

**UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

STATE OF NEW JERSEY et al.,

Plaintiffs,

v.

ANDREW R. WHEELER, in his official
capacity as Administrator of the United States
Environmental Protection Agency, and the
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendants.

20 Civ. 1425 (JGK)

**DECLARATION OF ANNE
IDSAL**

1. I, Anne Idsal, under penalty of perjury, affirm and declare that the following statements are true and correct to the best of my knowledge and belief, and are based on my own personal knowledge or on information contained in the records of the United States Environmental Protection Agency (EPA) or supplied to me by EPA employees under my supervision.

2. I am Principal Deputy Assistant Administrator for the United States Environmental Protection Agency (“EPA” or the “Agency”) Office of Air and Radiation (“OAR”), which is located at 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460.

3. OAR is the EPA headquarters-based unit with primary responsibility for administration of the Clean Air Act (CAA). As the Principal Deputy Assistant Administrator for OAR, I serve as the principal advisor to the Administrator of EPA on matters pertaining to air and radiation programs, and I am responsible for managing these programs, including: program policy development and evaluation; development of emissions standards; program policy guidance and overview; and technical support and evaluation of regional air and radiation

program activities. OAR is comprised of several subsidiary offices, some of which, in turn, have multiple divisions or staffs, including: the Office of Air Policy and Program Support, the Office of Program Management Operations, the Office of Air Quality Planning and Standards, the Office of Atmospheric Programs, the Office of Transportation and Air Quality, and the Office of Radiation and Indoor Air. OAR employees are responsible for a wide range of programs and policies relating to air quality and air pollution control, including assisting in: developing national standards for air quality and emissions standards for hazardous pollutants; developing national programs, technical policies, regulations, guidelines, and criteria for air pollution control; assessing the national air pollution control program and the success in achieving air quality goals; reconciling transportation and air quality by characterizing and developing programs for emissions from mobile sources of emissions and related fuels; and developing protection criteria, standards, and policies to control radiation and indoor air exposures.

4. Through my role as the Principal Deputy Assistant Administrator for OAR, I am familiar with the development and implementation of EPA programs, policies, and regulations under the CAA and have actively participated in the development of numerous CAA actions. As part of my duties as Principal Deputy Assistant Administrator of OAR, I oversee the development and implementation of regulations, policy, and guidance under section 110 of the CAA, 42 U.S.C. 7410, including the interstate transport requirements of section 110(a)(2)(D)(i)(I), 42 U.S.C. 7410(a)(2)(D)(i)(I), that are the subject of this litigation. I am involved in the prioritization and allocation of resources to meet the legal requirements of the CAA. I am familiar with the processes and time periods allotted for the EPA to take regulatory actions under the CAA, including actions concerning interstate pollution transport requirements

pursuant to CAA section 110(a)(2)(D)(i)(I) and the timeframe for promulgating federal implementation plans (FIPs) pursuant to CAA section 110(c)(1).

5. This declaration is filed in support of the EPA's Cross-Motion for Summary Judgment and Opposition to Plaintiffs' Motion for Summary Judgment in *New Jersey v. Wheeler*, Civ. No. 20-cv-1425 (S.D.N.Y.). This case pertains to EPA's statutory obligation to promulgate FIPs for the states of Illinois, Indiana, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia (the Upwind States) addressing the interstate transport requirements of section 110(a)(2)(D)(i)(I) of the CAA, 42 U.S.C. 7410(a)(2)(D)(i)(I), for the 2008 ozone national ambient air quality standards (NAAQS). Plaintiffs seek a schedule by which EPA will promulgate such FIPs pursuant to CAA section 110(c)(1), 42 U.S.C. 7410(c)(1).

6. I have relied upon my staff to provide the factual information concerning the regulatory steps and schedule needed for the particular actions at issue in the case for which I make this declaration. The purpose of this declaration is to provide the Court with factual information, background, and context on the nature of the interstate ozone transport problem and on the work EPA has performed to date, and to explain why the dates we propose for a rulemaking schedule in this case are expeditious, while dates Plaintiffs propose for action would not be feasible in light of the nature of the action at issue and EPA's statutory procedural obligations.

7. This declaration is organized as follows:

- a. Section I (Overview) provides a summary of EPA's requested schedule and the basis for this request, grounded in realistic timeframes required for EPA to conduct expeditious, regional-scale rulemakings under the good neighbor

provision and other statutory rulemaking requirements. This includes citation to the relevant paragraphs where more detailed justification is provided.

- b. Section II (Background, beginning at paragraph 17) covers the history of EPA's implementation of the good neighbor provision for ozone, starting with the NO_x SIP Call, through the Clean Air Interstate Rule (CAIR), and the Cross-State Air Pollution Rule (CSAPR) (section II.ii, beginning at paragraph 20). The explanation of these rules provides foundation for understanding the analytical steps and associated timeframes that can reasonably be expected in order to take the action at issue in this case. This section also provides background on the CSAPR Update and CSAPR Close-out and the D.C. Circuit's decisions in *Wisconsin v. EPA* and *New York v. EPA* (section II.iii.c-e, beginning at paragraph 57).
- c. Section III (Analytical Steps, beginning at paragraph 80) explains the analytical steps and associated timeframes required to conduct this action, including the work EPA has done to-date (section III.ii), the reasons why a regional-scale rulemaking is appropriate (section III.iii), and the work to be done for each step in EPA's 4-step good neighbor framework (section III.iv). In particular, in section III.iv.b, there is an explanation for why EPA's assessment of longer-term emissions controls for power plants (paragraphs 122-125) and other industrial sectors (paragraphs 126-150) at Step 3 of that framework will take longer to complete than March of 2021.

- d. Section IV (Rulemaking Steps, beginning at paragraph 159) describes the internal and external administrative steps needed to complete a rulemaking of this nature, including a table summarizing these steps at paragraph 159.
- e. Section V (Flaws in Plaintiffs Schedule, beginning at paragraph 175) explains why Plaintiffs are incorrect that EPA can complete a rule addressing the Upwind States' remaining obligations by March of 2021. Based on the minimum timeframes required for public comment and other procedural steps under the CAA, and the extensive technical record that would need to be developed for a complete remedy to remaining good neighbor obligations between the close of that comment period and a final rule by March 1, 2020, EPA believes that Plaintiff's requested schedule is impossible. *See* paragraphs 175-184.
- f. Section VI summarizes the rulemaking schedule EPA requests.

I. Overview

8. Based on a full assessment of the information available to me and considering the totality of the steps necessary to evaluate Upwind States' remaining obligations pursuant to the good neighbor provision and to complete the rulemaking process necessary to promulgate FIPs, EPA anticipates that the most expeditious date by which the Administrator can take final action fully resolving the remaining outstanding obligations of the Upwind States is December 15, 2022. This reflects an expeditious, bifurcated rulemaking schedule that will allow EPA to obtain any available and required emission reductions by the 2021 Serious area attainment date, while providing the necessary time for EPA to properly assess and develop regulations for more complicated, longer-term control strategies.

9. The bifurcated rulemaking schedule EPA proposes is as follows: the Administrator will sign a notice of proposed action by October 1, 2020, and sign a notice of final action by March 15, 2021, which will partially address outstanding obligations in time for the 2021 Serious area attainment date (Rulemaking #1). For the second rule *fully* resolving any remaining obligations after 2021, EPA will sign a notice of proposed action by June 21, 2021, and sign a notice of final action by March 15, 2022, *unless* EPA signs a supplemental notice of proposed rulemaking by March 15, 2022, in which case, EPA will sign a notice of final action by December 15, 2022 (Rulemaking #2).

10. This proposed schedule is compliant with the D.C. Circuit's holding in *Wisconsin v. EPA*, 938 F.3d 303 (D.C. Cir. 2019). EPA can make a showing of impossibility that it cannot complete a full-remedy rulemaking by next March. The basis for this showing is laid out primarily in paragraphs 175-184, responding in detail to Plaintiffs' asserted basis for their requested rulemaking schedule. This comports with the D.C. Circuit's direction that implementing good neighbor obligations beyond the dates established for attainment may be justified on a proper showing of impossibility. 938 F.3d at 320. Second, EPA's rulemaking schedule presents a clear plan for expeditiously fully resolving the remaining obligations. The *Wisconsin* court found in reviewing the CSAPR Update that EPA had left obligations outstanding beyond an attainment date, with no expressed plan for resolving those obligations. *Id.* at 314. Here, by contrast, EPA has made clear its plan for fully resolving remaining obligations as quickly as possible, as reflected in the schedule for Rulemaking #2.

11. As explained in more detail below, this bifurcated schedule allows the Agency to quickly implement certain potentially available near-term emission reductions as may be necessary to resolve or partially resolve the significant contribution of the Upwind States to

downwind problems in time for the 2021 Serious area attainment date under the 2008 ozone NAAQS. Further, by providing for a second rulemaking on a longer timeframe, this schedule allows EPA the necessary time to conduct a comprehensive analysis of the full suite of control strategies in Upwind States that may be necessary to address any continuing significant contribution to downwind ozone problems after the 2021 attainment date. The total rulemaking timeframe is both reasonable and expeditious considering that prior good neighbor rulemakings have typically taken approximately three years to complete. Running from a start date of the D.C. Circuit's remand in the *Wisconsin* decision, EPA's historical experience would suggest a final rule deadline in the fall of 2022, *see* paragraphs 84-87, 179.

12. The schedule for Rulemaking #1 is very aggressive and is only possible because of the narrower scope of such a rule, *see* paragraphs 102, 168, 170-71. This schedule reflects the work EPA has done to-date, such as conducting new air quality modeling over the past several months, *see* paragraphs 90-94. It assumes the shortest period for public comment that is reasonable under CAA rulemaking requirements, 45 days, *see* paragraph 167. It is based on a presumption that EPA will not need to substantially revise its air quality or emissions-control analyses based on public comment or new information after the proposal, *see* paragraphs 111, 125, 146-147.

13. Further, a limited rule focused on near-term emission-reduction requirements that are actually implementable by the 2021 ozone season makes sense from the standpoint of prioritizing regulatory efforts. During the short period of time available to develop this rulemaking, the Agency would be able to focus on relatively well-understood additional emissions control opportunities within the electric power sector that may be possible without the installation of new emissions control technology and thus may be implementable within a matter

of weeks after the effective date of the final rule, *see* paragraphs 102, 125, 170. The longer-term control strategies EPA intends to evaluate in Rulemaking #2 not only take longer for the Agency to evaluate in the course of rulemaking development; they also likely involve new capital projects that take longer to install at stationary sources of emissions and therefore would not be implementable by the 2021 ozone season, even if EPA finalized a rule requiring such controls by March of 2021, *see* paragraphs 60, 115, 120, 125, 140-41, 148-49.

14. The schedule for Rulemaking #2 allows the Agency the time to develop a technically robust and defensible “complete remedy” for any remaining outstanding good neighbor obligations based on analysis of a fuller suite of emissions control opportunities across multiple industrial sectors, not just the power sector. EPA believes a June 2021 date for proposal in Rulemaking #2 is necessary, given that the Agency’s efforts will be primarily focused on the completion of Rulemaking #1 by March 15, 2021, and eight months of technical analytical work and drafting will be needed on Rulemaking #2 before a proposal is ready for review and signature, *see* paragraphs 81, 125, 148. EPA anticipates that after a 60-day public comment period, if substantial new information is not presented that would alter EPA’s proposed analysis and regulatory approach, then five months of technical work would be needed to respond to comments and prepare a final rule for review and signature by March 15, 2022, *see* paragraph 149.

15. However, EPA’s current information related to control strategies at sources outside the power sector (referred to as “non-EGUs”) is relatively incomplete, and EPA anticipates substantial change in this information based on public comment on the Rulemaking #2 proposal, *see* paragraphs 146-147. Therefore, in the second rulemaking, EPA has included, as a contingency, the potential need for a supplemental proposal to provide the public an

opportunity to comment on a substantially changed regulatory analysis for these sources. If, in EPA's discretion, it determines to exercise this contingency, it would issue a supplemental proposal rather than a final rule by March 15, 2022. EPA would provide 60 days for public comment and would then need five months of technical work to respond to comments and prepare a final rule for review and signature by December 15, 2022, *see* paragraph 148.

16. The technical steps and associated timeframes for this rulemaking schedule, including EPA's work to-date, air quality analyses, emissions-control analyses, and other technical steps are set forth in section III below. The internal and external administrative steps of the rulemaking process are laid out in section IV below. Paragraph 159 contains a table summarizing the timeframes for the two rulemaking schedules bringing together the time estimates for both the technical and administrative steps associated with the rulemaking. This table is based on Gantt charts EPA has prepared showing in detail the steps associated with Rulemaking #1 and Rulemaking #2 (with and without a supplemental proposal). *See* Attachment 1. Finally, I will explain why Plaintiffs' proposed schedule for a complete-remedy rulemaking by March 1, 2020, is impossible in section V.

II. Background Regarding Federal Rulemakings to Address Interstate Transport

i. Legal Framework for NAAQS Implementation

17. OAR is responsible for the development and implementation of regulations, policy and guidance associated with state implementation plan (SIP) requirements under the CAA, including for ozone. These SIP requirements include the "infrastructure" SIP revisions required by section 110(a)(1) and (2). In general, the infrastructure SIP submissions address a broad range of statutory requirements relevant to the attainment and maintenance of the NAAQS in each state. The applicable elements of section 110(a)(2) address various regulatory concerns,

including legal authority and substantive requirements, for a range of issues relevant to the CAA. In particular, section 110(a)(2)(D)(i)(I) (also referred to as the “good neighbor provision”) requires each state to address the interstate transport of pollutants in its infrastructure SIP (this subset of the infrastructure SIP is also referred to as the “good neighbor SIP”) in order to assist other states in attaining and maintaining the relevant NAAQS. The good neighbor provision specifically requires that state plans “contain adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any . . . national ambient air quality standard [NAAQS].” 42 U.S.C. 7410(a)(2)(D)(i)(I). These SIPs are due to EPA three years after promulgation of the NAAQS.

18. Once a state submits a SIP, including a good neighbor SIP required by section 110(a)(2)(D)(i)(I), EPA must determine whether the submission meets certain minimum completeness criteria, which are defined pursuant to CAA section 110(k)(1)(A), 42 U.S.C. 7410(k)(1)(A). The statute provides that EPA shall make such a determination within 60 days of receipt of the plan, but no later than six months after the date, if any, by which the state was required to make the submission per section 110(k)(1)(B), 42 U.S.C. 7410(k)(1)(B). That section further provides that if the Administrator has not determined whether the plan is complete within six months after receipt of the submission, the SIP is deemed to be complete by operation of law. Section 110(k)(2) then provides that EPA has 12 months from the determination of completeness (whether by EPA or by operation of law) to approve or disapprove, in whole or in part, the state’s submission in accordance with section 110(k)(3). 42 U.S.C. 7410(k)(2) and (3).

19. In the event that a state does not submit a required SIP addressing the applicable elements of section 110(a)(2), including the requirements of the good neighbor provision, EPA publishes in the *Federal Register* a “finding of failure to submit” constituting EPA’s official determination, per section 110(k)(1)(B), that a state has failed to make a required SIP submission. If EPA disapproves a state’s SIP submission or if EPA issues a finding of failure to submit, the action triggers obligations for EPA under section 110(c)(1) of the CAA, which requires EPA to promulgate a FIP within two years, unless the state corrects the deficiency and EPA approves the plan or plan revision before EPA promulgates a FIP. 42 U.S.C. 7410(c)(1). FIPs must be signed by the Administrator of EPA. *Id.* 7601(a), 7607(d)(1)(B).

ii. Ozone Transport and Prior Good Neighbor Rulemakings

20. Ground-level ozone causes a variety of negative effects on human health, vegetation, and ecosystems. In humans, acute and chronic exposure to ozone is associated with premature mortality and a number of morbidity effects, such as asthma exacerbation. Ozone exposure can also negatively impact ecosystems, for example, by limiting tree growth.

21. Ground-level ozone is not emitted directly into the air but is a secondary air pollutant created by chemical reactions between oxides of nitrogen (NO_x), carbon monoxide (CO), methane (CH₄), and non-methane volatile organic compounds (VOCs) in the presence of sunlight. Emissions from electric utilities, industrial facilities, motor vehicles, gasoline vapors, and chemical solvents are some of the major anthropogenic sources of ozone precursors. The potential for ground-level ozone formation increases during periods with warmer temperatures and stagnant air masses; therefore, ozone levels are generally higher during the summer months.¹

¹ Rasmussen, D.J. et. al. (2011), Ground-level ozone-temperature relationships in the eastern US: A monthly climatology for evaluating chemistry-climate models. *Atmospheric Environment* 47: 142-153.

22. Precursor emissions can be transported downwind directly or, after transformation in the atmosphere, as ozone. Studies have established that ozone formation, atmospheric residence, and transport occur on a regional scale (i.e., hundreds of miles) over much of the eastern United States, with elevated concentrations occurring in rural as well as metropolitan areas. As a result of ozone transport, in any given location, ozone pollution levels are impacted by a combination of local emissions and emissions from upwind sources. The transport of ozone pollution across state borders can compound the difficulty for downwind states in meeting health-based air quality standards (i.e., the NAAQS). Numerous observational studies have demonstrated the transport of ozone and its precursors and the impact of upwind emissions on high concentrations of ozone pollution.²

23. In order to address the regional transport of ozone pursuant to the good neighbor provision, EPA has promulgated four regional rules focusing on the reduction of NO_x emissions from states in the eastern half of the United States, described in more detail in section II below. Each of these rulemakings to address the interstate transport of ozone have been the subject of significant public interest and have garnered a substantial number of public comments challenging EPA's legal, policy, and technical decisions. Each of these rulemakings was subject to litigation, and the resulting court decisions have guided and focused EPA's approach to addressing the interstate transport of ozone pollution pursuant to CAA section 110(a)(2)(D)(i)(I). While the decisions resulting from the litigation have clarified and validated various aspects of EPA's approach to addressing the interstate transport of ozone pollution pursuant to the good

² See, e.g., Bergin, M.S. et. al. (2007), Regional air quality: local and interstate impacts of NO_x and SO₂ emissions on ozone and fine particulate matter in the eastern United States. *Environmental Sci. & Tech.* 41: 4677-4689; Liao, K. et. al. (2013), Impacts of interstate transport of pollutants on high ozone events over the Mid-Atlantic United States. *Atmospheric Environment* 84, 100-112.

neighbor provision, the circumstances of each rule raise novel technical and policy issues, and the public has continued to raise challenges to the various and complicated steps of these rulemakings.

a. NO_x SIP Call

24. The first regional rulemaking that EPA promulgated to address the interstate transport of ozone pollution is referred to as the NO_x SIP Call, which was promulgated in 1998 in order to address the good neighbor provision for the 1979 1-hour ozone NAAQS and the 1997 8-hour ozone NAAQS. 63 Fed. Reg. 57,356 (Oct. 27, 1998). The rule required 22 eastern states and the District of Columbia to amend their SIPs and limit NO_x emissions that contribute to ozone nonattainment. EPA set a NO_x ozone season emission budget (i.e., limit on statewide allowable emissions) for each covered state. The covered states were given the option to achieve most of the required reductions by amending their SIPs to require their power plant sources (referred to as electric generating units or EGUs) and certain sources outside the power sector (commonly referred to in the good neighbor context as non-EGUs) to participate in a regional allowance trading program known as the NO_x Budget Trading Program; states were also given the option to develop alternative approaches to meeting the NO_x ozone season emissions budgets.

25. In order to calculate the necessary emissions reductions under the good neighbor provision pursuant to these NAAQS, EPA first evaluated three air quality factors to determine whether each state had emissions whose contributions to downwind nonattainment problems are large and/or frequent enough to be of concern: (1) the overall nature of the ozone problem; (2) the extent of the downwind nonattainment problems to which the upwind state's emissions are

linked; and (3) the ambient impact of the emissions from the upwind state's sources on the downwind nonattainment problems.

26. As to the first consideration, EPA found that “ozone generally results from the collective contribution of emissions from numerous sources over a large geographic area.” *Id.* at 57,377. “[F]or urban nonattainment areas under the [1979] 1-hour [ozone] NAAQS, the downwind sources, [sic] comprise numerous stationary sources as well as mobile onroad sources, mobile off-road sources, and consumer and commercial products. Further, additional contributions are made by numerous upwind States, both adjacent to and further away from the nonattainment area itself.” *Id.* at 57,377. With respect to the NAAQS being addressed by the NO_x SIP Call, EPA cited multiple modeling studies which indicate that upwind States contribute significantly to those downwind nonattainment problems under both standards:

In general, under the [1979] 1-hour standard, emissions from each upwind State affect at least several, primarily urban, nonattainment areas downwind. For example, each of the midwest/southern States of Ohio, Kentucky, Tennessee, West Virginia, Virginia, and North Carolina affects between five and eight downwind nonattainment areas. Under the [1997] 8-hour standard, emissions from each upwind State affect nonattainment problems that comprise an even larger geographic area. For example, Ohio, Kentucky, Tennessee, West Virginia, Virginia, and North Carolina each affect between eight to thirteen downwind States with nonattainment problems.

Id. at 57403.

27. EPA concluded that the regional nature of the ozone transport problem (as it existed at that time) supported the need for a regional analysis in order to evaluate which upwind emissions should be reduced to address downwind air quality. EPA noted, “[t]he fact that virtually every nonattainment problem is caused by numerous sources over a wide geographic area is a factor suggesting that the solution to the problem is the implementation over a wide area of controls on many sources, each of which may have a small or unmeasurable ambient impact by itself.” *Id.* at 57,377.

28. With respect to the second consideration, the extent of the downwind nonattainment problems to which the upwind state's emissions are linked, EPA first identified those downwind areas expected to have air quality problems relative to the NAAQS. EPA explained that it relied on both current monitored data and projections of air quality to a future year to identify these areas because the term "will" in section 110(a)(2)(D)(i)(I) "means that SIPs are required to eliminate the appropriate amounts of emissions that presently, or that are expected in the future to, contribute significantly to nonattainment downwind." *Id.* at 57,375.

Thus,

[i]n determining whether a downwind area has a nonattainment problem under the [1979] 1-hour standard to which an upwind area may be determined to be a significant contributor, EPA determined whether the downwind area currently has a nonattainment problem, and whether that area would continue to have a nonattainment problem as of the year 2007 assuming that in that area, all controls specifically required under the CAA were implemented, and all required or otherwise expected Federal measures were implemented. If, following implementation of such required CAA controls and Federal measures, the downwind area would remain in nonattainment, then EPA considered that area as having a nonattainment problem to which upwind areas may be determined to be significant contributors.

Id. at 57,377. EPA concluded, "The fact that a nonattainment problem persists, notwithstanding fulfillment of CAA requirements by the downwind sources, is a factor suggesting that it is reasonable for the upwind sources to be part of the solution to the ongoing nonattainment problem." *Id.* EPA therefore used air quality modeling to identify projected air quality problems in 2007, considering other control requirements that were expected to be implemented by that date and the growth in emissions due to economic growth and the anticipated greater use of vehicles. *Id.* at 57,375. EPA determined that the contribution of each affected state to a downwind nonattainment problem, in conjunction with the contribution from other upwind States, "comprised a relatively large percentage of the nonattainment problem." *Id.* at 57,377.

29. With respect to the third consideration, EPA conducted additional air quality modeling to evaluate the ambient impact of emissions from upwind sources. EPA evaluated the downwind contribution from emissions in upwind states considering three factors: (a) the magnitude of the contribution; (b) the frequency of the contribution; and (c) the relative amount of the contribution. *Id.* at 57,387. EPA determined that “the impacts from each affected upwind State’s NO_x emissions are sufficiently large and/or frequent so that the amounts of that State’s emissions should be considered to be significant contributions, depending on the cost factor and other relevant considerations.” *Id.* at 57,377.

30. For those states whose ozone contributions were determined to be large and/or frequent enough to be of concern, EPA then determined what amount of emissions reductions should be required of sources in each of these states. EPA quantified emissions reductions for each state based on

whether any amounts of the NO_x emissions may be eliminated through controls that, on a cost-per-ton basis, may be considered to be highly cost effective. By examining the cost effectiveness of recently promulgated or proposed NO_x controls, EPA determined that an average of approximately \$2,000 (1990\$) per ton removed is highly cost effective. The EPA then determined a set of controls on NO_x sources that would cost no more than an average of \$2,000 per ton reduced.

Id. at 57,377-78. In order to quantify emissions reductions that would be required of upwind states contributing to multiple downwind air quality problems, EPA followed a number of steps: (1) EPA determined the amount of NO_x emissions in each State by the year 2007, based on assumptions concerning both growth and emissions controls that are required under the CAA or that will be implemented due to Federal actions, referred to as the “2007 base case”; (2) EPA applied the control measures identified as highly cost effective to the 2007 base case amount for the appropriate source categories; (3) EPA determined each State’s 2007 budget as the amount of NO_x emissions remaining in the State after application of controls to the affected source

categories. *Id.* at 57,378. The difference between the 2007 base case and the 2007 budget is the amount of NO_x emissions in that State by the year 2007 that EPA determined would contribute significantly to nonattainment and that, therefore, the SIPs must prohibit. *Id.* EPA concluded that “the downwind impact from each individual upwind State’s reductions may be relatively small, but the impact from all upwind reductions, collectively, is appreciable.” *Id.* at 57,403.

31. Although initially stayed by the D.C. Circuit, the NO_x SIP Call was largely upheld by the that court in *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001).³ The court addressed a number of issues, among them several that have guided EPA’s further efforts to address the interstate transport of ozone. In particular, the petitioners challenged EPA’s interpretation of the term “significance” in section 110(a)(2)(D)(i)(I) in two pertinent ways. First, the petitioners challenged EPA’s consideration of the cost of reducing ozone in quantifying those amounts of emissions from upwind states that would constitute “significant” contribution. *See id.* at 674. Second, petitioners challenged EPA’s application of a uniform control strategy to quantify upwind states’ emission reduction obligations. *See id.* at 679. The court concluded as to both decisions that “there is nothing in the text, structure, or history of [section] 110(a)(2)(D) that bars EPA from considering cost in its application.” *Id.*

b. Clean Air Interstate Rule

32. The Clean Air Interstate Rule (CAIR), promulgated in 2005, addressed both the 1997 PM_{2.5} and the 1997 ozone standards under the good neighbor provision. 70 Fed. Reg. 25,162 (May 12, 2005). CAIR required SIP revisions in 28 states and the District of Columbia to

³ Discussion of court holdings here and throughout the declaration is based on my understanding of the caselaw, as advised by EPA staff and legal counsel, and is provided solely for informational purposes as relevant to the timeframe we are requesting for rulemaking here.

ensure that certain emissions of sulfur dioxide (SO₂) and/or NO_x – important precursors of regionally transported PM_{2.5} (SO₂ and NO_x) and ozone (NO_x) – were prohibited.

33. As in the NO_x SIP Call, EPA used air quality modeling techniques to assess the impact of each upwind State's inventory of NO_x and VOC emissions on downwind ozone nonattainment. EPA determined that upwind NO_x emissions contribute significantly to 8-hour ozone nonattainment as of the year 2010. Therefore, EPA projected NO_x emissions to the year 2010, assuming certain required controls, and then modeled the impact of those projected emissions on downwind 8-hour ozone nonattainment in that year. *Id.* at 25,175.

34. EPA adopted the same approach to quantifying the level of states' significant contribution to downwind nonattainment areas in CAIR as it used in the NO_x SIP Call, based on the determination in the NO_x SIP Call that downwind ozone nonattainment is due to the impact of emissions from numerous upwind sources and states. *See id.* at 25,172. Therefore, in order to apportion emission reduction responsibility among multiple upwind states contributing to an identified downwind nonattainment receptor, EPA interpreted the statute as requiring emissions reductions in “amounts that would result from application of highly cost-effective controls” in each state significantly contributing to downwind nonattainment. *Id.* at 25,175. EPA determined that, at that time, EGUs were the only source category for which highly cost-effective controls were available. *Id.* at 25,213-15.

35. As under the NO_x SIP Call, to satisfy their SIP obligations states were given the option of requiring their sources to participate in regional emissions-allowance trading programs. When the EPA promulgated the final CAIR in May 2005, EPA also issued a national rule finding that states had failed to submit SIPs to address the requirements of CAA section 110(a)(2)(D)(i) with respect to the 1997 PM_{2.5} and the 1997 ozone NAAQS. 70 Fed. Reg. 21,147. Those states

were required by the CAA to have submitted good neighbor SIPs for those standards by July 2000. *Id.* at 21,148. These findings of failure to submit triggered a two-year clock for EPA to issue FIPs to address interstate transport, and EPA subsequently promulgated FIPs to ensure that the emissions reductions required by CAIR would be achieved on schedule. 71 Fed. Reg. 25,328 (April 28, 2006). The FIPs required EGUs in each covered state to participate in federal allowance trading programs unless and until the state submitted and EPA approved a SIP revision to achieve the required emission reductions either through comparable state allowance trading programs or in some other way.

36. CAIR was remanded to EPA by the D.C. Circuit in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), *modified on reh'g*, 550 F.3d 1176. The court addressed a number of issues, among them several that have guided EPA's further efforts to address the interstate transport of ozone. Among other things, the court evaluated EPA's interpretation of the requirement in section 110(a)(2)(D)(i)(I) that states prohibit emissions in amounts that "will" significantly contribute to nonattainment or interfere with maintenance of the NAAQS. The court determined that EPA's approach to defining nonattainment relative to both present-day violations and projected future nonattainment was a reasonable interpretation of the statute. *Id.* at 913-914. The court also held that EPA should have better aligned the implementation of CAIR with the attainment dates in the Act and could not rely on claims of "infeasibility," since good neighbor obligations must be implemented "consistent with" the other provisions of title I of the Act. *Id.* at 911-12. While the court instructed EPA to replace CAIR "from the ground up," *id.* at 929, EPA was permitted to continue implementing CAIR during the development of its replacement.

c. Cross-State Air Pollution Rule

37. In 2011, EPA promulgated the Cross-State Air Pollution Rule (CSAPR) to address the issues raised by the remand of CAIR, to replace CAIR with respect to the 1997 ozone NAAQS and 1997 PM_{2.5} NAAQS, and additionally to address the good neighbor provision for the 2006 PM_{2.5} NAAQS. 76 Fed. Reg. 48,208, 48,217 (Aug. 8, 2011). CSAPR, which replaced CAIR entirely, required 28 states to reduce SO₂ emissions, annual NO_x emissions, and/or ozone season NO_x emissions that significantly contribute to other states' nonattainment or interfere with other states' abilities to maintain these air quality standards.

38. CSAPR used a four-step framework to address the good neighbor provision as to the 2008 ozone NAAQS, an approach that reflects the evolution of EPA's approach to address regional interstate ozone transport since the NO_x SIP Call and CAIR. The four steps of the framework are: (1) identifying downwind receptors that are expected to have problems attaining or maintaining clean air standards (i.e., NAAQS); (2) determining which upwind states contribute to these identified problems in amounts sufficient to "link" them to the downwind air quality problems; (3) for states linked to downwind air quality problems, identifying upwind emissions that significantly contribute to nonattainment or interfere with maintenance of a standard; and (4) for states that are found to have emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, implementing reductions through enforceable measures, in the case of CSAPR and prior rules, regional emission allowance trading programs.

39. As in the NO_x SIP Call and CAIR, in Step 1 of the framework, EPA identified downwind areas with air quality problems based on air quality modeling projections to a future compliance year, in this case 2012. *See id.* at 48,229. The modeling was used to identify not only those areas projected to be in nonattainment with one of the three NAAQS addressed by the

rule, but also to identify those areas that may, despite projected attainment, struggle to maintain the NAAQS, in response to the court's holding in *North Carolina*, 531 F.3d at 910-11 (holding that EPA must give "independent effect" to the "interfere with maintenance" clause of the good neighbor provision).

40. Citing to prior determinations made in the NO_x SIP Call and CAIR, EPA continued to find that multiple upwind states contributed to downwind ozone nonattainment. Specifically, EPA found "that the total 'collective contribution' from upwind sources represents a large portion of PM_{2.5} and ozone at downwind locations and that the total amount of transport is composed of the individual contribution from numerous upwind states." *Id.* at 48,237. Accordingly, in Step 2 of the framework, EPA identified upwind states as "linked" to downwind receptors as those states that were modeled to contribute at or above a threshold, which EPA selected in CSAPR to be one percent of the applicable NAAQS. *Id.* at 48,236. Upwind states linked to one of these downwind nonattainment or maintenance areas were then evaluated to determine what level of emissions reductions should be required of each state. *Id.*

41. In order to apportion emissions reduction responsibility among multiple upwind states contributing to an identified downwind nonattainment or maintenance problem in Step 3 of the framework, EPA used cost- and air-quality-based criteria to quantify the amount of emissions that represent a linked state's significant contribution to nonattainment and interference with maintenance in another state. *Id.* at 48,246. EPA refined its approach for quantifying state emissions reductions used in the NO_x SIP Call and CAIR, considering both cost and air quality improvements to identify the portion of a state's contribution to a downwind air quality problem that constitutes its significant contribution to nonattainment and interference with maintenance of the NAAQS. *Id.* at 48,248.

42. EPA explained that “using both air quality and cost factors allows EPA to consider the full range of circumstances and state-specific factors that affect the relationship between upwind emissions and downwind nonattainment and maintenance problems.” *Id.* EPA continued, “considering cost takes into account the extent to which existing [power] plants are already controlled as well as the potential for, and relative difficulty of, additional emission reductions.” *Id.* “The methodology defines each state’s significant contribution to nonattainment and interference with maintenance as the emissions reductions available at a particular cost threshold in a specific upwind state which effectively address nonattainment and maintenance of the relevant NAAQS in the linked downwind state of concern.” *Id.*

43. The methodology, which EPA refers to as its multi-factor test for quantifying significant contribution to nonattainment and interference with maintenance, includes the following: identification of available NO_x control strategies and the associated costs of such controls; identification of upwind “cost thresholds” representing uniform levels of NO_x control stringency; identification of each state’s emission reduction potential available at these cost thresholds; quantification of state emissions budgets (i.e., remaining emissions) reflecting the upwind emissions reductions previously assessed at each cost threshold; assessment of the impact of upwind emissions reductions on downwind air quality at each cost threshold; selection of the level of emissions limits (i.e., emissions budgets) that deliver cost-effective emissions reductions and downwind air quality improvement without over-controlling.

44. EPA determined that cost-effective emissions reductions were available from EGUs, and that there were few or no reductions available from non-EGUs at costs below the thresholds EPA identified in the final rulemaking. *Id.* at 48,249. Specifically, with respect to ozone season NO_x, CSAPR finalized EGU ozone season NO_x budgets using uniform cost of

\$500 per ton (2007\$). *Id.* at 48,256-57. Accordingly, EPA quantified state emissions budgets for certain EGUs in each state and, to accomplish implementation aligned with the applicable attainment deadlines in step 4 of the framework, EPA promulgated FIPs for each of the 28 states covered by CSAPR that require affected EGUs to participate in regional allowance trading programs to achieve the necessary emissions reductions. *Id.* at 48,210-11.⁴

45. CSAPR was subject to nearly four years of litigation in the D.C. Circuit and the Supreme Court, which resulted in long periods of significant uncertainty regarding EPA's authority and obligations pursuant to the good neighbor provision. On December 30, 2011, the D.C. Circuit granted motions from state and industry petitioners to stay the implementation of the CSAPR allowance trading programs pending further litigation, days before the first compliance period was scheduled to begin. *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. Dec. 30, 2011), ECF No. 1350421. Subsequently, on August 21, 2012, the D.C. Circuit issued a decision in *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012) (*EME Homer City I*), vacating CSAPR based on two holdings. First, the court held that states had no obligation to submit good neighbor SIPs until EPA had first quantified each state's good neighbor obligation. *Id.* The implication of this decision was that EPA did not have authority to promulgate the CSAPR FIPs as a result of states' failures to submit good neighbor SIPs or EPA's disapproval of those SIPs. The D.C. Circuit also held that EPA erred in apportioning upwind emission reduction obligations using uniform cost thresholds, and that such an approach may result in unnecessary over-control of upwind state emissions. EPA sought

⁴ In 2011, EPA finalized a supplemental rule that added five states to the CSAPR NO_x ozone season allowance trading program. 76 Fed. Reg. 80,760 (Dec. 27, 2011). In 2012, EPA also finalized two rules making certain revisions to CSAPR. 77 Fed. Reg. 10,324 (Feb. 21, 2012); 77 Fed. Reg. 34,830 (June 12, 2012).

review, first with the D.C. Circuit *en banc* and then with the Supreme Court. While the D.C. Circuit declined to consider EPA's appeal *en banc*, *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. Jan. 24, 2013), ECF No. 1417012, on January 23, 2013, the Supreme Court granted EPA's petition for certiorari, *EPA v. EME Homer City Generation, L.P.*, 133 S. Ct. 2857 (2013).

46. On April 29, 2014, the Supreme Court issued a decision reversing the D.C. Circuit's *EME Homer City I* opinion. *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014). The Court held that under the plain language of the CAA, states must submit SIPs addressing the good neighbor provision within three years of promulgation of a new or revised NAAQS, regardless of whether EPA first provides guidance, technical data or rulemaking to quantify the state's obligation. *Id.* at 1600-01. The Court also reversed the D.C. Circuit's holding that EPA's use of cost to apportion upwind states' emission reduction obligations was impermissible, finding that EPA's approach was a "permissible construction of the statute." *Id.* at 1606-07. The Court explained that "EPA must decide how to differentiate among otherwise like contributions of multiple upwind states," and that EPA's approach to apportion such responsibility based on those emissions that can be reduced at a uniform cost-threshold "is an efficient and equitable solution to the allocation problem the Good Neighbor Provision requires the Agency to address." *Id.* at 1607.

47. The Supreme Court agreed with the D.C. Circuit to the extent the court held that "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State or at odds with the one-percent threshold the Agency has set." *Id.* at 1608. The Court acknowledged that

instances of "over-control" in particular downwind locations . . . may be incidental to reductions necessary to ensure attainment elsewhere. Because individual upwind States

often “contribute significantly” to nonattainment in multiple downwind locations, the emissions reductions required to bring one linked downwind State into attainment may well be large enough to push other linked downwind States over the attainment line. As the Good Neighbor Provision seeks attainment in *every* downwind State, however, exceeding attainment in one State cannot rank as “over-control” unless unnecessary to achieving attainment in *any* downwind State. Only reductions unnecessary to downwind attainment *anywhere* fall outside the Agency’s statutory authority.

Id. at 1608-09 (footnotes excluded). The Court further explained that “while EPA has a statutory duty to avoid over-control, the Agency also has a statutory obligation to avoid ‘under-control,’ *i.e.*, to maximize achievement of attainment downwind.” *Id.* at 1609. The Supreme Court remanded the litigation to the D.C. Circuit for further proceedings.

48. Following the Supreme Court’s remand, on October 23, 2014, the D.C. Circuit granted EPA’s request to lift the stay of implementation and toll the CSAPR implementation deadlines by three years. *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. Oct. 23, 2014), ECF No 1518738. Accordingly, implementation of CSAPR formally began in January 2015. *See* 79 Fed. Reg. 71,663 (Dec. 3, 2014).

49. On July 28, 2015, the D.C. Circuit issued its opinion on CSAPR regarding the remaining legal issues raised by the petitioners on remand from the Supreme Court, *EME Homer City Generation, L.P. v. EPA*, 795 F.3d 118 (*EME Homer City II*). This decision largely upheld EPA’s approach to addressing interstate transport in CSAPR, leaving the rule in place and affirming EPA’s interpretation of various statutory provisions and EPA’s technical decisions. However, the decision also remanded the rule without vacatur for reconsideration of the CSAPR emission budgets for certain states, finding that those budgets over-control or may over-control upwind state emissions in violation of the Supreme Court’s holding. In particular, the court declared invalid the CSAPR NO_x ozone season emission budgets of 11 states, holding that those budgets over-control with respect to the downwind air quality problems to which those states

were linked for the 1997 ozone NAAQS. *Id.* at 130. The court also remanded without vacatur the CSAPR SO₂ annual emission budgets for four states (Alabama, Georgia, South Carolina, and Texas) for reconsideration, holding that those budgets may over-control with respect to the downwind air quality problems to which those states were linked for the PM_{2.5} NAAQS. *Id.* at 129, 138. The court instructed EPA to act “promptly” in addressing these issues on remand. *Id.* at 132.

iii. The 2008 Ozone NAAQS Good Neighbor Obligations and the CSAPR Update and Close-Out Rules

a. *The 2008 Ozone NAAQS*

50. On March 12, 2008, EPA promulgated a revision to the NAAQS, lowering both the primary and secondary standards for ozone to 75 ppb. *See* National Ambient Air Quality Standards for Ozone, Final Rule, 73 Fed. Reg. 16,436 (March 27, 2008). These revisions of the NAAQS, in turn, triggered a three-year deadline of March 12, 2011, for states to submit SIP revisions addressing infrastructure requirements under CAA sections 110(a)(1) and 110(a)(2), including the good neighbor provision. During this three-year SIP development period, on September 16, 2009, EPA announced that it would reconsider the 2008 ozone NAAQS. To reduce the workload for states during the interim period of reconsideration, EPA also announced its intention to propose staying implementation of the 2008 standards. On January 6, 2010, EPA proposed to revise the 2008 NAAQS for ozone from 75 ppb to a level within the range of 60 to 70 ppb. *See* National Ambient Air Quality Standards for Ozone, 75 Fed. Reg. 2,938 (Jan. 19, 2010). EPA indicated its intent to issue final standards based upon the reconsideration by summer 2011.

51. As described above at paragraph 37, on August 8, 2011, EPA published the original CSAPR rulemaking, in response to the D.C. Circuit’s remand of EPA’s prior federal

transport rule, CAIR. *See* 76 Fed. Reg. 48,208. The original CSAPR addressed ozone transport under the 1997 ozone NAAQS, but did not address the 2008 ozone standard, because the 2008 ozone NAAQS was under reconsideration when CSAPR was finalized. On September 2, 2011, the Administrator of the Office of Information and Regulatory Affairs of the Office of Management and Budget returned the draft final 2008 ozone rule EPA had developed upon reconsideration to the Agency for further consideration.⁵ EPA decided to coordinate further proceedings on its voluntary reconsideration of the 2008 ozone standards with its ongoing periodic review of the ozone NAAQS. Implementation efforts for the original 2008 ozone standards were renewed.

52. As described in paragraphs 45-49, a number of legal developments pertaining to EPA's promulgation of the original CSAPR rulemaking also created uncertainty surrounding EPA's statutory interpretation and implementation of the good neighbor provision as it applied to the 2008 ozone NAAQS. EPA complied with the D.C. Circuit's ruling during the pendency of its appeal to the Supreme Court and indicated that it would not at that time issue findings that states had failed to submit good neighbor SIPs for the 2008 ozone NAAQS.⁶ On April 29, 2014, the Supreme Court reversed the D.C. Circuit's *EME Homer City I* opinion on CSAPR 134 S. Ct.

⁵ *See* Letter from Cass R. Sunstein, Administrator, Office of Information and Regulatory Affairs, to Lisa Jackson, Administrator, U.S. Environmental Protection Agency (Sept. 2, 2011), available at http://www.reginfo.gov/public/return/EPA_Return_Letter_9-2-2011.pdf.

⁶ *See, e.g.*, Memorandum from the Office of Air and Radiation former Assistant Administrator Gina McCarthy to the Air Division Directors, Regions 1-10, "Next Steps for Pending Redesignation Requests and State Implementation Plan Actions Affected by the Recent Court Decision Vacating the 2011 Cross-State Air Pollution Rule" (Nov. 19, 2012), available at https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20121119_mccarthy_redesig_sips_csa_pr_vacature.pdf; 78 Fed. Reg. 65,559 (Nov. 1, 2013) (final action on Florida infrastructure SIP submission for 2008 8-hour ozone NAAQS); 78 Fed. Reg. 14,450 (Mar. 6, 2013) (final action on Tennessee infrastructure SIP submissions for 2008 8-hour ozone NAAQS); Final Rule, Findings of Failure To Submit a Complete State Implementation Plan for section 110(a) Pertaining to the 2008 Ozone National Ambient Air Quality Standard, 78 Fed. Reg. 2,884 (Jan. 15, 2013).

at 1600-01. This decision confirmed that states were therefore required to submit SIPs addressing the good neighbor provision with respect to the 2008 ozone NAAQS by March 12, 2011.

b. *EPA's FIP Obligations with Respect to the Good Neighbor Provision and the 2008 Ozone NAAQS*

53. On July 13, 2015, EPA published a rule finding that 24 states failed to make complete submissions addressing the requirements of section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. *See* 80 Fed. Reg. 39,961 (July 13, 2015) (effective Aug. 12, 2015). This finding triggered a two-year deadline for EPA to issue FIPs to address the good neighbor provision for these states by August 12, 2017. The states included in this finding were: Alabama, Arkansas, California, Florida, Georgia, Illinois, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Vermont, Virginia, and West Virginia.

54. EPA issued separate notices finding that Maryland and New Jersey failed to make complete submissions that address the requirements of section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. *See* 81 Fed. Reg. 47,040 (July 20, 2016) (Maryland, effective Aug. 19, 2016); 81 Fed. Reg. 38,963 (June 15, 2016) (New Jersey, effective July 15, 2016). These findings triggered a two-year deadline for EPA to issue FIPs to address the good neighbor provision for Maryland by August 19, 2018 and New Jersey by July 15, 2018.

55. EPA has also finalized disapprovals or partial disapprovals of the good neighbor SIPs from Indiana, Louisiana, New York, Ohio, Texas, Utah, and Wisconsin, triggering EPA's authority and obligation to promulgate FIPs that implement the requirements of the good neighbor provision for those states. The deadlines for EPA to issue FIPs to address the good neighbor provision for these states were two years from the effective dates of the individual

notices disapproving the states' SIPs: *see* 81 Fed. Reg. 38,957, 38,963 (June 15, 2016) (FIP deadline of July 15, 2018 for Indiana, Ohio, and New Jersey); 81 Fed. Reg. 53,284, 53,308, 53,309 (Aug. 12, 2016) (FIP deadline of September 12, 2018 for Texas, Louisiana, and Wisconsin); 81 Fed. Reg. 58,849 (Aug. 26, 2016) (FIP deadline of September 26, 2018 for New York); and 81 Fed. Reg. 71,991 (Oct. 19, 2016) (FIP deadline of November 18, 2018 for Utah).⁷ EPA also proposed to partially disapprove the good neighbor SIP for the State of Wyoming with respect to the 2008 ozone NAAQS. 81 Fed. Reg. 81,712 (Nov. 18, 2016).

56. On March 7, 2013, EPA finalized action disapproving the good neighbor portion of the State of Kentucky's SIP submission for the 2008 ozone NAAQS. 78 Fed. Reg. 14,681 (March 7, 2013).

c. The CSAPR Update

57. On October 26, 2016, EPA published an update to CSAPR intended to respond to the D.C. Circuit's remand of the NO_x ozone season emission budgets and to address the good neighbor provision for the 2008 ozone NAAQS. *See* Cross-State Air Pollution Rule Update for the 2008 ozone NAAQS, 81 Fed. Reg. 74,504.⁸ This rule is referred to as the CSAPR Update. The CSAPR Update requires EGUs in 22 states to reduce ozone season NO_x emissions that significantly contribute to other states' nonattainment or interfere with other states' abilities to maintain the 2008 ozone NAAQS. The CSAPR Update used the same four-step framework as the original CSAPR rulemaking to address the good neighbor provision as to the 2008 ozone NAAQS, *see* paragraph 38.

⁷ EPA also approved SIPs addressing the good neighbor provision with respect to the 2008 ozone NAAQS for 14 states: Alaska, Arizona, Colorado, Idaho, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, Rhode Island, South Dakota, Vermont, and Washington.

⁸ The CSAPR Update also addressed remaining FIP obligations as to the 1997 ozone NAAQS. 81 Fed. Reg. at 74,525-26.

58. To evaluate the scope of the interstate ozone transport problem, Step 1 identified downwind areas that were expected to have problems attaining and maintaining the ozone NAAQS using modeling that projected air quality to a future compliance year. 81 Fed. Reg. at 74,517. EPA aligned the analysis and implementation of the CSAPR Update with the 2017 ozone season (May 1 – September 30) in order to assist downwind states with timely attainment of the 2008 ozone NAAQS. *Id.* at 74,516. EPA’s final 2008 Ozone NAAQS SIP Requirements Rule, 80 Fed. Reg. 12,264, 12,268 (Mar. 6, 2015), revised the attainment deadline for ozone nonattainment areas designated as Moderate to July 20, 2018. *See* 40 CFR 51.1103. In order to demonstrate attainment by this deadline, states were required to rely on design values calculated using ozone season data from 2015 through 2017, since the July 20, 2018 deadline did not afford enough time for measured data of the full 2018 ozone season.

59. Step 2 identified upwind states that collectively contribute to these identified downwind areas. In the CSAPR Update, EPA used a screening threshold of one percent of the NAAQS to identify states “linked” to downwind ozone problems sufficient for further evaluation for significant contribution to nonattainment or interference with maintenance of the NAAQS under the good neighbor provision. *Id.* at 74,518. This same threshold for analysis was used in the original CSAPR as to the 1997 ozone NAAQS.

60. At Step 3, EPA the same multi-factor test that was used in the original CSAPR, to evaluate increasing levels of uniform NO_x control stringency. The multi-factor test considered cost, available emission reductions, and downwind air quality impacts to determine the appropriate level of uniform NO_x control stringency to address the impacts of interstate transport on downwind nonattainment or maintenance receptors. *Id.* at 74,519. EPA’s assessment of upwind state emission reductions reflects analysis of uniform NO_x emissions control stringency.

Each level of uniform NO_x control stringency is represented by an estimated incremental cost per ton of NO_x reduced and is characterized by a set of pollution control measures. *Id.* at 74,519. EPA considered emissions reductions available from the implementation of control strategies that could be implemented by the 2017 ozone season including: restarting inactive selective catalytic reduction (SCR) controls; fully operating SCRs that were operating at less than full capacity; restarting inactive selective non-catalytic reduction controls (SNCR); and replacing outdated combustion controls with newer advanced technology (e.g., state-of-the-art low NO_x burners). *See* 81 Fed. Reg. at 74,541-42. EPA explained in the Update that additional reductions could be achieved from EGUs with the installation of post-combustion controls, such as SCR or SNCR, but that such controls require several years to install. *See id.* Accordingly, the emissions reductions achievable from the installation of post-combustion controls could not be implemented by 2017 and were not considered for purposes of calculating budgets in the CSAPR Update.

61. At Step 4, EPA promulgated FIPs for each of the 22 states covered by the CSAPR Update that require affected sources to participate in a regional allowance trading program to achieve the necessary emission reductions by 2017. *Id.* at 74,516. EPA quantified state-level budgets reflective of the reductions in emissions determined to be cost-effective under the multi-factor test at Step 3. The CSAPR Update emission budgets limit allowable emissions and represent the emission levels that remain after each state makes EGU NO_x emission reductions that are necessary to reduce interstate ozone transport for the 2008 NAAQS.

62. As noted at paragraph 58, EPA aligned implementation of the CSAPR Update with the 2017 ozone season in order to assist downwind states with the July 20, 2018 attainment

date. Therefore, EPA identified achievable upwind emissions reductions and aligned implementation of these reductions, to the extent possible, for the 2017 ozone season.

63. Given the unique circumstances surrounding the implementation of the 2008 ozone standard that delayed efforts by states and EPA to address interstate transport with respect to that standard, described above, EPA did not have sufficient time to finalize a rulemaking that would achieve a full remedy for interstate ozone transport by the 2017 ozone season in time to assist downwind states with demonstrating attainment by the July 2018 attainment date. *Id.* at 74,516. EPA decided to focus its efforts in the CSAPR Update rulemaking on the immediately available and cost-effective emission reductions that are achievable in that timeframe, recognizing that the remedy would be “partial” in nature.

64. While these reductions were found necessary to assist downwind states in attaining and maintaining the 2008 ozone NAAQS, and necessary to address good neighbor obligations for these states, EPA acknowledged that they may not be sufficient to fully address these states’ good neighbor obligations. *Id.* at 74,521. With respect to the 2008 ozone standard, EPA did not attempt to quantify the ozone season NO_x reductions that may be necessary to eliminate all significant contribution to nonattainment or interference with maintenance in other states. Given the time constraints for implementing NO_x reduction strategies, EPA believed that implementation of a full remedy that included emission reductions from EGUs as well as other sectors was not achievable for 2017. However, a partial remedy was achievable for 2017 and therefore the CSAPR Update focused on these more immediately available reductions.

65. As EPA explained in the CSAPR Update, it was not feasible for EPA to complete the analysis necessary to evaluate full elimination of each state’s significant contribution to nonattainment or interference with maintenance in that rulemaking and also ensure that

emissions reductions would be achieved by 2017. 81 Fed. Reg. at 74,522. In order to evaluate states' full good neighbor obligation, EPA explained that it must consider both non-EGU ozone season NO_x reductions and further EGU reductions that would be achievable after 2017. *Id.* at 74,521. EPA did not quantify non-EGU stationary source emissions reductions to address interstate ozone transport for the 2008 ozone NAAQS in the CSAPR Update for two reasons. First, EPA explained that there was greater uncertainty in EPA's assessment of non-EGU NO_x mitigation potential, and that more time would be required for states and EPA to improve non-EGU point source data and pollution control assumptions before it could develop emission reduction obligations based on that data. *Id.* at 74,542. Second, EPA explained that it did not believe that significant, certain, and meaningful non-EGU NO_x reduction was in fact feasible for the 2017 ozone season. *Id.*

66. Because the reductions required by the CSAPR Update are EGU-only and because EPA focused the policy analysis for the CSAPR Update on reductions available by the beginning of the 2017 ozone season, EPA determined that, for most states the CSAPR Update reductions represent a first, partial step to addressing a given upwind state's significant contribution to downwind air quality impacts for the 2008 ozone NAAQS. *Id.* at 74,521. Generally, a final determination of whether the EGU NO_x reductions quantified in the CSAPR Update represent a full or partial elimination of a state's good neighbor obligation for the 2008 NAAQS is subject to an evaluation of the anticipated remaining air quality problem in a future year, the contribution to interstate transport from upwind states with outstanding obligations in that year, and a Step 3 multi-factor analysis determining what emissions are "significant" and must be eliminated by that year.

67. For 21 of the CSAPR Update states, EPA determined that the emission reductions achieved through implementation of the budgets finalized in the rule only partially satisfied EPA's good neighbor FIP obligation to fully prohibit emissions that contribute to downwind air quality problems with respect to the 2008 ozone NAAQS pursuant to CAA section 110(a)(2)(D)(i)(I). *Id.* at 74,508.⁹ EPA did not conclude that sources in these states must necessarily implement further emission reductions, but rather noted that further analysis at each of the four steps was needed to determine what, if any, additional reductions would be required. *Id.* at 74,521-22.

68. EPA subsequently approved a SIP from the State of Kentucky resolving that state's good neighbor obligations for the 2008 ozone NAAQS. 83 Fed. Reg. 33,730 (July 17, 2018). After EPA's action approving Kentucky's SIP, EPA had a remaining obligation to promulgate FIPs for 20 states covered by the CSAPR Update to fully address their good neighbor provision with respect to the 2008 ozone NAAQS.

d. The CSAPR Close-Out

69. In December 2018, EPA issued the CSAPR "Close-Out" to address the good neighbor obligations that remained, if any, for the 20 remaining states following implementation of the Update. "Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard," 83 Fed. Reg. 65,878 (Dec. 21, 2018).¹⁰

⁹ For one state, Tennessee, EPA determined that the emission reductions achieved through implementation of its emission budget fully satisfies EPA's good neighbor FIP obligation for the 2008 ozone NAAQS. *Id.* at 74,508 n.19. EPA was able to draw this conclusion because the downwind air quality problem to which Tennessee contributed was projected to be resolved after implementation of the emissions reductions required by the CSAPR Update. Accordingly, no further emissions reductions would be required to address these air quality problems.

¹⁰ EPA finalized the Close-out by December 6, 2018, consistent with this Court's order setting a deadline for EPA to fully resolve good neighbor obligations for five states. *See New York v. Pruitt*, No. 18- cv-406 (S.D.N.Y), ECF No. 34.

70. EPA's analysis again proceeded under its four-step transport framework. To model air quality at Step 1, EPA first had to select the appropriate analytic year for assessing air quality and seeking reductions. The next downwind attainment dates for the 2008 ozone NAAQS were 2021 (for Serious nonattainment areas) and 2027 (for Severe nonattainment areas), so EPA considered whether potential Good Neighbor obligations could be addressed in time for the 2021 date. Because the CSAPR Update had assessed all available short-term control strategies, EPA anticipated that its consideration in the Close-Out Rule would focus on the three categories of long-term controls that it had been unable to assess in the first rulemaking: new catalytic and non-catalytic controls for power plants, and new controls on non-power plants. *See id.* at 65,893.

71. EPA further assessed these general NO_x control strategies to see whether they could provide a basis for structuring the Rule around a 2020 analytic year and determined they could not. *Id.* at 65,892-910.¹¹ EPA concluded that power plants' existing catalytic controls were already fully optimized under the CSAPR Update. *Id.* at 65,893. EPA reaffirmed its 2016 conclusion that optimizing existing non-catalytic controls was insufficiently cost-effective and that the emissions that could be eliminated therefore did not constitute "significant contribution." *Id.* at 65,893-94. And EPA determined that generation shifting did not constitute an independent basis for the Rule absent other control options. *See id.* at 65,894. Although the remaining control strategies presented new opportunities for significant emission reductions, EPA found they could not be installed by the 2020 ozone season. New catalytic controls represent by far the most efficacious control strategy available for power plants that do not already have such

¹¹ Consistent with its historical practice, EPA assessed 2020 as the last ozone season wholly occurring before the 2021 attainment date.

controls installed. But, fleet-wide installation across the CSAPR Update region, EPA estimated could take up to 48 months, in light of permitting times, labor and supply availability, and the coordination of electric-generation needs to ensure grid reliability. *See id.* at 65,895. New non-catalytic controls were unlikely to be implemented in time for the 2020 ozone season and, in any case, EPA noted they could be counterproductive by precluding installation of better catalytic controls. *See id.* at 65,901. Finally, EPA determined that reductions from non-EGUs likely could not be implemented by 2020. *See id.* at 65,903.

72. EPA thus determined that the most likely efficacious controls could not be implemented to resolve Good Neighbor obligations before the 2021 attainment date. But EPA also concluded that controls could be installed well before the 2027 attainment date, with expeditious installation occurring by 2023. *Id.* at 65,904-05. Accordingly, EPA structured the Rule around a 2023 analytic year and began its four-step consideration of Good Neighbor obligations.

73. EPA conducted modeling of the 2023 analytic year to project ozone concentrations for this year at monitoring sites nationwide. *Id.* at 65,911-12. Once completed, the Step 1 modeling showed that all downwind areas in the CSAPR Update region would be in attainment by 2023, when controls would otherwise be imposed. *Id.* at 65,917. The Close-Out Rule thus concluded that the NO_x controls imposed under EPA's first rulemaking, the CSAPR Update, had been sufficient to fully resolve upwind Good Neighbor obligations for the 2008 ozone NAAQS. *Id.* at 65,921.

e. The D.C. Circuit's Decisions in Wisconsin v. EPA and New York v. EPA

74. The CSAPR Update was subsequently challenged and the D.C. Circuit issued its opinion in *Wisconsin v. EPA* on September 13, 2019. 938 F.3d 303. Against a wide array of

challenges from environmental, industry, and state petitioners, the D.C. Circuit upheld the CSAPR Update in all respects save one: the court concluded the Update was inconsistent with the CAA to the extent that it was partial in nature and did not fully eliminate upwind states' significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS by the downwind states' 2018 Moderate attainment date. *Id.* at 313.

75. The court identified three bases for this holding: (1) the D.C. Circuit's prior opinion in *North Carolina v. EPA*, 531 F.3d 896 (2008), which held, in the context of CAIR, that the Good Neighbor Provision requires states to eliminate significant contribution "consistent with the provisions" of Title I of the act, including the attainment dates applicable in downwind areas, 938 F.3d at 314 (citing 531 F.3d at 912); (2) the unreasonableness of EPA's interpretation of the phrase "consistent with the provisions [of Title I]" in the good neighbor provision as allowing for variation from the attainment schedule in section 181 because it would enable significant contribution from upwind states to continue beyond that statutory timeframe, 938 F.3d at 315-18; and (3) the court's finding that the practical obstacles EPA identified regarding why it needed more time to implement a full remedy did not rise to the level of an "impossibility," *id.* at 318-20. With respect to the third basis, the court also found EPA must make a higher showing of uncertainty regarding non-EGU point-source NO_x mitigation potential before declining to regulate such sources, *id.* at 318-20.

76. However, the court identified flexibilities EPA retains in administering the Good Neighbor Provision, acknowledging that EPA retains a measure of latitude in defining which upwind contribution "amounts" count as significant and thus must be abated, permitting EPA to consider, among other things, the magnitude of upwind states' contributions and the cost associated with eliminating them. *Id.* at 320. The court further noted that, in certain

circumstances, EPA can grant extensions of the attainment deadlines under the Act; for instance, the court cited section 181(a)(5), which allows EPA to grant one-year extensions from attainment dates under certain circumstances. *Id.* Finally, the court noted that EPA can attempt to show “impossibility.” *Id.* The court also recognized that the statutory command that compliance with the Good Neighbor Provision must be achieved consistent with Title I might be read, upon a sufficient showing of necessity, to allow some deviation from downwind deadlines, so long as it is rooted in Title I’s framework and provides a sufficient level of protection to downwind States. *Id.*

77. The court in *Wisconsin* remanded but did not vacate the CSAPR Update, finding that vacatur of the rule could cause harm to public health and the environment or disrupt the trading program EPA had established and that the obligations imposed by the rule may be appropriate and sustained on remand. *Id.* at 336. The court also rejected petitioners’ request to place EPA on a six-month schedule to address the remand, noting the availability of “mandamus” relief before the D.C. Circuit should EPA fail to “modify the rule in a manner consistent with our opinion.” *Id.* at 336-37.

78. On October 1, 2019, in a judgment order, the D.C. Circuit vacated the CSAPR Close-Out on the same grounds that it remanded the Update in *Wisconsin*. *New York v. EPA*, 781 Fed. App’x 4. Because the Close-Out analyzed the year 2023 rather than 2021 (“the next applicable attainment date”) and failed to demonstrate that it was an impossibility to address significant contribution by the 2021 attainment date, the court found the rule ran afoul of the *Wisconsin* holding. “As the EPA acknowledges, the Close-Out Rule ‘relied upon the same statutory interpretation of the Good Neighbor Provision’ that we rejected in *Wisconsin*. Thus, the agency’s defense of the Close-Out Rule in these cases is foreclosed.” *Id.* at 6-7 (internal

citation omitted). The court left open the possibility that the flexibilities identified in *Wisconsin*, 938 F.3d at 320, may be available to the Agency on remand.

79. Following *Wisconsin* and *New York*, EPA on remand must address good neighbor obligations for the 20 states within the CSAPR Update region for which the Update was only a partial remedy. All of the Upwind States identified by Plaintiffs are among these 20 states.

III. Assessment of Technical Analyses and Associated Timeframes Needed to Address EPA's FIP Obligations for the Upwind States

80. EPA believes a bifurcated rulemaking schedule is needed to fulfill its obligations as soon as possible. An initial rulemaking by March 15, 2021, would allow EPA to partially address obligations and obtain any needed emission reductions that are possible to implement by the 2021 attainment date, in compliance with the *Wisconsin* holding. A second rulemaking by March 15, 2022, (or, if a supplemental proposal is needed, by December 15, 2022) would allow EPA the time needed to comprehensively address any remaining good neighbor obligations for the Upwind States through a rigorous assessment of remaining air quality problems, upwind-state contributions, and the most cost-effective, long-term emissions control strategies for EGUs and non-EGU sectors that otherwise are likely impossible to assess and implement by the 2021 attainment date.

81. In light of EPA's historical experience with the time needed to promulgate regional good neighbor rules, a rulemaking timeframe of March 2021 for even a partial good neighbor rulemaking is a very aggressive schedule. The two-year timeframe for this second rulemaking is also fast by comparison to prior good neighbor rules. Given the complexity of the analytical steps involved, and the high degree of stakeholder interest in these rulemakings, the Agency needs time to assess new information provided during the public comment period, potentially conduct new air quality modeling and technical analyses considering the new

information, and respond to substantial, sophisticated public comments between the end of the public comment period and the time when it takes final action. For Rulemaking #1, EPA anticipates it can meet the aggressive schedule of completing a rule by March 15, 2021, only because of the narrower scope of the rule, which will presumptively allow the Agency to take final action without the need for substantial new technical analyses between proposal and final. Because much of the relevant staffs' time and resources will need to be focused on developing a defensible technical basis and responding to comments in this initial rulemaking, we propose allowing the Agency until June 21, 2021, to develop a proposal for a complete remedy in Rulemaking #2. Further, as explained in section III.iv.b.2 below, we anticipate that the updates to our control strategy information for non-EGUs are likely to be substantial as a result of public comment. Therefore we request as a contingency the availability of additional time, should EPA publish a supplemental proposal by March 15, 2022, before promulgating a final complete-remedy rule.

82. This section of the declaration lays out the analytical steps and associated timeframes necessary to address the remaining obligations. It will analyze the timeframes of prior good neighbor rules; the reasons why a regional rulemaking (rather than state-specific actions) is appropriate to address remaining obligations of the Upwind States; the analytical requirements and associated timeframes for each step of the four-step analytical process; EPA's work to-date on addressing the remands since the D.C. Circuit issued its decisions; and the technical basis for EPA's proposed rulemaking schedule.

i. Historical Timeframes for Conducting Regional Transport Rulemakings

83. The development of regional transport rulemakings to address the good neighbor provision for the ozone NAAQS typically requires an extensive amount of technical and policy

analysis, as described in section II and explained in more detail below. Such actions are conducted as notice-and-comment rulemakings under the Clean Air Act, which requires providing the opportunity for a public hearing, 42 U.S.C. § 7607(d)(5). Such rulemakings typically involve relatively lengthy comment periods so that the public has ample time to review complicated technical analyses (including emissions and air quality modeling) and develop comments on that technical analysis. As prior regional interstate transport rulemakings have resulted in numerous detailed technical and legal comments that require careful consideration by the Agency, EPA often must conduct additional technical analysis considering the information provided by commenters between the proposal and the final action promulgating the rulemaking. As a result, rulemakings to promulgate a remedy to address the regional transport of ozone pollution require a significant amount of time in order to ensure that the final action is technically sound and legally defensible.

84. The NO_x SIP Call rulemaking was the result of a two-year engagement known as the Ozone Transport Assessment Group (OTAG), through which, from 1995-1997, EPA worked in partnership with 37 eastern states and the District of Columbia, industry representatives, and environmental groups to address the interstate transport of ozone pollution. OTAG identified and evaluated flexible and cost-effective strategies for reducing long-range transport of ozone and ozone precursors. Based on information and recommendations resulting from the OTAG process, EPA issued the proposed NO_x SIP Call on November 7, 1997, 62 Fed. Reg. 60,320. The final NO_x SIP Call was issued approximately one year later on October 27, 1998. 63 Fed. Reg. 57356. Overall, the NO_x SIP Call rulemaking process lasted over three years.

85. The development of CAIR included two distinct regulatory processes – a regulation to define significant contribution (i.e., the emission reduction obligation) under the

good neighbor provision and a regulation to promulgate FIPs. These rulemakings were developed between 2003 and 2006. While a precise date on which EPA began work on the proposal is uncertain, EPA held workshops to inform the proposal in July and August of 2003. Internal work on the proposal preceded these workshops, but these dates provide milestones that can be used to consider the time it took to develop this rule. Using the July 2003 milestone to represent the starting point, subsequent milestones in the development of CAIR include: the proposed obligations rule on January 30, 2004; the final obligations rule on May 12, 2005; the proposed FIP on August 24, 2005; and the final FIP on April 28, 2006. Considering these dates, the complete development timeline ran from July 2003 (or earlier) to April 2006. Thus, the development of CAIR FIPs took approximately three years.

86. The development of CSAPR began with the remand of CAIR by the D.C. Circuit in July 2008, and the final CSAPR rulemaking was published in August 2011, approximately three years later. Charged with the obligation to replace CAIR “from the ground up,” *North Carolina*, 531 F.3d at 929, EPA was required to redo its entire analysis and develop a means of implementing the good neighbor provision consistent with the D.C. Circuit’s instructions. This meant that EPA needed to reevaluate downwind air quality and upwind contributions anew consistent with the D.C. Circuit’s decision, including new technical analysis and new policy development. EPA published a proposed rule on August 2, 2010. 75 Fed. Reg. 45,210. Subsequent to the proposed rule, EPA determined that it was necessary to take comment on several additional issues not addressed in the proposed rule through the issuance of three notices of data availability (NODAs). A NODA regarding revisions to emissions inventories was published on October 27, 2010 (75 Fed. Reg. 66,055); a NODA related to EPA’s updated EGU modeling inputs was published on September 1, 2010 (75 Fed. Reg. 53,613); and a NODA to

request comment on allocations and the CSAPR assurance provisions was published on January 7, 2011 (76 Fed. Reg. 1,109). EPA published the final rule on August 8, 2011, 76 Fed. Reg. 48,208, three years after the D.C. Circuit's remand of CAIR.

87. As described previously, the original CSAPR underwent a lengthy period of legal uncertainty. While CSAPR was being litigated, EPA conducted work intended to support a subsequent rulemaking addressing the interstate transport of ozone pollution, but due to the shifting legal landscape resulting from the D.C. Circuit and Supreme Court decisions, EPA did not propose or finalize any further regulations. However, following the Supreme Court decision largely upholding the original CSAPR rulemaking, EPA began the process of developing the CSAPR Update. The Supreme Court decision upholding CSAPR was issued in April 2014 and the final CSAPR Update was published in October 2016, two and a half years later.

88. Several factors facilitated a relatively expeditious development of the CSAPR Update following the Supreme Court decision. For example, EPA was able to apply the framework previously used in CSAPR and did not have to develop significant new policy approaches for addressing interstate ozone transport. Moreover, the CSAPR Update was relatively limited in scope because it focused on near-term pollution reductions in the east that could be made for the 2017 ozone season, which limited the scope of NO_x reductions strategies that could feasibly be implemented and caused EPA to focus only on EGUs for potential emissions reductions. Despite these expediting factors, it still took 30 months from the Supreme Court decision (April 2014) for EPA to finalize the CSAPR Update (October 2016).

89. The CSAPR Close-Out was able to be promulgated within a year from this Court's order in *New York v. Pruitt* because, based on air quality modeling work that had already been completed, and EPA's understanding at the time regarding the appropriateness of the

analytic year it had modeled, EPA believed that the remaining good neighbor obligations could lawfully be found complete without substantial new technical analysis or the imposition of further emissions controls. *See* paragraphs 69-73. Thus, the rulemaking process that needed to be conducted was primarily limited to Step 1 of the four-step framework and relatively uncomplicated in comparison with prior regional good neighbor rules involving imposition of emission-control requirements. For this reason, the rulemaking schedule this Court ordered in *Pruitt*, which was uncontested by EPA, does not provide a reasonable basis for estimating the timeframes needed for this rulemaking.

ii. EPA's Work To-Date to Address the Remands

90. Since the decisions in *Wisconsin* and *New York*, EPA has been diligently working to develop a revised policy framework and technical analyses in order to address the legal holdings of both the 2019 decisions and the prior legal precedent under the good neighbor provision. Nonetheless, the D.C. Circuit's holding requiring alignment of good neighbor obligations with the next attainment date (subject to a showing of impossibility) creates new challenges for the Agency to design an effective policy. EPA's policy deliberations have led it to conclude that the best way to resolve the remaining obligations is to promulgate a near-term rulemaking in order to obtain any possible emission reductions in time for the 2021 Serious area attainment date, while recognizing that development and implementation of a complete remedy addressing Upwind States good neighbor obligations under the 2008 ozone NAAQS is not possible by that date. Rather, EPA believes that additional time is needed to conduct a more comprehensive second rulemaking to fully resolve obligations and implement any needed reductions on a timeframe that is as soon as realistically possible after the attainment date.

91. Since the decisions were issued, EPA staff have developed numerous briefings for decision makers interpreting the *Wisconsin* and *New York* opinions and providing policy options to develop a rulemaking to address the remands. A multi-office workgroup has engaged in continuous deliberation on the development of a policy framework, air quality data, and control strategies available for emission reductions. This group meets multiple times every week and briefs career managers roughly every two weeks to present options for development of the rulemaking. I have also been briefed multiple times on the key interpretive and policy options, and I have regularly consulted with EPA General Counsel and the EPA Administrator regarding the preliminary decisions needed to inform the technical analyses that are necessary for the rulemaking.

92. In particular, the Agency began working to update air quality modeling and analyses necessary to inform regulatory action in time for the 2021 attainment date following the decision in *Wisconsin*. As explained in more detail below, the modeling process, typically requires 6-months to complete. In April and May of this year, preliminary results from this modeling became available for internal review and are now being analyzed by EPA staff in order to make determinations as to what downwind receptors remain to be addressed by the 2021 attainment date (and at future dates) under Step 1 of EPA's four-step framework, and to determine which upwind states contribute to the ozone problem at those receptors at Step 2 of the framework, such that they must undergo further analysis at Step 3 of the framework. This modeling will allow EPA to analyze the year(s) that are relevant for the good neighbor analysis after the *Wisconsin* decision.

93. EPA has established a formal workgroup within the Agency and has initiated our internal action development process (ADP). We have identified this effort as a tier I rulemaking,

EPA's highest classification, requiring more extensive cross-office engagement, process, and analytic work. Typically, the ADP process for a tier I rule requires the development of an analytic blueprint at the outset of the rulemaking process, briefings to obtain "early guidance" from decision makers, briefings for "options selection" by decision makers, and briefings for "final agency review" (FAR). Ultimately, decisions will be made at my level and the level of EPA Administrator. However, at the FAR stage, each office engaged in the workgroup may concur, concur with comment, or issue a non-concurrence. Thus, the time needed for effective cross-office, multi-disciplinary collaboration and ultimately consensus is paramount, particularly when engaged in a nationally significant rulemaking effort of this magnitude.

94. On October 1, 2015, EPA promulgated a rulemaking strengthening the ground-level ozone NAAQS to 70 ppb. 80 Fed. Reg. 65,291 (Oct. 26, 2015). All states were required to submit plans addressing the good neighbor provision with respect to the 2015 ozone NAAQS by October 1, 2018, 80 Fed. Reg. at 65,437, and the vast majority of states have submitted such SIPs.¹² It is important in assessing the time needed for this rulemaking to recognize that the very same EPA-headquarters staff handling this rulemaking to address the remand of the 2008 ozone NAAQS good neighbor obligations are also responsible, in coordination with EPA's regional offices, for the development of actions related to good neighbor obligations under the 2015 ozone NAAQS. This work involves ongoing internal policy development under that NAAQS, reviewing SIPs submitted by the vast majority of states in the U.S., and developing rulemaking actions taking proposed and final actions on these SIPs subject to the statutory timeframes and requirements of CAA section 110. Further, the inter-related analytical issues that necessarily

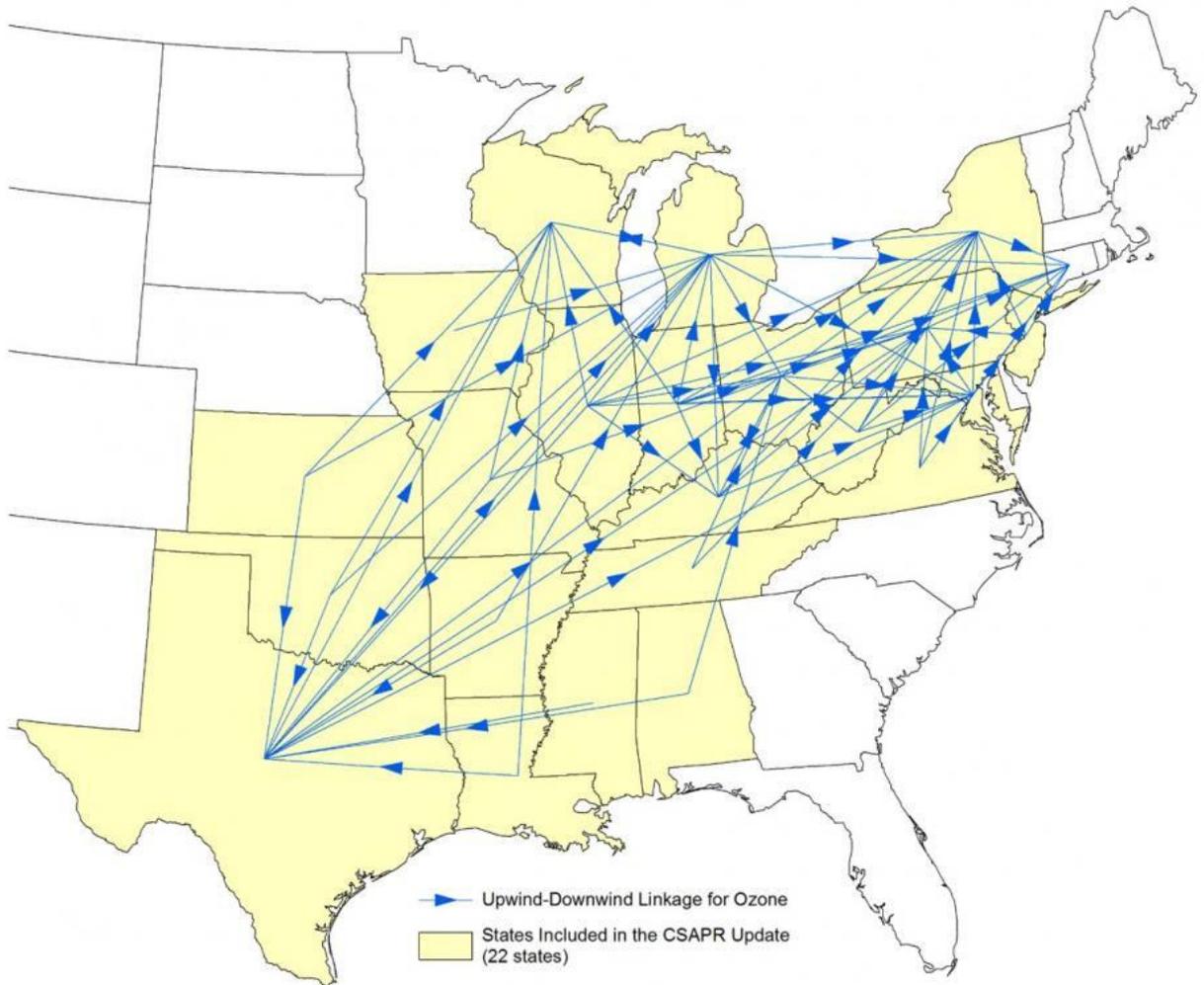
¹² All states but seven submitted such SIPs before EPA issued a finding of failure to submit under CAA section 110(k)(1) on November 22, 2019. 84 Fed. Reg. 66,612 (Dec. 5, 2019). Some of the states identified in the finding are now developing or have submitted SIPs.

inform policy development under both the 2008 and 2015 ozone NAAQS add substantial complexity to addressing the remand.¹³

iii. Regional-Scale Analysis is Appropriate for this Rulemaking

95. EPA continues to believe that it is appropriate to conduct a comprehensive, regional analysis in order to rationally evaluate Upwind States' remaining obligations pursuant to the good neighbor provision with respect to the 2008 ozone NAAQS. As EPA has historically found throughout nearly 20 years of interstate transport rulemakings, the ozone transport problem is regional in nature, wherein downwind states' problems attaining and maintaining the ozone NAAQS result from the contribution of pollution from multiple upwind states, with upwind states routinely contributing to multiple downwind air quality problems in varying amounts. For example, with respect to the 2008 ozone NAAQS, EPA determined in the CSAPR Update rulemaking that, collectively, 22 upwind states contribute at or above a 1-percent-of-the-NAAQS threshold (0.75 ppb) to downwind air quality problems at 19 different receptor locations in the eastern United States. Individual upwind states contributed to between 1 and 8 downwind nonattainment or maintenance receptors and, in a number of cases, also contained at least one receptor themselves, indicating a downwind air quality problem to which other states contribute. The following graphic depicts the upwind state-to-downwind state linkages identified in the CSAPR Update between pollution from upwind states and downwind states that have problems meeting or maintaining the 2008 ozone NAAQS:

¹³ In light of the information presented in the above paragraphs, we strongly dispute the characterization in the declaration of Tracy Babbidge that EPA has taken no further action since the D.C. Circuit's decisions to provide relief to downwind states. *See* Babbidge Decl. at para. 24. Staff have been diligently at work on the internal policy and analytic work necessary to conduct rulemaking to address the remand, in addition to addressing the Agency's other responsibilities under the good neighbor provision and implementation of the NAAQS.



96. Given the multi-faceted nature of ozone transport, the Supreme Court has acknowledged that EPA is faced with the burden to determine “how to differentiate among otherwise like contributions of multiple upwind states.” 134 S. Ct. at 1607. As the Supreme Court acknowledged, the statute does not provide EPA with the metric by which EPA is to decide the apportionment of the shared obligation to address a downwind air quality problem among multiple upwind states, what the Court refers to as the “thorny causation problem.” *Id.* at 1603-04.

97. Accordingly, because the ozone air quality problems are regional in nature, EPA has developed – and the Supreme Court has endorsed with respect to earlier NAAQS – a regional approach for quantifying individual states’ emission reduction obligation. In particular, EPA has developed a two-step metric to quantify the amounts of a state’s emissions that “contribute significantly to nonattainment” or “interfere with maintenance” of the ozone NAAQS in another state to which it is linked: those emissions that both (1) contribute above a certain threshold to an identified downwind air quality problem (Step 2) and (2) can be eliminated through implementation of cost-effective control strategies (Step 3). When evaluating whether a control strategy is cost-effective for this purpose, EPA has historically considered the incremental cost per ton of emissions reduced, the magnitude of emissions that can be reduced using a particular control strategy, and the downwind air quality benefits of implementing such emissions reductions. 81 Fed. Reg. at 74,519. The Supreme Court found this approach, as applied in the original CSAPR rulemaking, to be “an efficient and equitable solution to the allocation problem the Good Neighbor Provision requires the Agency to address.” *Id.* at 1607. The Court held that this approach is:

[e]fficient because EPA can achieve the levels of attainment, i.e., of emission reductions, the proportional approach aims to achieve, but at a much lower overall cost. Equitable because, by imposing uniform cost thresholds on regulated States, EPA’s rule subjects to stricter regulation those States that have done relatively less in the past to control their pollution. Upwind States that have not yet implemented pollution controls of the same stringency as their neighbors will be stopped from free riding on their neighbors’ efforts to reduce pollution. They will have to bring down their emissions by installing devices of the kind in which neighboring States have already invested.

Id.

98. Pursuant to this approach, it is simply not possible to quantify the amount of emission reductions that comprise one or a small group of states’ good neighbor obligations in a vacuum. Instead, EPA must also evaluate the contributions of all other states linked to the same

air quality problem(s). Accordingly, in order to quantify Upwind States' emission reduction obligations under the good neighbor provision with respect to the 2008 ozone NAAQS, it is necessary for EPA to evaluate each state's contribution to downwind air quality problems relative to the contributions of other states contributing to the same air quality problems. EPA likewise must evaluate each of the other states' remaining contributions to downwind air quality problems relative to the contribution of the other contributing states, including the Upwind States.

99. EPA intends to take a regional-scale action addressing the *Wisconsin* remand in a manner that resolves its remaining FIP obligations as to all 20 of the CSAPR Update states for which the Update was not a complete remedy.¹⁴ Accordingly, conducting the necessary regional analysis to address the Upwind States will also permit the Agency to address the outstanding FIP obligations for the other 13 states in the CSAPR Update region with outstanding obligations.

iv. Analytical Steps Required Under the Four-Step Framework and Associated Timeframes

¹⁴ This action would thus address all of EPA's obligations on remand at issue in a parallel case, *Downwinders At Risk v. Wheeler*, No. 1:20-cv-00349 (D.D.C. filed Feb. 7, 2020).

100. Before EPA can impose FIPs to fully address the Upwind States' remaining good neighbor obligations, EPA must quantify the remaining "amounts" of emissions from the states that "contribute significantly to nonattainment" and "interfere with maintenance" of the 2008 ozone NAAQS in other states pursuant to CAA section 110(a)(2)(D)(i)(I). As described in section II above, over the course of four regional rulemakings conducted by EPA since 1998, EPA has developed an analytically rigorous four-step process for quantifying necessary emissions reductions to address interstate ozone pollution and to implement those reductions: (1) identifying downwind receptors that are expected to have problems attaining or maintaining clean air standards (i.e., NAAQS); (2) determining which upwind states contribute to these identified problems in amounts sufficient to "link" them to the downwind air quality problems; (3) for states linked to downwind air quality problems, identifying upwind emissions that significantly contribute to nonattainment or interfere with maintenance of a standard; and (4) for states that are found to have emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, implementing reductions in the identified upwind states.

101. As described in the paragraphs that follow, after the holdings in *Wisconsin* and *New York*, EPA must re-analyze these steps for the Upwind States to determine what if any amount of the Upwind States' emissions must be prohibited to address the good neighbor provision with respect to the 2008 ozone NAAQS. Each step of this process entails significant and complex analysis of technical data in order to achieve an appropriately calibrated policy to address the interstate ozone problem.

102. Based on our assessment of the time needed to complete these technical analyses (and informed by the administrative steps for rulemaking addressed in section IV below), EPA believes this work can be realistically completed on the following timeframe: EPA will require until at least March 15, 2021, to conduct a partial rule focused on near-term emission reductions that may be available in time for the 2021 ozone season. In order to complete even a partial rule on this aggressive schedule, EPA assumes it will be relying on recently-completed air quality modeling (and this modeling will not need to be further updated after proposal); that we will be assessing a narrow subset of potential additional control requirements that are implementable, if needed, by the 2021 ozone season; and that public comments or new information will not necessitate a significant shift in our analysis or regulatory action from proposal to final. However, the rigorous and complex analytical steps described below in this section also render it an impossibility to promulgate a complete remedy by the 2021 Serious area attainment date. In light of the additional time needed for this more comprehensive analysis, EPA will need at least until March 15, 2022, to conduct a second rulemaking that fully addresses “significant contribution” from the Upwind States. And because EPA anticipates that it will be highly likely that a supplemental proposal will be required to address non-EGUs in a technically accurate way, a process that would likely require an additional nine months, EPA believes that, if it does issue such a supplemental proposal, then the court should provide until December 15, 2022, for EPA to promulgate a rule fully resolving interstate transport obligations for the Upwind States under the 2008 ozone NAAQS.

a. Steps 1 and 2: Identifying Downwind Receptors and Upwind Contribution

103. Step 1 of EPA’s analysis to calculate a state’s emissions reduction obligation pursuant to the good neighbor provision is to identify those downwind areas that are expected to

have a problem attaining and maintaining the NAAQS in a future year. EPA refers to these areas as nonattainment and maintenance “receptors.” Step 2 of the analysis is to determine which upwind states contribute emissions to these downwind areas identified in Step 1 and in what amounts. If an upwind state contributes at or above a screening threshold to a downwind nonattainment or maintenance receptor then that upwind state is determined to be “linked” to that particular receptor.¹⁵ States that are linked to downwind receptors based on the screening threshold are then further evaluated in Step 3 of EPA’s analysis to determine whether the state makes a significant contribution to the receptor(s) to which it is linked, as discussed in more detail in section III.iv.b below.

104. The air quality metric used for determining whether or not a particular monitoring site is violating the ozone NAAQS is referred to as the “design value.” The design value is calculated as the three-year average of the 4th highest 8-hour daily maximum ozone concentration in each of the three years (e.g., the design value for 2011 is the average of the 4th highest concentrations in 2009, 2010, and 2011). Monitoring sites with a design value that exceeds the NAAQS are considered to be violating the NAAQS. Under EPA’s historical approach, whether a monitoring site is a nonattainment and/or a maintenance receptor in the

¹⁵ In the original 2011 CSAPR rulemaking and CSAPR Update, EPA used a screening threshold set at one percent of the NAAQS. The EPA is evaluating whether this remains an appropriate threshold to continue to use for the 2008 ozone NAAQS. The EPA recognized in a memorandum related to implementation of good neighbor requirements for the 2015 ozone NAAQS that certain other contribution thresholds (such as 1 ppb) may be appropriate for states to use in the design of their SIPs. *See* Memorandum from Peter Tsirigotis, Office Director, to Regional Air Division Directors, 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 (Aug. 31, 2018), *available at* <https://www.epa.gov/airmarkets/analysis-contribution-thresholds-memo>.

future analytic year depends on whether certain projected design values for that future year exceed the NAAQS.

105. In brief, the procedure for projecting future design values begins with design values based on measured data. The measured design values are projected to the future using model predictions from two air quality modeling scenarios. One scenario simulates ozone concentrations for a base year of emissions and the second scenario simulates ozone concentrations using emissions for the future analytic year. The ratios of future year to base year ozone model predictions applicable to monitoring sites are used to adjust measured concentrations up or down depending on the relative change in model predicted concentrations. EPA's air quality modeling guidance for ozone attainment demonstration modeling¹⁶ recommends using a 5-year weighted average of the measured design values as the starting point for projecting whether or not a monitoring site will be nonattainment in the future. This 5-year weighted average is used in order to lessen the effects of inter-annual variability of meteorological conditions and thereby provide an estimate of future design values under average conditions. The guidance recommends that the 5-year base period be defined such that the center year corresponds to the time of base year modeling scenario. For example, the average design value that corresponds to a 2016 base year is calculated as the average of the design values in 2016 (i.e., 2014 – 2016), 2017 (i.e., 2015 – 2017), and 2018 (i.e., 2016 – 2018). Thus, these three design values reflect ozone concentrations over the 5-year period 2014 through 2018 with the greatest weighting given to the 2016 base year in this example. Historically, EPA identified

¹⁶ See Memorandum from Richard Wayland, Division Director, to Regional Air Division Directors, Regions 1-10, "Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze" (Dec. 3, 2014), available at https://www3.epa.gov/tn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.

monitoring sites that have projected average design values that exceed the NAAQS and are also violating the NAAQS based on the most recent air quality measurements as future year “nonattainment receptors.”

106. In addition to projecting the 5-year weighted average design value, EPA also projects the design values for each of the three design values that comprise the 5-year weighted average (i.e., the 2016, 2017, and 2018 design values). The highest (i.e., maximum) of these three values, as projected to the future analytic year, is used to determine whether or not a receptor is at risk of violating the NAAQS if future meteorological conditions are more conducive to ozone formation than average. Historically, EPA has identified as “maintenance” receptors those monitoring sites with future *average* design values that are below the NAAQS, but with *maximum* design values above the NAAQS, which suggests they may have a problem maintaining the NAAQS due to meteorological conditions. In addition, monitoring sites that are currently measuring clean data but have future year average design values that exceed the NAAQS, have also been considered maintenance receptors.

107. Once EPA has identified downwind nonattainment and maintenance receptors through its analysis of monitor data and modeling, the second step of the analysis requires EPA to determine which upwind states contribute at or above a determined contribution screening threshold to the nonattainment and/or maintenance receptors in other states. The evaluation of interstate contributions against the screening threshold is based upon the magnitude of EPA’s contribution metric. This contribution metric is calculated using future year contributions based on air quality source apportionment modeling coupled with the future year average design value. The source apportionment modeling involves using an air quality modeling tool that tracks the formation, chemical transformation, and transport of ozone from emissions of NO_x and VOCs in

individual states to those downwind air quality problems. In selecting an appropriate threshold, EPA would assess the degree and nature of impact to a downwind receptor from non-anthropogenic sources of ozone-precursor emissions, non-linked states' emissions, international emissions, and home-state emissions.

108. In order to complete both steps 1 and 2 of EPA's analysis, EPA must conduct analyses to identify receptors and quantify interstate contributions for 2021. The results of these analyses could show, for example, that the nonattainment and maintenance problems previously projected to persist in 2017 are either diminished or resolved by 2021 (or another relevant future year) because of emissions reductions expected to occur before that year due to existing or on-the-way regulations or other changes in the emissions inventory (Step 1). Similarly, air quality results for 2021 could show a change from previous modeling for 2017 in the level of contribution from the Upwind States relative to the screening threshold selected by the Agency (Step 2). Further, if EPA determines that it is impossible to implement certain emission reductions in time for the 2021 attainment date, but requiring such reductions by some future year is justified due to a continuing ozone transport problem, then EPA would likely conduct an air quality assessment for that future year in order to ensure that EPA does not require more or fewer emissions reductions than necessary in that future year to address significant contribution. EPA's failure to conduct such an analysis could result in over- or under-control of sources in upwind states, exceeding EPA's authority under the good neighbor provision, consistent with the Supreme Court's holding in *EPA v. EME Homer City Generation*, 134 S. Ct. at 1608-09.

109. For good neighbor applications, air quality modeling is needed to project ozone concentrations in order to identify the extent of expected downwind nonattainment and maintenance problems for the appropriate future analytic year(s). In addition, air quality

modeling is needed to quantify the contributions from emissions in upwind states to the downwind nonattainment and maintenance problems in this analytic year. The modeling process involves a number of extensive technical tasks including (1) developing base year and future year emissions, meteorological data, and other data required as input to the air quality model, (2) running the model and managing the output files, (3) reformatting the model output files for input to downstream post-processing tools, (4) running the post-processing tools to calculate design values and contributions, and (5) analyzing and interpreting the results. The tasks to develop emissions and meteorological data for input to the air quality modeling require gathering input and running complex emissions and meteorological models. The Agency began working to update air quality modeling and analyses necessary to inform regulatory action in time for the 2021 attainment date following the decision in *Wisconsin*.

110. As noted in paragraph 92, EPA is in the process of analyzing the results of recently completed air quality modeling in order to identify downwind air quality problems and the level of contribution from upwind states to those downwind air quality problems (Steps 1 and 2). EPA is assessing these results for the 2021 ozone season, aligned with the 2021 Serious area attainment date in compliance with the holding in *Wisconsin*.¹⁷ Because EPA may also need to assess air quality in a year aligned with the anticipated compliance timeframe for any additional emissions reductions, to the extent those reductions are impossible to implement by the 2021 ozone season, EPA staff are also looking at methods to identify residual ozone attainment problem areas and Upwind State contributions to these areas to inform such a future year. The

¹⁷ Because by the time this rulemaking is complete the 2020 ozone season will be in the past, and the Agency takes a forward-looking approach to implementing good neighbor requirements, the Agency does not intend to focus its analysis on 2020, even though this would typically be the year EPA would have selected for analysis in past rulemakings, *see* paragraph 58.

modeling data that have become available to date is still undergoing review, and a number of methodological and policy decisions must be made before the raw data can be used to inform the design of a rule or rules.

111. EPA anticipates that it will have the necessary air quality and upwind contribution information for the 2021 analytic year in time to inform the remaining analysis needed to conduct a partial rulemaking proposal addressing remaining obligations by October 1, 2020, and a final partial rule by March 15, 2021. The Agency does not anticipate at this time that it will need to conduct updated modeling between the proposed and final rules for a partial rulemaking focused on that single analytic year. However, in order to fully address remaining obligations in Rulemaking #2, including the assessment of longer-term emission reductions that are not possible to implement until some year after the 2021 attainment date, EPA anticipates that updated modeling may be required on the basis of new information and public comment. EPA anticipates that information that may be submitted by modeling experts retained by industry, environmental groups, states, and multi-jurisdictional organizations (MJOs) may require EPA to make adjustments to its modeling approach and run new modeling before taking final action on Rulemaking #2. Recognizing the potential need to update its modeling and air quality analytical work during the course of Rulemaking #2, EPA anticipates needing up to six months for this work during calendar year 2021. This would occur concurrently with other steps in the rulemaking process for Rulemaking #2.

b. Step 3: Determining Which Contributions are “Significant” or “Interfere with Maintenance” of the NAAQS

112. Once EPA finds a state linked at Steps 1 and 2, EPA would next conduct a technical analysis at Step 3 to evaluate the level of emissions reductions available from control

strategies that can be implemented in a future year (here, 2021 and/or a later year on a showing of impossibility by 2021) and the impacts on air quality from implementation of those emission reductions. In order to implement a complete remedy, EPA must evaluate all available emissions reductions from both EGUs and non-EGUs and calculate appropriate emissions limitations for sources in the Upwind States to ensure emissions reductions are achieved. EPA's Step 3 analysis ultimately must cover all relevant emissions sources in the Upwind States. Therefore, as described in this section, while EPA may be able to conduct a partial rulemaking to address some potentially available, near-term emission-reduction obligations (likely limited to the power sector (i.e., EGUs)) in time for the 2021 Serious area attainment date, a subsequent, two-year rulemaking is necessary in order for EPA to be able to fully assess the longer-term emission reductions available from both EGU and non-EGU sources and determine whether such reductions are warranted to address good neighbor obligations in a future analytic year.

113. Based on EPA's and the courts' interpretation of the good neighbor provision, there are at least three ways in which EPA can determine that an upwind state found to be linked to a downwind problem at Steps 1 and 2 has fully addressed the good neighbor provision with respect to the 2008 ozone NAAQS: (1) the downwind air quality problem (both nonattainment and maintenance) to which the state is linked can be resolved from collective, cost-effective emission reductions occurring in both upwind and downwind states; (2) the upwind state's contribution to downwind air quality problems can be reduced, through the implementation of cost-effective emissions reductions, to the screening threshold such that EPA can conclude the state's remaining impact on the downwind air quality problem is insignificant, even if the downwind air quality problem persists; or (3) upwind states have implemented all cost-effective emissions reductions (considering cost, emission reductions, and downwind air quality impacts)

that constitute each state's significant contribution to nonattainment or interference with maintenance of the NAAQS downwind, even if the downwind air quality problem persists.¹⁸ Thus, EPA can either conclude that the emissions reductions from linked states resolve the downwind air quality problem, or, if not resolved, that the upwind states' sources have eliminated the emissions that have been defined to be "significant."

114. EPA could not conclude that the emissions reductions required by the CSAPR Update were sufficient to fully address the requirements of the good neighbor provision for the 20 remaining states with respect to the 2008 ozone NAAQS under any of these three scenarios. In the CSAPR Update, EPA only considered emissions reductions available from the implementation of control strategies for EGUs that could be implemented by the 2017 ozone season. *See* paragraph 60. In *Wisconsin*, the court held that EPA must on remand implement a full remedy by the next attainment date (here, 2021), or as soon as possible thereafter on a showing of impossibility to achieve necessary reductions by that date. 938 F.3d at 320. The court also directed the Agency to address non-EGU sources, unless uncertainty regarding reductions from such sources would be so great as to preclude reasoned decision-making. *Id.* at 318-20. *See* paragraph 75. Therefore, in order to determine the level of NO_x control stringency necessary to quantify those emissions reductions that constitute fully eliminating significant contribution to downwind nonattainment or interference with maintenance for the region, including the Upwind States, EPA must evaluate further emission reductions from EGU

¹⁸ *See, e.g., EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. at 1608-09 (holding that the EPA cannot require states to reduce emissions more than necessary to bring the downwind air quality into attainment or maintenance of the NAAQS or by more than the 1 percent threshold); 76 Fed. Reg. at 48,259 (quantifying necessary SO₂ emissions reductions based on a \$2,300 per ton cost threshold even though downwind air quality problems remained because additional reductions were not cost-effective).

strategies and non-EGU strategies that take longer to implement than those considered in the CSAPR Update rulemaking.

115. EPA anticipates that it can complete a Step 3 analysis for a partial, near-term rulemaking with respect to any necessary and implementable additional control requirements in the 2021 ozone season in time for a proposal by October 1, 2020, and a final rule by March 15, 2021. However, in order to conduct a complete rulemaking fully resolving obligations, EPA believes a Step 3 analysis that includes all available controls, within all sectors, requires at least a year for the development of a proposal (June 21, 2021), and at least 10 months from that date to take final action (March 15, 2022). Because the Agency's efforts must first focus on the completion of a partial rulemaking in time for the 2021 ozone season (Rulemaking #1), the Agency needs several months after the finalization of that rule to complete its work and review on the proposal for Rulemaking #2. Further, due to the data issues associated with non-EGU emissions sources described below, we expect to need to issue a supplemental proposal in order to address comments received on the initial proposal and ensure that any final action addressing these sources accurately regulates the affected sources. In such circumstances, EPA anticipates needing an additional nine months to develop an updated Step 3 analysis based on the information received in the first comment period, evaluate subsequent comments received on the supplemental proposal, and conduct any further Step 3 analysis based on the supplemental comment period before taking final action (by December 15, 2022) to impose additional control strategies on relevant sources.

116. A key component of Step 3 of the framework is the multi-factor test, which considers cost, available emission reductions, and downwind air quality impacts to determine the appropriate level of uniform NO_x control stringency that addresses the impacts of interstate

transport. This test evaluates these factors to determine the appropriate stopping point for quantifying upwind state obligations to address interstate ozone transport, including whether the identified downwind ozone problems (i.e., nonattainment or maintenance problems) are resolved. The following paragraphs describe the development of inputs to this test and the application of the test itself.

117. To quantify upwind state obligations, the first step is for EPA to consider the types of emission reduction strategies that can be applied to relevant source sectors and their associated compliance timing and cost. This stage is complex and time consuming given the many types of ozone season NO_x emissions sources (both EGU and non-EGU) that the Agency must consider and the many NO_x reduction strategies that are possible for each source category and in each state.

118. Once EPA has identified potential NO_x reduction strategies, EPA has historically used this information to organize the strategies into uniform levels of NO_x control stringency represented by uniform cost. Each level of uniform NO_x control stringency is characterized by a set of pollution control measures (e.g., new SCRs on EGUs) and represents an estimated incremental cost per ton of NO_x emissions reduced (e.g., \$5,000 per ton). EPA has typically identified incremental cost thresholds where control technologies are widely available and therefore where the most significant incremental emission reduction potential is expected across the relevant source sector. To evaluate cost, EPA developed engineering analyses considering the types of sources to be considered for potential emissions control and the types of emission reduction strategies that are available for those sources. For example, in the CSAPR Update, EPA focused its analysis on EGU controls limited to optimizing existing SCRs, turning on idled existing SCRs, and turning on idled existing SNCRs. To establish costs for each of these

strategies, EPA applied engineering analyses (e.g., Sargent and Lundy¹⁹ cost estimators for EGU NO_x controls) to available economic data (e.g., the cost of ammonia, a reagent used to react with NO_x in SCR operation). Following the assignment of cost to individual emission reduction strategies, the Agency next developed uniform levels of NO_x control stringency by grouping strategies together based on similarities in cost of control. After developing uniform levels of NO_x control stringency, EPA historically has assessed NO_x emission reduction potential (i.e., tons reduced) in each state and across the analytic region for each level of uniform control stringency.

119. Such an analysis may be appropriate to continue to apply for EGUs, as described in section III.iv.b.1 below. However, with respect to the more heterogenous mix of non-EGU sources, developing uniform control-cost thresholds, and potentially applying such thresholds to establish trading-program budgets, may not be analytically feasible, or necessarily the most efficacious way to address these sources through FIPs under the good neighbor provision, see section III.iv.b.2 below. Thus, preparing this analysis to develop full-remedy FIPs for the 2008 ozone NAAQS may likely require separate evaluations of NO_x reduction potential from EGUs and non-EGUs and potentially, entirely separate analytic frameworks, levels of control stringency, and implementation methods.

120. The time it takes to install or otherwise implement emissions controls is also relevant to the Step 3 analysis. As noted at paragraphs 108 and 110-111, the compliance timing for emission reduction strategies informs the analytic year(s) selected for Steps 1 and 2. In addition, in Step 3, EPA may also consider whether compliance timing lends itself to single-

¹⁹ Sargent and Lundy is an engineering firm EPA contracted with to develop cost and performance models for control options for pollutants, including NO_x.

phase implementation or multi-phase implementation of emissions reductions. For example, in the context of the CSAPR Update, EPA found that single-phase implementation was appropriate. The CSAPR Update evaluated the 2017 ozone season in its assessment of CSAPR Steps 1 and 2 and the establishment of emission budgets in Step 3.²⁰ In contrast, the original CSAPR analysis of Steps 1 and 2 resulted in Phase 1 emissions budgets focused on 2012 while EPA also finalized Phase 2 emissions budgets for 2014.²¹ In this case, the 2012 emission budgets represented emission levels that were achievable in the near-term and the 2014 emission budgets represented further emission reductions that could be achieved over the longer-term (i.e., installation of new scrubbers to reduce emissions of SO₂ to address fine particulate matter (PM) pollution). EPA believes that the robust evaluation of NO_x reduction strategies and their associated compliance timing and cost is essential to promulgating an analytically consistent and legally defensible full remedy FIP for the 2008 ozone NAAQS.

121. We note that the CSAPR Update established emission budgets reflecting near-term EGU NO_x reduction potential from actions that could be reasonably implemented within one year (e.g., turning on and optimizing existing post-combustion catalytic controls). In light of the passage of time and the changes in the power sector since the CSAPR Update was promulgated in 2016, EPA anticipates that it may be appropriate to reassess such controls or similar short-term reduction strategies in Rulemaking #1, in which case emission reductions associated with such short-term reduction strategies could provide some additional level of emissions control in time for the 2021 attainment date. However, the Agency believes that any

²⁰ For one state, Arkansas, EPA finalized a separate and less stringent emission budget for the 2017 ozone season as compared to the budgets for the ozone seasons in 2018 and later years.

²¹ As noted above, following litigation, CSAPR Phase 1 was implemented starting in 2015 and CSAPR Phase 2 will be implemented starting in 2017.

further EGU and non-EGU NO_x reduction strategies will take longer to both assess and to implement.

1. Steps Needed to Evaluate Further EGU Control Strategies

122. With respect to EGUs, EPA has used engineering analysis and the Integrated Planning Model (IPM) to evaluate NO_x reduction potential and to inform interstate transport obligations under the original CSAPR and the CSAPR Update. IPM is a multi-regional, dynamic, deterministic linear programming model of the U.S. electric power sector. It provides forecasts of least-cost capacity expansion, electricity dispatch, and emissions control strategies for meeting energy demand and environmental, transmission, dispatch, and reliability constraints. IPM can be used to evaluate the emissions impacts of levels of uniform NO_x control stringency.

123. To evaluate levels of uniform NO_x control stringency for EGUs, EPA typically has designed a series of assessments informed by IPM that impose increasing cost thresholds representing uniform levels of NO_x controls and tabulates those projected emissions for each state at each cost level. For the CSAPR Update, EPA imposed cost thresholds of \$800, \$1,400, \$3,400, \$5,000, and \$6,400 per ton (all in 2011\$) of ozone season NO_x. In the CSAPR Update, EPA referred to such analysis as “Cost Threshold Runs” and the tabulations as “cost curves.” The cost curves report the remaining emissions in each state at each cost threshold after the state has made emission reductions that are available up to the particular cost threshold analyzed.

124. Next, EPA develops EGU control requirements that reflect the emission reductions evaluated in the IPM analysis. For the final CSAPR Update rule, EPA established emission budgets reflecting EGU NO_x reduction potential by using historical state-level NO_x emission rates adjusted by IPM modeled NO_x reduction potential. The final CSAPR Update

budget-setting approach for EGUs was developed in a specific context – that is, setting emission budgets that would be implemented in the near-term. Such an analysis could again be conducted for a partial rule on a near-term schedule. But full-remedy transport FIPs for the Upwind States would need to evaluate longer-term NO_x reduction strategies and would be implemented further in the future after its promulgation, and it may be appropriate for EPA to adjust the budget setting methodology for this different context.

125. These cost-threshold analyses and development of associated levels of emission reduction would take an additional 2 to 3 months to complete to support a proposed near-term rule and would take longer to complete with respect to the full suite of EGU NO_x control strategies (combined with non-EGU controls) that would need to be assessed for Rulemaking #2. The two-to-three month schedule includes approximately three to four weeks to run and test each set of cost threshold analyses for initial review and quality assurance, two to three weeks to review and make any necessary updates to the modeling, and another four to five weeks to run the full suite of cost-threshold analyses. In order to take final action by March 15, 2021 for Rulemaking #1, the Agency would need to assume that its Step 3 analysis for EGUs would not need to be substantially revised based on public comment. For a complete-remedy rule fully resolving good neighbor obligations for the Upwind States under the 2008 ozone NAAQS, EPA anticipates that the more costly, time-consuming, and complicated control strategies that would be analyzed, such as the installation of new post-combustion controls, will engender substantial stakeholder feedback through public comment. This will likely necessitate further engineering and modeling analysis of the relevant control strategies and associated emission reductions. Further, EPA's assessment of longer-term controls for a complete remedy for EGUs is likely to be related to the levels of control, timeframes, and associated costs associated with non-EGU

strategies, and that analysis will take additional time as described in the section below.

Therefore, it is not realistic to expect that a longer-term controls analysis for EGUs, including as updated and refined through public comment, could be completed in time for a complete-remedy rule to be promulgated by Plaintiffs' requested March 1, 2021 final rule date. EPA estimates that it would need eight months to develop this analysis in time for a proposal for Rulemaking #2 by June 21, 2021, and would need five months after the close of comment period on that proposal to properly address public comments, incorporate new information, and conduct updated analysis on a complete-remedy rule.

2. Steps Needed to Analyze Non-EGU Control Strategies

126. Although the Agency anticipates that it could develop a final rule for longer-term EGU emissions reductions in Rulemaking #2 by March 15, 2022, a supplemental proposal to evaluate emissions reductions from non-EGU emissions sources is likely to be necessary because of uncertainties, described in the following paragraphs, in some of the underlying information used to estimate NO_x emissions reduction potential from these sources. As discussed below, the uncertainties result from gaps in underlying information, as well as from additional time and effort needed to gather and review decentralized data available for non-EGU emissions sources (e.g., online review of source Title V operating permits). If EPA determines a supplemental proposal is required, it could be developed and signed on the same timeframe as the final rule could have been (i.e., by March 15, 2022). In this event, the deadline for a final rule for Rulemaking #2 would need to be extended to December 15, 2022.

127. Non-EGU emissions units and industry sectors are much more heterogenous than EGUs. There are many different types of non-EGU emissions units that share no or few common processes with each other. Some examples of non-EGU emissions units are industrial

boilers, internal combustion (IC) engines, cement kilns, glass furnaces, and process heaters. Non-EGU emissions units are found across many different industry sectors, such as petroleum refining, chemical manufacturing, oil and gas extraction, and pipeline transportation. Available control technologies for emissions from non-EGU sources vary extensively by industry sector as well as individual unit sizes. Although we often use the term “non-EGU sources,” it bears noting that each “source” (i.e., the entire industrial or manufacturing facility) is often comprised of multiple emissions units, which can vary greatly in size, emission levels, existing controls, control opportunities, and other relevant characteristics. In addition to the large variety, there are also a large number of non-EGU emissions units, hundreds of which may need to be analyzed in EPA’s rulemaking action, depending on the source size (often expressed in tons of emissions per year), the extent of non-EGU industry sector coverage, and the states included.

128. Similarly, for EGUs, EPA can use unit-level data it collects, as well as data submitted to other federal agencies on current emissions, current control configuration, capacity factor, capacity, hours of operation, and fuel use. All these data are critical to a robust Step 3 assessment. However, for many non-EGUs, similar information is not reported to EPA or other federal agencies, and EPA must gather the data from a wide variety of sources of information. Thus, EPA will require substantial time to collect data on non-EGUs needed to conduct a robust emissions control analysis in three key categories: (1) emissions, (2) current controls and their control efficiency, and (3) potential control devices.

129. The first component is data on emissions. Data on emissions from non-EGU sources are used as the baseline from which to calculate potential emissions reductions from these sources. The National Emissions Inventory (NEI) provides a comprehensive and detailed estimate of air emissions for criteria pollutants and criteria pollutant precursors, including NO_x,

from air emissions sources. It also provides information on emissions unit characteristics (e.g., heat input and flow rate) and existing controls on emissions units, but it does not include existing regulatory emissions limits. The NEI is released every three years by EPA and is based primarily on data provided by state, local, and tribal air agencies for sources within their jurisdictions and supplemented by data developed by EPA. However, there is no annual updating of the NEI for non-EGUs. The NEI contains information on point sources of emissions, including large industrial facilities, airports, and smaller industrial, non-industrial and commercial facilities. EPA recently released a new version of the NEI in April 2020 that represents emissions that occurred during the year 2017.

130. In contrast to EGUs, many non-EGU sources do not directly report emissions data to EPA, and they do not have continuous emissions monitoring (CEMs), which provide detailed, highly accurate information on emissions. EGUs are currently equipped with monitors to comply with monitoring requirements and to participate in the current CSAPR program, but non-EGUs of many types (e.g., IC engines) are not currently required to continuously monitor and report emissions in accordance with EPA regulations, 40 CFR Part 75.

131. Unlike EGUs, non-EGUs are also generally not subject to requirements to report information on unit characteristics and operations to other agencies, such as the U.S. Energy Information Administration or U.S. Federal Energy Regulatory Commission. Accordingly, EPA also cannot necessarily rely on data regarding current emissions submitted to other agencies to inform its analysis of non-EGUs.

132. Even though there are sector-specific rules that apply to non-EGU source categories, for example New Source Performance Standards (NSPS) under CAA section 111 and National Emission Standards for Hazardous Air Pollutants (NESHAP) under CAA section 112,

the monitoring and reporting requirements under these rules may not be sufficient to inform a Step 3 analysis. For instance, such rules often do not require CEMs.²² Records related to compliance with these rules are often in decentralized locations, because many states have delegated authority from EPA to implement these rules.

133. While some non-EGU emissions sources may have CEMS, we currently do not have good information on which non-EGU emissions sources have CEMS or other direct monitoring. Developing new monitoring provisions may be required to regulate such sources under the good neighbor provision. Requiring regular or continuous monitoring (such as CEMS) results in somewhat higher costs to implement new requirements and therefore higher total costs per ton of emissions reduction. In addition, some sources without existing regular or continuing monitoring may require more time to install and learn to operate new monitoring equipment, processes, or procedures.

134. The second input needed to inform an analysis of potential emissions reductions from non-EGUs is information on whether emissions from each non-EGU source are already controlled, by what control device(s), and at what level of control device efficiency. Information on existing non-EGU controls is necessary to quantify potential additional emissions reductions from non-EGU sources and their costs. In contrast to non-EGUs, control device information for EGUs is more readily available and accessible because of specific monitoring and reporting requirements that have been in existence for a considerable time.

135. Information on existing controls is to be reported by states under the Air Emissions Reporting Requirements (AERR), which is used to collect data for the NEI. This

²² One exception is a limited number of industrial/commercial/institutional (ICI) boilers and cement kilns, which may have CEMs required by the NO_x SIP Call, local rules, or consent decrees.

information is to be provided when control devices, measures, or technologies are present on the emissions sources, but this control-related information is not always complete for non-EGU sources in the NEI. For example, in the 2017 NEI, states reported emissions from approximately 81,000 non-EGU facilities. Of these, states reported control information for facilities with one or more controls for approximately 17,000 non-EGU facilities, or 21 percent of non-EGU facilities. Multiple controls may be identified for one unit, which may either indicate that they operate in sequence or that the information is not accurate. This means EPA may not know if specific emissions units are already controlled. Data quality can vary by sector – e.g., the underlying NEI estimates for IC engines likely reflect more uncertainty because NEI reporting for the oil and gas sector varies by state.

136. Therefore, given the relatively few monitoring and reporting requirements and data gaps in the NEI, EPA has incomplete information regarding existing controls at non-EGUs. Incomplete information on controls for non-EGU emissions sources may potentially lead to an overestimate of emissions reduction potential. It is quite possible that a control strategy based on the current NEI data may “double-count” potential reductions (i.e., applying a control technology when a similar one is already on a source). Also, the NEI may be missing operating information (e.g., design capacity, flowrate, temperature), which is used to estimate costs, potentially leading to an underestimate of costs. While some data exists for a limited number of non-EGUs that report data to EPA under the NO_x SIP Call, many industries have undergone major changes in the last decade, including changes in the fuels used, operating characteristics, and other changes that have an effect on emissions. These changes, even with the operational data reported, may or may not reflect similar changes across industries and industry sectors. To address some of the missing information from the NEI on existing controls, EPA can review Title V operating

permits for specific sources to confirm whether that source or unit has existing controls, what the control is, and what the control measure efficiency is. However, this information is decentralized and can take time to locate and acquire; the permits are often, but not always, available online in state databases.

137. In addition to the above information, a critical third component needed for analyzing the potential emissions reductions from non-EGU emissions sources is comprehensive data on potential control devices that could be installed on uncontrolled or under-controlled sources. As compared to EGUs, there are a substantially greater number and variety of non-EGU source categories that EPA must evaluate, and that can be controlled by a larger variety of potential control devices. EPA has taken steps to improve its data on control-device and control-measure information, including information on installation times, control efficiency, and costs, for non-EGU emissions sources. EPA collects and reviews control measure information from many sources and uses this information for many purposes. Historically, most of EPA's efforts to improve NO_x control measure information were conducted to support control strategy analyses associated with rulemakings in which states decide on which sources to control and at what level (e.g., "reasonably available control technology" (RACT) requirements for ozone nonattainment planning, *see, e.g.*, CAA section 182(b)(2)). In these cases, EPA's analyses were only intended to illustrate possible control options and associated costs; the states were free to substitute whatever controls they found most effective and least costly in their particular circumstances. However, in developing a FIP to address interstate ozone transport, the use of cost thresholds as a factor in defining states' emissions control obligations requires more accurate information on control costs, applicability, and achievable emissions reductions. Accordingly, to support a technically defensible regulatory assessment of the NO_x reduction

potential from non-EGU sources, EPA needs to take additional steps to ensure that the quality of control measure information for these sources is sufficiently accurate and reliable to support regulatory analyses.

138. Furthermore, the extensive differences in emissions unit source size and applicable control technologies for non-EGUs across industry sectors make developing a broad control strategy analysis more challenging. Most non-EGU emissions units are not rated in a single input or output metric such as is the case for EGUs (e.g., millions of British thermal units (MMBtu) (input) or megawatts (MW) (output)), making it hard to establish a consistent size threshold for non-EGUs comparable to EGUs. Non-EGU emission limits, including those for NO_x, are often defined in existing regulations (such as NESHAP or NSPS) very specifically by industry or source category. For example, emissions limits for IC engines are described as grams of NO_x per brake HP-hr, emissions limits for cement kilns are described as pounds of NO_x/clinker output, and emissions limits for industrial, commercial, and institutional (ICI) boilers are defined as pounds of NO_x per MMBtu/hr. Establishing a consistent size threshold for further analysis under the good neighbor provision requires cross-cutting analysis and is important to focus our analytical efforts on the most cost-effective control opportunities, but there is currently no accepted metric for unit capacity across all non-EGUs analogous to the 25 megawatt minimum unit capacity for EGUs. The size threshold would affect the total number of non-EGU emissions units that would need to be assessed and given the much larger universe of non-EGUs compared to EGUs, is critical to focusing further analysis.

139. EPA has been working on updating its information on available control devices or control measures for non-EGU stationary emissions sources or units and their costs for purposes of assessing potential requirements under the good neighbor provision. An important step in the

Agency's efforts to update this information can be found in a support document for the CSAPR Update, *Final Technical Support Document (TSD) for the Cross-State Air Pollution Rule for the 2008 Ozone NAAQS, Assessment of Non-EGU Emissions Controls, Cost of Controls, and Time for Compliance Final TSD* (Final Non-EGU TSD).²³ This was completed in August 2016 and focused on whether control measures could be installed by the 2017 compliance timeframe of the CSAPR Update. The Final Non-EGU TSD was a product of more than three years of data collection and review, as well as preliminary control strategy analyses of the potential for NO_x emissions reductions from non-EGU point emissions sources. However, for the reasons explained below, the information necessary to evaluate NO_x emissions reduction potential in this document, while representing important progress in EPA's efforts, does not in itself provide a sufficient technical basis for EPA to fully quantify emissions reductions necessary to address the good neighbor provision with respect to the 2008 ozone NAAQS.

140. For example, EPA included preliminary estimates of installation times for individual non-EGU NO_x control measures in its Final Non-EGU TSD ranging from 6 to 18 months. Installation times are critical to address when control measures can begin operation, and thus are important to address possible undercontrol or overcontrol of emissions. However, the preliminary estimates of installation times in the Final Non-EGU TSD do not account for time required for programmatic adoption of measures, such as permitting and installation of monitoring equipment. Permitting requirements include submission of a draft permit application, technical review of the permit by government bodies, interactions between

²³ Docket ID No. EPA-HQ-OAR-2015-0500-0508, available at <https://beta.regulations.gov/document/EPA-HQ-OAR-2015-0500-0508>.

government bodies and the applicant, scheduling and holding of public hearings, time for responses to public comments on the permit, and final review and approval of the permit.

141. In addition, the preliminary estimates of installation time shown in the Final Non-EGU TSD are for installation at a single source, but do not account for the time required for installing controls to achieve sector-wide compliance. For installing control measures on sources across non-EGU industry sectors, time for full sector-wide compliance is currently uncertain, but it can be anticipated to be longer than the installation time shown for control measures for individual sources in the Final Non-EGU TSD.

142. One of the ongoing challenges the Agency faces in updating its NO_x control measure information can be illustrated by the information presented in Table 3 of the Final Non-EGU TSD. *See* Final Non-EGU TSD at 11-17. Table 3 provides estimates on costs, installation times and other information regarding potential control technologies for up to 40 different non-EGU emissions source groups or categories (e.g., ICI boilers, IC engines, and cement kilns). Compiling all of this information was generally accomplished through a continuous series of smaller updates, each focusing on particular sources or control devices. Conducting a major update involving control measure information for as many as 40 different emissions source groups simultaneously will require a very substantial effort. Once EPA collects new information, staff review the information for relevance, compare the new information to information EPA already maintains, and determine what portion of the new information should be reflected in its control measure datasets and tools. The information then must be compiled and formatted specifically for use in EPA's datasets and tools. To incorporate the formatted information into its datasets and tools, EPA relies on specific software development and computer programming expertise outside of the Agency, through managed contracts. EPA must

also ensure that new control measure data are appropriately quality assured. Because of the number and variety of source categories involved, this is a time- and resource-intensive, iterative process.

143. Appendix A of the Final Non-EGU TSD included updated or new data on reduction efficiency and costs for NO_x control measures for the several non-EGU source groups analyzed. Appendix B of the Final Non-EGU TSD includes an assessment of run results for a model called the Control Strategy Tool (CoST) and recommendations for changing the applicability of control measure assignments for non-EGU NO_x emissions sources. These recommendations were based on review of source permits, state regulations, enforcement actions, and other available information as of 2014 for a 24-state area in the eastern U.S.

144. The Agency incorporated information from Appendix A and Appendix B of the Final Non-EGU TSD into the control measures database (CMDB) that serves as a primary input for CoST.²⁴ CoST models emissions reductions and control costs associated with the application of control devices or measures by matching the devices or measures to non-EGU emissions sources in the NEI. The CMDB contains emissions reduction and cost data based on national averages for control devices or measures that can be applied to non-EGU emissions sources within CoST. Data sources for cost and control efficiency information for NO_x measures in the CMDB vary; some information is from the NO_x SIP Call efforts, which is now more than 20 years old. Some data has been updated over time using information from other analyses or rulemakings, and other information is based on vendor data and studies or U.S. Department of Energy reports. In addition to variance by age, the quality of the data sources also varies. The

²⁴ See <https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-analysis-modelstools-air-pollution>.

older information is likely less reliable. Some of the cost data is presented as annualized cost per ton data, while other cost data is derived from equations that rely on information from the NEI, such as flowrate and MMBtu per hour. In addition, the cost estimates for control technologies and measures for IC engines may be low; these estimates do not reflect the potential level of difficulty associated with access to IC engines that may be in remote or difficult-to-access locations. The CMDB does not have data on how existing NO_x controls at non-EGUs can be upgraded or better managed to reduce emissions further. For non-EGU emissions sources and controls, the CMDB does not include data on installation time for control measures – a critical input into a good neighbor analysis given the importance of selecting an appropriate analytic year. Finally, the CMDB does not include data on monitors installed on existing non-EGU sources or units.

145. The Agency is also in the process of updating the Air Pollution Control Cost Manual (Cost Manual)²⁵ in response to provisions in the 2014 Consolidated Appropriations Act. EPA's Cost Manual provides guidance for the development of accurate and consistent cost analysis for air pollution control devices. The Cost Manual focuses on stationary point source and stationary area (non-point) source air pollution controls for VOCs, PM, NO_x, SO₂, and some acid gases. Section 4, Chapters 1 and 2, of the Cost Manual cover specific NO_x control technologies (e.g., SNCR and SCR) and have been updated as of May 2019. This updated information, while valuable for supporting efforts at estimating NO_x emission reduction potential, is only applicable to relatively few non-EGU source categories (e.g., ICI boilers) and not to others (e.g., cement kilns, IC engines). The Agency continues to incorporate the updated

²⁵ Available at <https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution>.

information on control efficiencies and cost equations into the CMDB and CoST for future analyses of the potential for NO_x emissions reductions from non-EGU sources.

146. Based on the uncertainties in EPA's non-EGU data just described, as well as past rulemaking experience, EPA anticipates that a supplemental proposal will be necessary before EPA can finalize emission reduction obligations for non-EGUs. This will provide a second opportunity to comment on a revised regulatory approach based on the substantial feedback we anticipate receiving on the initial proposal. We anticipate that a proposal addressing non-EGUs using our currently available information would lead to improvements and updates to the CMDB, CoST, and the 2017 NEI. This will in turn substantially improve and result in changes to EPA's analysis of emission reduction potential from non-EGU sources and associated Step 3 analyses. Given the anticipated changes that will likely result from stakeholder comment on an initial proposal, EPA believes it is important to provide a second opportunity to review and comment on our non-EGU Step 3 analysis.

147. If EPA does not allow for further public comment on the new analysis described above, the results of EPA's analysis in a final rule may be so changed from the analysis in its proposal that the final rule will not be a "logical outgrowth" of the proposal, and the Agency may be required to grant mandatory reconsideration under CAA section 307(d)(7)(B). Moreover, if EPA is unable to issue a supplemental proposal to take comment on a revised analysis conducted after receiving data corrections through the initial public comment period, EPA risks finalizing a rule with errors that could result in budgets, emission limitations, or other requirements that are not feasible or otherwise found to be arbitrary and capricious during judicial review. Such a final rule may also be subject to successful motions to stay the rule pending judicial review or reconsideration, as occurred in *Michigan* and *EME Homer City Generation*. See paragraphs 31,

45. A judicial stay of a final rule could delay the required emission reductions by two years or more. Therefore, the Agency believes a supplemental proposal to incorporate comments and data and re-evaluate emissions reductions from non-EGU emissions sources/units before taking final action is likely necessary to avoid these complications.

148. In EPA's proposed Rulemaking #2, EPA will sign a proposal by June 21, 2021. As with the EGU analysis, this affords the Agency approximately eight months to development necessary technical analysis and drafting for the non-EGU controls portion of a Step 3 analysis for a complete-remedy rulemaking. In EPA's proposed schedule, if EPA determines that a supplemental proposal is necessary, the issuance of that proposal by March 15, 2022 would trigger a contingency in our proposed court order giving the Agency an additional nine months to sign a final rule for Rulemaking #2.²⁶ We anticipate a 60-day comment period on the supplemental proposal, which would likely publish in the *Federal Register* in early April of 2022. This would afford approximately five months for EPA to review comments and conduct the updated technical analysis and drafting described above. Along with other required steps in the process, this would result in signature on a final rule by December 15, 2022.

149. If a supplemental proposal were not ultimately necessary, we would still need sufficient time between proposal and final to incorporate necessary changes into the Agency's emissions inventories and control measures data, complete any revised analyses needed for a final rulemaking, and respond to comment. As with EGUs, we expect the technical analysis and drafting to take five months for non-EGUs. Taking this time into account, if a supplemental

²⁶ Note that although EPA does not anticipate needing this additional time for EGUs, because a complete remedy at Step 3 addressing EGUs is related to our analysis of non-EGUs, *see* paragraph 125, the full rule, addressing both sets of sources, would be extended until December 2022 if EPA issues a supplemental proposal.

notice is not required, the Agency still would need until March 15, 2022 to issue a final rule for Rulemaking #2.

150. EPA's Gantt chart shows the timing of steps for a supplemental proposal in more detail. *See* Attachment 1, tab "SNPRM (Under Rulemaking #2)." The rulemaking steps associated with Rulemaking #2 and a supplemental proposal are explained in greater detail in section IV below.

3. Evaluation of Air Quality Impact of Step 3 Control Strategies

151. Once EPA has developed a series of potential emissions limitations at ascending levels of NO_x control stringency, EPA must evaluate the impact on the downwind air quality problems identified in Step 1. To assess downwind air quality impacts for each nonattainment or maintenance receptor identified, EPA would evaluate the air quality change at that receptor expected from the progressively more stringent upwind EGU and non-EGU NO_x emission limits established at each NO_x control stringency level. This assessment would provide the downwind ozone improvements for consideration and would provide air quality data to be used to evaluate whether such reductions are cost-effective and whether they would constitute under- or over-control relative to the downwind air quality problem.

152. For this assessment, EPA anticipates using an ozone Air Quality Assessment Tool (AQAT) to estimate the air quality impacts of the EGU and non-EGU NO_x emission limitations on downwind ozone pollution levels for various NO_x emission levels. The ozone AQAT uses simplifying assumptions regarding the relationship between each state's change in NO_x emissions and the corresponding change in ozone concentrations at nonattainment and maintenance receptors to which that state is linked. In order to assess the air quality impacts of the various control stringencies, EPA would evaluate changes resulting from the application of

the EGU and non-EGU emission limitations to all states that are linked to each receptor, as well as the state containing the receptor. Generally, EPA would evaluate the air quality improvements at each monitoring site for each progressively more stringent EGU and non-EGU NO_x emissions limitation scenario. For each level of control stringency and for each receptor, EPA would evaluate the magnitude of the change in concentration using the ozone AQAT and determine whether the estimated concentration would resolve the receptor's nonattainment or maintenance concern by lowering the average or maximum design values below the level of the NAAQS. EPA would also evaluate the change in each state's contribution to each receptor and evaluate that change against the contribution screening threshold.

153. As part of this analysis, EPA would evaluate potential under- or over-control with respect to whether (1) the expected ozone improvements would be sufficient or greater than necessary to resolve the downwind ozone pollution problem (i.e., resolving nonattainment or maintenance problems) or (2) the expected ozone improvements would reduce upwind state ozone contributions to below the screening threshold (i.e., one percent of the NAAQS). This step is taken to ensure compliance with the Supreme Court's holding, in *EPA v. EME Homer City*, that the "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State or at odds with the one-percent threshold the Agency has set." 134 S. Ct. at 1608. On remand from the Supreme Court, the D.C. Circuit held that this means that EPA might overstep its authority "when those downwind locations would achieve attainment even if less stringent emissions limits were imposed on the upwind States linked to those locations." *EME Homer City II*, 795 F.3d at 127.

154. EPA must construct the ozone AQAT tool using data from the air quality modeling runs described in paragraphs 105-110. The ozone AQAT assumes that a change in

ozone season NO_x emissions leads to a proportional change in downwind ozone contributions. This proportional relationship is then modified using monitor-specific calibration factors created using the base case contribution air quality modeling and a second air quality modeling case. To construct a calibrated AQAT, we have historically used two air quality modeling runs and the associated emission inventories (the base case with source apportionment contributions and a control case where there have been substantial emission reductions). As a result, construction of this tool cannot begin until the air quality modeling, including post-processing, is complete. With the air quality modeling results and emission inventories in hand, AQAT can be constructed in approximately one month.

155. After quantifying available emissions reductions and remaining emissions at each level of control for EGUs and non-EGUs, EPA would then evaluate that suite of options to determine the level of control that is appropriate to address significant contribution to nonattainment or interference with maintenance of the NAAQS downwind. We would apply a multi-factor test that considers cost, available emission reductions, and downwind air quality impacts to determine the appropriate level of uniform NO_x control stringency that addresses the impacts of interstate transport on downwind nonattainment or maintenance receptors. This test evaluates these factors to determine the appropriate stopping point for quantifying upwind state obligations to address interstate ozone transport, including whether the identified downwind ozone problems (i.e., nonattainment or maintenance problems) are resolved. The process of analyzing air quality effects of Step 3 control scenarios using AQAT is expected to take 1 month at the proposal stages and one month at the final stages for both a near-term and a longer-term rulemaking. If EPA issues a supplemental proposal to address non-EGUs, EPA anticipates needing one month for analyzing air quality effects using AQAT for that proposal as well.

c. Implementation of Emission Reductions at Step 4

156. Once EPA has quantified the emissions reductions necessary to eliminate states' significant contribution to downwind nonattainment and interference with maintenance, and has converted those reductions into appropriate emissions limitations in Step 3 of the framework, the emissions limitations must be implemented in a manner that makes them enforceable and ensures that necessary emissions reductions will actually occur. This is referred to as step 4 of the framework. As discussed above at paragraphs 17-19, states have the primary responsibility to develop SIPs to implement necessary emission reductions pursuant to CAA section 110(a)(2)(D)(i)(I), but where states fail to develop a plan to satisfy the statutory requirements, the CAA directs EPA to promulgate FIPs to ensure the statutory requirements are being met. As described at paragraphs 53-56, EPA has already determined that the Upwind States have failed to satisfy the requirements of the good neighbor provision with respect to the 2008 ozone NAAQS. For states with sources that EPA determines should achieve enforceable emission reductions at Steps 1-3, EPA has an obligation to promulgate FIPs that set appropriate emissions limitations on those sources.

157. The emissions limitations that EPA developed to address states' transport obligations under the NO_x SIP Call, CAIR, and CSAPR have been implemented through allowance trading programs. Under a trading program, each affected source is not subject to a limit on its actual emissions, but instead is subject to requirements to monitor its emissions during each control period and at the end of the control period to surrender allowances equal to its monitored emissions. The emissions reductions are enforced by limiting the total quantities of allowances that are made available to sources. Sources may be required to participate in the trading programs either by the states (through SIP revisions) or through FIP provisions under

which EPA regulates the sources directly. Through the experience gained in implementing several successive trading programs, EPA has developed a well-established set of trading program rules and was able to implement the CSAPR Update with only minor changes to the trading program rules already put in place for CSAPR. EPA at this point anticipates that we could implement any further emissions limitations required for EGUs using this well-established approach to ensuring emissions reductions.

158. EPA cannot assume that the well-established trading program approach for implementing regional emissions limitations for EGUs under the good neighbor provision will necessarily be the most appropriate approach for implementing regional emissions limitations for non-EGU sources as well. A primary challenge for developing FIPs for non-EGUs as compared to EGUs is defining appropriate emissions monitoring requirements for these sources. *See* paragraphs 130-132. Emissions monitoring and reporting are important for ensuring that sources comply with the emissions limitations quantified in Step 3 of the framework. They are particularly critical for the total-mass emissions measurement needed for an allowance-trading program. Many non-EGU emissions source categories may not currently be required to use CEMs, which are used by EGUs to monitor and report emissions in accordance with 40 CFR Part 75. Monitoring and reporting emissions using CEMs provides direct and accurate information on sources' emissions, which is essential for participation in existing trading programs under CSAPR and the CSAPR Update. Development of alternative approaches to implementing emissions limitations for certain non-EGU source categories will require time to scope potential approaches and prepare options for consideration, including the scoping of practical, legal, and technical feasibility of various approaches, and to brief Agency management to obtain decisions regarding the preferred approach to implementing the emissions limitations.

EPA anticipates the need to budget for at least four months of technical work to design appropriate implementation strategies for non-EGU emissions reductions at Step 4 of the framework during Rulemaking #2.

IV. Administrative Procedures for Rule Development

159. In addition to the time required to conduct the technical analyses described in section III, EPA must complete certain procedural and administrative steps in order to issue the proposed, supplemental, and final rules under our proposed schedule. The following table summarizes those steps, taking account of the time needed for technical analysis described above and accounting for the likely national significance of these rulemakings as tier I actions under EPA's ADP process. EPA's Gantt charts show how these steps interrelate with one another and with the other tasks described in this declaration. *See* Attachment 1.

Task	Timeframe²⁷	Earliest Completion Date
Rulemaking #1		
Proposed rule development		
<ul style="list-style-type: none"> Brief senior management²⁸ 	2 months	August 2020
<ul style="list-style-type: none"> Develop proposed technical analysis, preamble, regulatory text, and Regulatory Impact Analysis (RIA) 	3 months	August 2020
<ul style="list-style-type: none"> Agency review of draft rule and supporting materials 	2 months	September 2020

²⁷ Note that timeframes do not necessarily run sequentially.

²⁸ These tasks are not included in Attachment 1. Management briefings include briefings at the division director (DD), office director (OD), assistant administrator (AA), and Administrator levels, for the early guidance, options selection, and final agency review stages of EPA's ADP process. These briefings take place over the course of rule development. The "timeframe" reflects an estimate of the time needed for these steps, which may occur concurrently with the development of technical analysis and draft materials.

Task	Timeframe²⁷	Earliest Completion Date
<ul style="list-style-type: none"> • Interagency review of draft rule 	1 month	September 2020
Proposed rule signature		October 1, 2020
Publication of proposed rule		October 2020
Comment period	45 days	November 2019
Final rule development		
<ul style="list-style-type: none"> • Brief senior management 	1 month	February 2021
<ul style="list-style-type: none"> • Review and respond to comments, develop final technical analysis, preamble, regulatory text, and RIA 	3 months	February 2021
<ul style="list-style-type: none"> • Agency review of draft rule and supporting materials 	2 months	March 2021
<ul style="list-style-type: none"> • Interagency review of final rule²⁹ 	1 month	March 2021
<ul style="list-style-type: none"> • Final rule signature 		March 15, 2021
Rulemaking #2		
Proposed rule development		
<ul style="list-style-type: none"> • Brief senior management 	2 months	April 2021
<ul style="list-style-type: none"> • Develop proposed technical analysis, preamble, reg. Text, RIA, and convene SBREFA³⁰ panel 	8 months	May 2021
<ul style="list-style-type: none"> • Agency review of draft rule 	2 months	May 2021
<ul style="list-style-type: none"> • Interagency review of draft rule 	2 months	June 2021
Proposed rule signature		June 21, 2021
Publication of proposed rule		July 2021

²⁹ Note: completion of technical work and development of a Response to Comments document typically continues during interagency review.

³⁰ Small Business Regulatory Enforcement Fairness Act, *see* 5 U.S.C. §§ 601-612.

Task	Timeframe²⁷	Earliest Completion Date
Comment period	2 months	September 2021
Rulemaking #2, No Supplemental Proposal		
Final rule development		
<ul style="list-style-type: none"> Brief senior management 	3 months	January 2022
<ul style="list-style-type: none"> Review and respond to comments, develop final technical analysis, preamble, regulatory text, and RIA 	6 months	February 2022
<ul style="list-style-type: none"> Agency review of draft rule 	2 months	March 2022
<ul style="list-style-type: none"> Interagency review of draft rule 	2 month	March 2022
Final rule signature		March 15, 2022
Rulemaking #2, With Supplemental Proposal		
Supplemental proposed rule development		
<ul style="list-style-type: none"> Brief senior management 	3 months	January 2022
<ul style="list-style-type: none"> Develop proposed technical analysis, preamble, regulatory text, and RIA 	6 months	February 2022
<ul style="list-style-type: none"> Agency review of draft rule 	2 months	March 2022
<ul style="list-style-type: none"> Interagency review of draft rule 	1 month	March 2022
Supplemental proposed rule signature		March 15, 2022
Publication of proposed rule		April 2022
Comment period	60 days	June 2022
Final rule development		
<ul style="list-style-type: none"> Brief Senior Management, 	3 months	October 2022
<ul style="list-style-type: none"> Review and respond to comments, develop final technical analysis, preamble, regulatory text, and RIA 	6 months	November 2022
<ul style="list-style-type: none"> Agency review of draft rule 	2 months	December 2022
<ul style="list-style-type: none"> Interagency review of draft rule 	2 months	December 2022

Task	Timeframe ²⁷	Earliest Completion Date
Final rule signature		December 15, 2022

160. Throughout the process of developing the technical analyses to identify downwind air quality problems, quantify upwind state contributions, and identify cost-effective emissions reductions, EPA's senior management must make policy decisions regarding numerous issues that define the scope and direction of a good neighbor rulemaking. Some decisions can be made, or at least considered, while analyses are underway; however, certain decisions will not be properly informed until the completion of the various steps of the analyses. In particular, the decision-makers must make determinations regarding: the definition of nonattainment and maintenance receptors (Step 1), a contribution screening threshold (Step 2), which sources and level of control stringency on such sources to require in linked upwind states to address downwind air quality problems (Step 3), and the form of the remedy that will be used to implement the emissions limits resulting from the chosen control stringency (Step 4). Various other issues may arise in the process of conducting the technical analyses that will also require consideration by senior management, but which will depend on the facts and circumstances of the particular rulemaking.

161. Such issues must be raised to senior management in an organized process. First, the staff level workgroup will evaluate the issues and develop various options for addressing each issue, including legal, policy, and technical considerations supporting each option. The EPA workgroup includes staff with a wide range of expertise, including engineers, health researchers, attorneys, compliance and enforcement staff, and regional office representatives.

Workgroup staff will then prepare briefing papers that explain each issue and the options for addressing the issue and participate in a series of briefings with various levels of agency management in order to obtain policy direction and decisions. Before final decisions are made, the most significant issues are typically raised to both the Assistant Administrator for the Office of Air and Radiation and to the EPA Administrator. This process will occur throughout the development of the technical analyses and can reasonably be expected to continue up to and during the time when a draft rule goes into interagency review.

162. Once the senior management has made necessary policy decisions governing the requirements of a proposed rulemaking, EPA must develop a written record to explain and support the proposed action. This includes the development of a notice of proposed rulemaking including a preamble explaining the legal, policy, and technical bases for the proposed action. *See* CAA section 307(d)(3) (requiring the notice of proposed rulemaking to include a statement of basis and purposes summarizing the factual data on which the rule is based, the methodology used in obtaining the data and in analyzing the data, and the major legal interpretations and policy considerations underlying the proposed rule). EPA also develops for public comment proposed regulatory text to implement the proposed action and detailed technical support documents that explain the various technical analyses supporting the proposed action. EPA is also typically required pursuant to Executive Orders 12866 and 13563 to prepare a regulatory impact analysis (RIA) that evaluates the costs and benefits of the proposed action when we promulgate a regional interstate transport rulemaking. This may include preparing further EGU and non-EGU analyses of the selected remedy as well as air quality modeling to estimate the improvements in air quality and evaluating the benefits and co-benefits of such air quality improvements using the Benefits Mapping and Analysis Program (BenMAP). This process can

typically be expected to take four to five months in total for each rulemaking, though a portion of this time would be concurrent with previously discussed analytic and rulemaking activities.

163. EPA may also be required to prepare an analysis of the impact of its good neighbor rules if they impose federal requirements on small entities (i.e., businesses, governments, and nonprofit organizations) pursuant to the Small Business Regulatory Enforcement Fairness Act (SBREFA). If EPA cannot certify that there is not a significant economic impact on a substantial number of small entities (or SISNOSE) for the selected remedy, then SBREFA requires the formation of a panel, which is made up of representatives of EPA, the Small Business Administration (SBA), and the Office of Management and Budget (OMB), to identify ways to potentially mitigate this significant economic impact. The process for panel formation and activities, which includes meetings with representatives of affected small entities, can typically last at least six months and must occur in the proposal stage of the rulemaking prior to interagency review. EPA assumes this time should be built into the schedule for Rulemaking #2, given the potential regulation of non-EGU sources that may qualify as small entities, *see* paragraphs 127, 130-131, 133, 138.

164. Once the notice of proposed rulemaking is drafted, it must undergo review both by the workgroup staff and by several levels of EPA management including the Office of General Counsel, and Assistant Administrators for the Office of Air and Radiation and the Office of Policy. The review process is iterative for each level of management and thus may take 1 to 2 months in total.

165. EPA's regional interstate transport rulemakings pursuant to the good neighbor provision typically require interagency review, including review by the Office of Management and Budget (OMB), because the rulemakings are considered significant regulatory actions

pursuant to Executive Order 12866. Interagency review can take up to 3 months; however, in EPA's proposed schedule, for Rulemaking #1, EPA has budgeted 30 days for interagency review at proposal. In Rulemaking #2, EPA has budgeted 60 days for the proposal and 30 days for a supplemental proposal (if needed).

166. Once interagency review is complete, the Administrator may sign the notice of proposed rulemaking. EPA estimates that a notice of proposed rulemaking for Rulemaking #1 could be signed by October 1, 2020, and for Rulemaking #2 by June 21, 2021. Upon signature, the signed notice is transmitted to the Office of the Federal Register for publication pursuant to CAA section 307(d)(3). Publication of the notice of proposed rulemaking in the *Federal Register* can take up to several weeks from the signature of the rule and triggers the start of a public comment period. This time depends on the length and complexity of the preamble and regulatory text to be published and the workload of the Office of Federal Register.

167. EPA must provide the public an opportunity to submit written comments on a notice of proposed rulemaking pursuant to CAA section 307(d)(5). EPA is also required pursuant to this section to provide the public with an opportunity to provide an oral presentation at a public hearing. The Federal Register Act requires the Agency to provide sufficient notice of a public hearing, which requirement is presumptively satisfied if EPA provides 15 days' notice. 44 U.S.C. § 1508. Section 307(d)(5) further provides that EPA must keep the record for the proposed rulemaking open for public comment for 30 days after any public hearing. Accordingly, EPA should reasonably allow for at least 45 days for public comment on a notice of proposed rulemaking. Given the complexity of the technical analysis and policy requirements of EPA's rulemakings pursuant to the good neighbor provision, EPA typically provides a longer comment period so that the public has sufficient time to review and analyze the materials

provided with the proposed rulemaking. For the CSAPR Update, for example, EPA received numerous requests to extend the original 45-day comment period given the technical nature of the rule and responded by providing a total of 60 days to comment on the proposed action.³¹ EPA's proposed schedule here would provide for the shortest reasonable amount of time for public comment on Rulemaking #1 (45 days), and would provide for a 60-day comment period on Rulemaking #2 in light of the increased complexity and breadth of that rulemaking. If EPA needs to issue a supplemental proposal for Rulemaking #2, we have budgeted for an additional 60-day comment period.

168. Once the comment period is closed, EPA must review the comments received and evaluate whether those comments warrant further analyses or affect the technical analysis or the policy decisions made for purposes of developing the final rule. While some comments that are submitted early during the comment period can be reviewed during the comment period, most commenters make their submissions in the final few days of the comment period. Accordingly, review of the public comments received on the notice of proposed rulemaking largely occurs after the close of the comment period. EPA typically receives several thousand comments on its rulemakings addressing the good neighbor provision because they garner significant public interest from industry, states, and environmental and public health advocates. For example, EPA received over 6,700 comments on the CAIR proposal, 42,470 comments on the CSAPR proposal, and 15,449 comments on the CSAPR Update proposal. While up to three months for review of comments would be reasonable for a significant rulemaking, for Rulemaking #1, EPA is allotting itself only 2 weeks for review of comments, reflective of the incredibly aggressive

³¹ Commenters were also permitted a total of 80 days to comment on the air quality modeling in advance of the proposed rule via the issuance of a NODA. *See* 80 Fed. Reg. 46,271 (Aug. 4, 2015); 80 Fed. Reg. 52,271 (Aug. 28, 2015) (extending comment period).

pace of that rulemaking. For Rulemaking #2, EPA proposes a month to review comments on the proposal and an additional month for review of comments on the supplemental proposal (if needed).

169. EPA typically receives a significant number of comments regarding the data inputs underlying the various steps of its technical analysis. The revisions to the data inputs required to respond to these comments will typically result in the need to redo certain technical analyses, which in turn often leads to changes to the final parameters of the rule, including which upwind states are subject to the rulemaking and the level of the state budgets finalized in the rule. For example, as a result of comments received during the comment period for the CSAPR Update and other updates to the modeling platforms, EPA updated the technical analysis, and the update identified 18 fewer receptors in the final rule, one state was removed from the allowance trading program altogether, and the final rule budgets for each state were revised. *Compare* 80 Fed. Reg. 75,706, 75,725-26 (Dec. 3, 2015), *with* 81 Fed. Reg. at 74,533. EPA anticipates that we will receive similar comments on its rulemakings here that could result in changes to the rule geography and the level of the budgets (or other forms of emission limitation, particularly the potential control of the heterogeneous mix of non-EGU sources) between proposal and final. Accordingly, although EPA would not need to repeat every step of the analyses described in section III, EPA must plan for sufficient time to reanalyze each step of the framework between proposal and promulgation of a final rule.

170. For Rulemaking #1, EPA's plan for issuing a final rule by March 15, 2021, is premised on an aggressive expectation that any public comments and new information that may come to light after proposal will not require us to undertake new air quality modeling or controls

analysis with respect to a near-term, partial remedy.³² With respect to Rulemaking #2, EPA expects to need five months for new technical analysis (even without a supplemental proposal) after the comment period, including: (a) update modeling inputs and conduct updated air quality modeling and contribution modeling to identify downwind air quality problems and upwind contributions; (b) conduct updated IPM modeling to quantify potential emissions reductions from EGUs; and (c) conduct updated CoST modeling in order to quantify potential emissions reductions from non-EGUs.

171. Once the updated analysis is complete, EPA will again need to identify issues that require decisions from senior management, identify options for addressing those issues, prepare written briefing materials outlining the issues and options, and brief senior management to obtain the necessary decisions. EPA will also need to develop final rulemaking materials including a notice of final rulemaking, final regulatory text, and detailed technical support documents detailing the policy analysis underlying the final rulemaking. In addition to these materials, EPA will need to prepare a response-to-comment document detailing EPA's responses to all significant comments received on the notice of proposed rulemaking, including responses to various policy, legal, and technical issues raised in the comments. EPA will also need to develop a revised RIA evaluating the policy being finalized. These steps can reasonably be expected to take five to six months total, including three months from the conclusion of the technical analysis previously described. Again, for Rulemaking #1, EPA's proposed schedule requires that these analyses be updated for a final rule on a very aggressive timeline, in keeping with the near-term

³² Should such information come to the Agency's attention, we may need to seek relief from this Court through a modification of the court-ordered schedule the Agency is proposing.

and narrow nature of such a rule. For Rulemaking #2, it is more realistic to assume several months for this work will be needed.

172. Once the notice of final rulemaking is drafted, it must undergo review both by the workgroup staff and by several levels of EPA management including the Office of General Counsel, and the Assistant Administrators for the Office of Air and Radiation and the Office of Policy. Typically, two months is realistic for this review. For both Rulemaking #1 and #2, EPA is allotting two months for this review to occur for each rulemaking stage.

173. EPA also anticipates that both Rulemaking #1 and #2 will require interagency review at the final rulemaking stage, and EPA will once again be required to submit the rulemaking to OMB. This process can take up to 3 months for significant rules. Here, EPA is allotting only 30 days for interagency review of the final rule for Rulemaking #1, and 60 days for Rulemaking #2. Once interagency review is complete, the Administrator can sign a notice finalizing the rulemaking. EPA believes this final step can be expeditiously accomplished by March 15, 2021 for Rulemaking #1, and by March 15, 2022 for Rulemaking #2 (unless a supplemental proposal is required, in which case by December 15, 2022).

174. Publication of the notice of final rulemaking in the *Federal Register* can take up to several weeks from the signature of the rule. EPA does not have control over when the Office of Federal Register publishes this notice. Typically, the effective date for a final rule is 30 days or longer from the date of publication in the *Federal Register*. The effective date of a final rule is not necessarily the same as the date when a compliance obligation would be incurred under the rule by a regulated entity. In its CAA rules, EPA typically must provide for a certain amount of time to allow for installation of any required controls. For example, for the installation of

substantial, capital-intensive, new pollution controls such as SCRs, the Agency may need to provide months or years for sources to procure and install such controls.

V. Flaws in the Evidentiary Basis for Plaintiffs' Proposed Schedule

175. EPA does not agree with Plaintiffs that it is possible to issue a proposed rule by October 1, 2020, and final rule fully resolving the good neighbor obligations of the Upwind States (and the other eastern states for which obligations are outstanding if we are to comprehensively address the regional ozone problem, see section III.iii) by March 1, 2021. *See* Plaintiffs' Mem. of Law at 13-14. As explained in section III.i, EPA has historically needed between 10 and 16 months in order to finalize a rulemaking addressing the regional transport of ozone after a proposal has been published. As explained above in sections III and IV, EPA believes that with a very aggressive schedule that it is willing to undertake in order to implement a partial remedy by the 2021 attainment date, it can have a proposal signed by October 1, 2020, and a final rule signed by March 15, 2021. However, as discussed in sections III and IV, a complete remedy will require much more comprehensive assessment of longer-term controls at both EGU and non-EGU sources across a large geographic region and may necessitate updated air quality modeling for one or more future analytic years after 2021. That kind of major rule is impossible for the Agency to issue within the timeframe Plaintiffs seek. EPA's bifurcated rulemaking schedule allows for some near-term relief to be achieved, if needed, in time for the 2021 Serious area attainment date, while providing the Agency the necessary time to undertake analysis necessary to implement a complete remedy through a follow-on rulemaking.

176. Plaintiffs' evidentiary basis for the schedule they seek is exceedingly slim. For instance, plaintiffs present no evidence that EPA could comprehensively address non-EGU emissions sources as needed for a complete remedy to significant contribution on a one-year

rulemaking timeframe. *Cf.* Babbidge Decl. para. 27. Generic citations to EPA's work on certain non-EGU sources under the NESHAP and NSPS programs, *see id.*, do not answer the question of whether the analytic gaps and issues EPA anticipates here can be resolved in a 10-month timeframe, *see* section III.iv.b.2. Those programs fulfill different statutory purposes, and rulemakings for the relevant sources may be based on data or involve requirements that are unrelated to emissions control for interstate ozone transport. For example, the NESHAP program under CAA section 112 addresses hazardous air pollutants, not NO_x as an ozone-precursor. *See* paragraphs 132, 138.

177. Nor can the mutually-agreed schedule entered by this Court in *New York v. Pruitt*, No. 18-civ-0406, be considered probative evidence of what is possible for the Agency to accomplish in this action, given the changed nature of the required analysis and likely substance of the rulemaking that EPA anticipates needing to conduct now as compared to in the CSAPR Close-Out, *see* paragraph 89. *Cf.* Babbidge Decl. para. 27; Sheehan Decl. para. 80.

178. Similarly, the declaration of Sharon Davis states in a conclusory fashion that the existing data available to EPA through the National Emissions Inventory (NEI) is all that the Agency needs to impose additional emission reductions on a multitude of upwind sources. Sharon Decl. para. 36. This notion is thoroughly refuted by the detailed examination of the strengths and weaknesses of the NEI data (and other existing data sources) presented above, and EPA's conclusion that it will likely require two rounds of public comment to ensure a properly noticed and defensible basis for final regulation of non-EGU source categories, *see* paragraphs 126, 146-149.

179. The declaration of Michael Sheehan presents the most detailed case for the Plaintiffs' proposed schedule, but even here, the evidence mounted is slim and conclusory. First,

we do not dispute that we have been on notice of the need to address the remand since the D.C. Circuit opinions were issued, *see* Sheehan Decl. paras. 61-62. However, as explained above in section III.ii, the Agency has not been idle during this time and has made significant progress in the development of new air quality analysis and internal deliberation on the policy framework for rulemaking. This does not answer whether the work to-date puts EPA in a position to propose and then finalize a nationally significant rulemaking implementing a complete remedy addressing all relevant source sectors in less than a year's time. Even counting from October 1, 2019, EPA's historical experience that such rulemakings typically take three years would suggest a deadline for final rulemaking here around the *fall of 2022*, *see* paragraphs 84-87.

180. The basis for the suggestion that EPA should have been working on preparing to regulate non-EGUs under the good neighbor provision for years, *see* Sheehan Decl. para. 70, is not supported, when, as just acknowledged, EPA was only put on notice of an outstanding FIP duty in October of 2019. Further, section III.iv.b.2 explains that EPA has made progress in analyzing non-EGUs. EPA's work on analyzing non-EGUs to-date notwithstanding, the relevant question is how much additional time is realistically needed to develop a proposed and final rule to regulate these sources or a subset of these sources (if necessary). Even if the Agency focused on only the largest sources, the Agency would need to develop an analytical and statutory justifications for this focus; further, looking at only the largest sources in sectors as diverse as cement kilns, petroleum refineries, and steel mills, *see* Sheehan Decl. para. 70, and across multiple upwind states, the Agency still anticipates substantial stakeholder comment. The established need for improvements in EPA's existing data likely necessitate two rounds of public comment, *see* paragraphs 146-147. Whether the preliminary, incomplete information available to the Agency is sufficient to sustain a proposed rule at least for certain non-EGUs does not

address our primary contention that the substantial stakeholder feedback the Agency anticipates on such a proposal, and the likely substantial changes in EPA's analysis that would be warranted, would make it impossible for the Agency to take technically and legally defensible final action without a supplemental proposal and a second round of public comment, much less by the incredibly aggressive date of March 1, 2021.

181. The suggestion that a 45-day comment period would be adequate for a rule of the magnitude Plaintiffs are seeking, Sheehan Decl. 74, is not realistic based on our prior good neighbor rulemaking experience, *see* section III.i and paragraph 167. This would give the public an exceedingly short amount of time to review what will surely be a voluminous record for the proposed rule.

182. The technical work of reviewing and developing responses to comments and updating air quality and emissions control analysis cannot realistically be done in the timeframe Plaintiffs' declarant suggests, Sheehan Decl. paras. 75-77. Drafting all of the necessary technical support documents for a final rule in a mere two to three weeks for a complete-remedy rulemaking, *see id.* para. 76, is not possible. For comparison, the combined length of the technical support documents developed in support of the CSAPR Update final rule (a rule that did little more than require optimization of existing controls, just on EGUs) runs into the 1000s of pages, including many spreadsheets of data and modeling files too large to even load into the online docket of regulations.gov.³³ Similarly, the drafting of a final rule preamble and regulatory text that will easily run over 150 pages in the *Federal Register* (which is roughly the length of the CSAPR Update final notice – which, again, only addressed EGUs and did so via a single

³³ *See generally* CSAPR Update Docket, EPA-HQ-OAR-2015-0500, available at <https://www.regulations.gov/docket?D=EPA-HQ-OAR-2015-0500> (click on “supporting materials”).

trading program) in a mere two weeks, *see* Sheehan Decl. para. 77, would absolutely require the impossible of EPA staff tasked with undertaking this feat. It would also likely result in a final rule riddled with errors and unlikely to survive judicial review.

183. Plaintiffs' asserted expectation, Sheehan Decl. para. 81, that if EPA promulgates a final rule establishing a complete remedy by March 1, 2021, this would allow for the necessary emission reductions to be implemented in time for the 2021 Serious area attainment date is neither supported by evidence nor realistic. As described above, the time needed for installation of new post-combustion controls on EGUs is typically longer than a year, *see* paragraphs 60, 71. The time needed for installation of controls on non-EGUs likely varies widely depending on the nature of the source and emissions unit in question, and we estimate these timeframes may range up to multiple years, *see* paragraphs 140-141. Therefore, if EPA were required to promulgate a final rule by March 1, 2021, implementing a full remedy for the outstanding good neighbor obligations, the result would in all likelihood be emissions controls that would not take effect until the 2022, 2023, or even 2024 ozone seasons, based on a demonstration of the earliest possible timeframes for implementation of those controls in compliance with the *Wisconsin* and *New York* decisions, *see* 938 F.3d at 320; *see also* paragraph 174.

184. Finally, the continuing problems faced by the Plaintiff states in attaining and maintaining the 2008 ozone NAAQS do not provide a basis for the Court to order the Agency onto a rulemaking schedule that is faster than what is actually possible for EPA to achieve.³⁴ *See, e.g.*, Babbidge Decl. paras. 14-17.

³⁴ It will likely be too early to know before this Court rules in this matter whether air quality in the 2020 ozone season may allow for at least some of the downwind states to take advantage of flexibilities in the nonattainment planning requirements of the CAA. For instance, as the D.C. Circuit recognized in *Wisconsin*, downwind nonattainment areas may qualify for up to two 1-year extensions before a "bump up" to higher ozone nonattainment classification based on

VI. Requested Schedule

185. EPA has carefully considered the steps necessary to conduct a rulemaking that addresses our remaining FIP obligations for the Upwind States to address the good neighbor provision with respect to the 2008 ozone NAAQS, including the significant technical analysis described in section III and the administrative processes described in section IV. EPA believes the most expeditious and efficacious way to complete these obligations is through a bifurcated, two-rulemaking approach, allowing for any necessary and feasible near-term relief in time for the 2021 Serious area attainment date, while providing the Agency the necessary time to complete a full remedy addressing all necessary controls and sectors (EGU and non-EGU) through a second rulemaking (with the possibility of issuing a supplemental proposal). The steps and processes for this approach are summarized in Gantt charts found at Attachment 1. These tables also demonstrate which actions described in this declaration must precede other actions and which actions can occur concurrently.

186. EPA anticipates that the most expeditious schedule by which the Administrator can take action fully addressing the remaining interstate transport requirements of the good neighbor provision for the 2008 ozone NAAQS for the Upwind States is to conduct a bifurcated rulemaking, wherein for the initial rule, the Administrator will sign a notice of proposed action

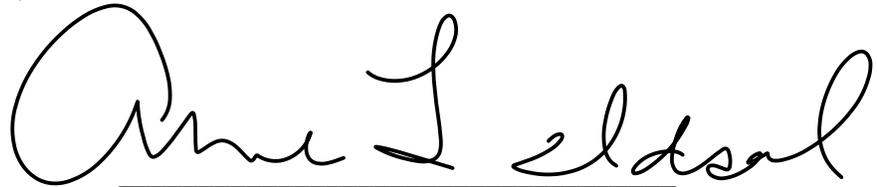
improved air quality, *see* CAA 181(a)(5). Further, even prior to the 2020 ozone season, Plaintiffs may already be benefitting from overall trends in improving air quality. As Plaintiffs' own declarant admits, the Greater Connecticut nonattainment area recently received a proposed "clean data determination" from EPA that would suspend certain requirements under section 172(c)(9) of the Act. *See* Babbidge Decl. para. 18 (citing 85 Fed. Reg. 17301 (March 27, 2020), corrected at 85 Fed. Reg. 21796 (April 20, 2020)). Finally, we note that EPA does not have authority under the good neighbor provision to provide relief from the otherwise applicable requirements of the ozone nonattainment provisions of the CAA. *See Sierra Club. v. EPA*, 294 F.3d 155, 160-62 (D.C. Cir. 2002) (invalidating EPA's extension of an attainment date on the theory that nonattainment was due to upwind emissions).

by November 15, 2020, and sign a notice of final action by March 15, 2021; and, for the second rule, the Administrator will sign a notice of proposed action by June 21, 2021, and sign a notice of final action by March 15, 2022, *unless* EPA signs a supplemental notice of proposed rulemaking by March 15, 2022, in which case, EPA will sign a notice of final action by December 15, 2022.

187. EPA believes that this schedule represents the most expeditious timeframe in which we can fully address the good neighbor provision for the Upwind States in a manner compliant with the statute and with the numerous court decisions guiding EPA's actions with respect to addressing transported ozone pollution pursuant to CAA section 110(a)(2)(D)(i)(I). In compliance with the *Wisconsin* holding, this schedule allows the Agency to undertake a near-term rule focusing on the implementation of immediate emission reduction obligations on certain sources that are *actually achievable* in time for the 2021 attainment date (if shown to be needed under the four-step framework). Meanwhile, a second rulemaking, on a longer timeframe, provides the Agency the opportunity to complete a full-remedy analysis and comprehensively address interstate transport problems under the 2008 ozone NAAQS (if any remain after 2021) in a technically and legally defensible manner. This schedule also permits the Agency to address outstanding FIP obligations at an appropriate, regional scale for up to 13 additional states covered by the CSAPR Update that have the same outstanding obligations. Any shorter timeframes would not only compromise the technical and legal defensibility of EPA's final actions, but could potentially inhibit the Agency from taking defensible, expeditious action to at least partially address significant contribution to the extent necessary and possible, in time for the 2021 Serious area attainment date, in compliance with the D.C. Circuit's holdings in *Wisconsin* and *New York*.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 5th day of June, 2020.

A handwritten signature in black ink that reads "Anne Idsal". The signature is written in a cursive style with a large initial "A".

Anne Idsal
Principal Deputy Assistant Administrator
Office of Air and Radiation
United States Environmental Protection Agency