reduction Act (PRA)*

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

*C. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action merely proposes to disapprove a SIP submission as not meeting the CAA.

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

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

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per

<sup>65</sup> See 84 FR 41944 (August 16, 2019).

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 proposes to disapprove a SIP submission as not meeting the CAA.

*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*

This rulemaking does not involve technical standards.

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

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

*K. CAA Section 307(b)(1)*

Section 307(b)(1) of the CAA governs judicial review of final actions by 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, if “such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination.” For locally or regionally applicable final actions, the CAA reserves to the EPA complete discretion whether to invoke the exception in (ii).<sup>66</sup>

If the EPA takes final action on this proposed rulemaking, the Administrator intends to exercise the complete discretion afforded to him under the CAA to make and publish a finding that the final action (to the extent a court

finds the action to be locally or regionally applicable) is based on a determination of “nationwide scope or effect” within the meaning of CAA section 307(b)(1). Through this rulemaking action (in conjunction with a series of related actions on other SIP submissions for the same CAA obligations), the EPA interprets and applies section 110(a)(2)(d)(i)(I) of the CAA for the 2015 ozone NAAQS based on a common core of nationwide policy judgments and technical analysis concerning the interstate transport of pollutants throughout the continental U.S. In particular, the EPA is applying here (and in other proposed actions related to the same obligations) the same, nationally consistent 4-step framework for assessing good neighbor obligations for the 2015 8-hour ozone NAAQS. The EPA relies on a single set of updated, 2016-base year photochemical grid modeling results of the year 2023 as the primary basis for its assessment of air quality conditions and contributions at Steps 1 and 2 of that framework. Further, the EPA proposes to determine and apply a set of nationally consistent policy judgments to apply the 4-step framework. The EPA has selected a nationally uniform analytic year (2023) for this analysis and is applying a nationally uniform approach to nonattainment and maintenance receptors and a nationally uniform approach to contribution threshold analysis.<sup>67</sup>

For these reasons, the Administrator intends, if this proposed action is finalized, to exercise the complete discretion afforded to him under the CAA to make and publish a finding that this action is based on one or more determinations of nationwide scope or effect for purposes of CAA section 307(b)(1).<sup>68</sup>

<sup>67</sup> A finding of nationwide scope or effect is also appropriate for actions that cover states in multiple judicial circuits. In the report on the 1977 Amendments that revised section 307(b)(1) of the CAA, Congress noted that the Administrator’s determination that the “nationwide scope or effect” exception applies would be appropriate for any action that has a scope or effect beyond a single judicial circuit. See H.R. Rep. No. 95–294 at 323, 324, reprinted in 1977 U.S.C.C.A.N. 1402–03.

<sup>68</sup> The EPA may take a consolidated, single final action on all of the proposed SIP disapproval actions with respect to obligations under CAA section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS. Should EPA take a single final action on all such disapprovals, this action would be nationally applicable, and the EPA would also anticipate, in the alternative, making and publishing a finding that such final action is based on a determination of nationwide scope or effect.

**List of Subjects in 40 CFR Part 52**

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

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

Dated: February 7, 2022

**Diana Esher,**

*Acting Regional Administrator, Region III.*

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**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**EPA–R07–OAR–2021–0851; EPA–HQ–OAR–2021–0663; FRL–9425–01–R7]**

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

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

**ACTION:** Proposed rule.

**SUMMARY:** Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA) is proposing to disapprove a State Implementation Plan (SIP) submittal from Missouri regarding interstate transport 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. This disapproval, if finalized, will establish a 2-year deadline for the EPA to promulgate a Federal Implementation Plan (FIP) to address the relevant interstate transport requirements, unless the EPA approves a subsequent SIP submittal that meets these requirements. Disapproval does not start a mandatory sanctions clock.

**DATES:** Written comments must be received on or before April 25, 2022.

**ADDRESSES:** You may send comments, identified as Docket No. EPA–R07–OAR–2021–0851, by any of the following methods: Federal eRulemaking Portal at <https://www.regulations.gov>

<sup>66</sup> 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.