STATE OF ARKANSAS

Revisions to the Arkansas State Implementation Plan

Regional Haze SIP Revision for 2008–2018 Planning Period

Prepared by the
Arkansas Department of Environmental Quality
Office of Air Quality
Policy and Planning Branch

October 2017

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Revisions to the Arkansas State Implementation Plan

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State Implementation Plan Submittal Letter

STATE OF ARKANSAS
ASA HUTCHINSON
GOVERNOR

October 24, 2017

Samuel T. Coleman
Acting Regional Administrator
United States EPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Arkansas Regional Haze State Implementation Plan Revision

Dear Acting Regional Administrator Coleman:

The State of Arkansas hereby respectfully submits for your review revisions to the Arkansas State Implementation Plan (SIP).

In this SIP submission, Arkansas has included revisions to address certain disapproved portions of the Arkansas Regional Haze State Implementation Plan (AR RH SIP), submitted to EPA in 2008 and to replace nitrogen oxides (NOx) emission limits for Arkansas subject-to-BART electric generating units and Entergy Independence included in the 2016 rule "Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule" (AR RH FIP). Other disapproved portions of the 2008 AR RH SIP will be addressed in a separate submission.

Arkansas requests that EPA finalize approval of this SIP revision and withdrawal of NOx emission limits for Arkansas subject-to-BART electric generating units and Entergy Independence included in the 2016 rule "Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule."

I certify that all documents submitted to the Regional Office in electronic form are exact duplicates of the hard copy documents. Should questions arise, please do not hesitate to contact the ADEQ Associate Director of the Office of Air Quality, Stuart Spencer, at (501) 682-0750, or by email at spencer@adeq.state.ar.us. Thank you for your consideration of Arkansas's submission.

Sincerely,

Asa Hutchinson

500 WOODLANE STREET, SUITE 250 • LITTLE ROCK, AR 72201
TELEPHONE (501) 682-2345
www.governor.arkansas.gov

Tab B:

Introduction—

Revisions to the 2008 Regional Haze State Implementation Plan

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I. Introduction

Arkansas has included in this state implementation plan (SIP) revisions to address certain disapproved portions of the Arkansas Regional Haze State Implementation Plan (AR RH SIP), submitted to the United States Environmental Protection Agency (EPA) in 2008. In 2012, EPA partially approved and partially disapproved the 2008 AR RH SIP.[1] Specifically, EPA disapproved the following elements of the 2008 AR RH SIP:

- Best available retrofit technology (BART) compliance dates;
- (BART) eligible sources and subject-to-BART sources;
- BART determinations:
    - Sulfur dioxide (SO_2), nitrogen dioxide (NOx), and particulate matter (PM) BART determinations for Arkansas Electric Cooperative Corporation (AECC) Bailey Plant Unit 1;
    - SO_2, NOx, and PM BART determinations for AECC McClellan Plant Unit 1;
    - SO_2 and NOx BART determinations for Southwest Electric Power Company (SWEPCO) Flint Creek Power Plant Boiler No. 1;
    - SO_2, NOx, and PM BART determinations for the fuel oil firing scenario and NOx BART determination for the natural gas firing scenario at Entergy Arkansas, Inc. (Entergy) Lake Catherine Plant Unit 4;
    - SO_2 and NOx BART determinations under both bituminous and sub-bituminous coal firing scenarios for Entergy White Bluff Units 1 and 2;
    - BART determination for Entergy White Bluff Plant Auxiliary Boiler;
    - SO_2 and NOx BART determinations for Domtar Ashdown Mill Power Boiler No. 1; and
    - SO_2, NOx, and PM BART determinations for Domtar Ashdown Mill Power Boiler No. 2;
- Reasonable progress analysis and reasonable progress goals (RPGs); and
- Long-term strategy.

The remaining provisions of the 2008 AR RH SIP were approved.

This SIP revision replaces source-specific NOx BART determinations for the electric generating units (EGUs) included in the 2008 AR RH SIP, as well as NOx limits for the EGUs promulgated under a 2016 federal implementation plan[2] (FIP), with reliance on the Cross-State Air Pollution Rule (CSAPR) emissions trading program as an alternative to BART for Arkansas BART-

[1] *Approval and Promulgation of Implementation Plans; Regional Haze State Implementation Plan; Interstate Transport State Implementation Plan to Address Pollution Affecting Visibility and Regional Haze.* (77 FR 14604, March 12, 2012)

[2] *Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule* (81 FR 66332, September 27, 2016)

eligible, fossil fuel-fired, electric generating units (EGUs) as allowed under 40 C.F.R. 308(e)(4). This SIP revision also establishes that no new NOx emission controls are required beyond CSAPR for achieving reasonable progress.

II. Background

In 1977, Congress added § 169 to the Clean Air Act (CAA), which set forth the following goal for restoring pristine conditions in national parks and wilderness areas:

> Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from man-made air pollution.

In 1980, EPA issued regulations to address the visibility problem that is "reasonably attributable" to a single source or small group of sources. These regulations primarily addressed "plume blight"—visual impairment of air quality that manifests itself as a coherent plume—rather than overall haze. In 1988, EPA, the states, and federal land managers (FLMs) began monitoring fine particulate matter concentrations and visibility in thirty Class I areas to better understand the species of particulates causing visibility impairment.

When the CAA was amended in 1990, Congress added § 169(B), which authorized research and regular assessments of progress toward restoring visibility in Class I areas and authorized the creation of visibility transport commissions. Specifically, CAA §169(B)(f) mandated the creation of the Grand Canyon Visibility Transport Commission (GCVTC) to make recommendations to EPA for regions affecting the visibility of the Grand Canyon National Park. EPA relied upon the recommendations of GCVTC and research reports to develop the 1999 "Regional Haze Regulations: Final Rule" (RHR).[3]

The 1999 RHR sought to address the combined visibility effects of various pollution sources over a wide geographic region with the goal of achieving natural visibility conditions at designated Class I areas by 2064. This required all states, including those that did not have Class I areas to participate in planning, analysis, and emission control programs under the RHR. States with Class I areas were required to conduct certain analyses to establish goals for each Class I area in the state to 1) improve visibility on the haziest days and 2) ensure no degradation occurs on the clearest days. These goals and long-term strategies to achieve these goals were to be included in SIPs covering each ten-year period leading up to 2064. States were also required to submit progress reports in the form of SIP revisions every five years. Around the time of the 1999 RHR, EPA and the FLMs also expanded the existing Class I visibility monitoring network to 108 Class I areas.

[3] 64 FR 35714

For the purposes of assisting with coordination and cooperation among states to address visibility issues, EPA designated five regional planning organizations (RPOs) to assist with coordination and cooperation among states in addressing visibility issues the states have in common. Arkansas was located in the Central Regional Air Planning Association (CENRAP) RPO. Figure 1 is a map depicting the five RPO regions designated by EPA.

Figure 1 Regional Planning Organizations

In SIPs covering the first ten-year period, states were also specifically required to evaluate controls for certain sources that were not in operation prior to 1962, were in existence in 1977, and have the potential to emit 250 tons per year or more of any air pollutant. These sources were referred to as "BART-eligible sources." States were required to make BART determinations for all BART-eligible sources or consider exempting some sources from BART requirements because they do not cause or contribute to visibility impairment in a Class I area. BART-eligible sources that were determined to cause or contribute to visibility impairment in a Class I area were subject to BART controls. In determining BART emission limits for each subject-to-BART source, States were required to take into account the existing control technology in place at the source, the cost of compliance, energy and non-air environmental impacts of compliance, remaining useful life of the source, and the degree of visibility improvement that is reasonably anticipated from use of each technology considered. States also had the flexibility to choose an alternative to BART, such as an emission trading program, that would achieve greater reasonable progress in visibility protection than implementation of source-by-source BART controls. SIPs for the first ten-year planning period were due on December 17, 2007.

In 2005, EPA issued a revised BART rule pursuant to a partial remand of the 1999 RHR by the U.S. Court of Appeals of the DC District Court in 2002.[4] The Court had remanded the BART provisions of the 1999 RHR to EPA and denied industry's challenge to the RHR goals of natural visibility and no degradation. The revised BART rule included guidelines for states to use in determining which facilities must install controls and the types of controls the facilities must use.

In addition to revisions to BART, EPA has also issued rulemakings establishing the Clean Air Interstate Rule (CAIR) and its successor the Cross-State Air Pollution Rule (CSAPR) as approvable alternatives to source-by-source BART controls.[5] EPA has also amended regulatory requirements for state regional haze plans for the second planning period and beyond.[6]

On September 9, 2008, Arkansas submitted a SIP for the 2008–2018 planning period of regional haze regulations promulgated as of 2005 codified at 40 C.F.R. Part 51. In a 2012 action on the 2008 AR RH SIP, EPA partially approved and partially disapproved the SIP.[7] This partial approval/partial disapproval of the 2008 AR RH SIP triggered a requirement for EPA to either approve a SIP revision by Arkansas or promulgate a federal implementation plan (FIP) within twenty-four months of the final rule partially approving and partially disapproving the 2008 AR RH SIP.

In the 2012 partial approval/partial disapproval of the 2008 AR RH SIP, EPA approved the following elements of the 2008 AR RH SIP:

- Identification of Class I areas affected by sources in Arkansas;
- Determination of baseline and natural visibility conditions;
- Determination of a uniform rate of progress (URP);
- Select BART determinations:
    - PM determination on SWEPCO Flint Creek Power Plant Boiler No. 1;
    - SO_2 and PM determinations for the natural gas firing scenario for Entergy Lake Catherine Plant Unit 4
    - PM determinations for both bituminous and sub-bituminous coal firing scenarios for Entergy White Bluff Plant Units 1 and 2;
    - PM determination for Domtar Ashdown Mill Power Boiler No. 1
- Consultation with FLMs and other states regarding RPGs and long-term strategy;

[4] *American Corn Growers Assn. v. EPA*, 291 F.3d.1 (D.C. Cir. 2002)
[5] *Regional Haze Regulations; Revisions to Provisions Governing Alternative to Source-Specific Best Available Retrofit Technology (BART) Determinations* (71, FR 60612, October 13, 2006)
Regional Haze Regulations; Revisions to Provisions Governing Alternative to Source-Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans (77 FR 33642, June 7, 2012).
[6] *Protection of Visibility: Amendments to Requirements for State Plans* (82 FR 3078, January 10, 2017)
[7] *Approval and Promulgation of Implementation Plans; Regional Haze State Implementation Plan; Interstate Transport State Implementation Plan to Address Pollution Affecting Visibility and Regional Haze.* (77 FR 14604, March 12, 2012)

- Coordination of regional haze and reasonably attributable visibility impairment (RAVI);
- Regional haze monitoring strategy and other SIP requirements under 40 C.F.R. 51.308(d)(4);
- A commitment to submit periodic regional haze SIP revisions; and
- A commitment to submit periodic progress reports that include a description of progress toward RPGs and a determination of adequacy of the existing SIP.

EPA disapproved the following elements of the 2008 AR RH SIP:

- BART compliance dates;
- BART-eligible sources and subject-to-BART sources;
- Select BART determinations:
    - SO_2, NOx, and PM BART determinations for AECC Bailey Plant Unit 1;
    - SO_2, NOx, and PM BART determinations for AECC McClellan Plant Unit 1;
    - SO_2 and NOx BART determinations for SWEPCO Flint Creek Power Plant Boiler No. 1;
    - SO_2, NOx, and PM BART determinations for the fuel oil firing scenario and NOx BART determination for the natural gas firing scenario at Entergy Lake Catherine Plant Unit 4;
    - SO_2 and NOx BART determinations under both bituminous and sub-bituminous coal firing scenarios for Entergy White Bluff Units 1 and 2;
    - BART determination for Entergy White Bluff Plant Auxiliary Boiler;
    - SO_2 and NOx BART determinations for Domtar Ashdown Mill Power Boiler No. 1; and
    - SO_2, NOx, and PM BART determinations for Domtar Ashdown Mill Power Boiler No. 2;
- Reasonable progress analysis and RPGs; and
- Long-term strategy.

On September 27, 2016, EPA finalized a regional haze FIP for Arkansas (AR RH FIP).[8] This FIP established new BART requirements for those sources whose BART determinations in the 2008 AR RH SIP were disapproved. The FIP also required the installation of controls at units of an electric generating unit (EGU) that was not BART-eligible—Entergy Independence Units 1 and 2. Despite the previous disapproval of ADEQ's determination in the 2008 AR RH SIP that Georgia Pacific Crossett Mill Boiler 6A and 9A did not cause or contribute to visibility impairment in a Class I area, EPA reversed its decision and concurred with ADEQ that Georgia Pacific Crossett Mill Boiler 6A and 9A are not subject to BART.

[8] *Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule* (81 FR 66332, September 27, 2016)

On November 22, 2016, the State of Arkansas filed a Petition for Reconsideration and Administrative Stay of the AR RH FIP. In the petition, the State of Arkansas requested that EPA reconsider the AR RH FIP based on new information not raised during the comment period that is of central relevance to the outcome of the FIP. Arkansas asserted that EPA should reconsider controls on Entergy Independence in light of recent data from the IMPROVE monitoring network that shows that Arkansas has already achieved the amount of progress required for the 2008–2018 planning period without having implemented the controls required in the FIP. Arkansas requested that EPA reconsider NOx emission limitations placed on BART-eligible facilities in light of the recent rulemaking that increased the stringency of the CSAPR. Compliance with the previous, less stringent CSAPR rule was a legally sound alternative to source-by-source BART controls. Arkansas also requested reconsideration of the use of low-sulfur coal as BART for SO_2 at Entergy White Bluff. Arkansas requested an immediate administrative stay pending completion of EPA's reconsideration of the AR RH FIP.

On February 3, 2017, the State of Arkansas filed a Petition for Review of the AR RH FIP with the United States Court of Appeals for the Eighth Circuit. On March 8, 2017, the Court held the Petition for Review in abeyance for ninety days. On April 14, 2017, EPA issued a letter notifying Arkansas that the Agency was convening the reconsideration process for the following:

- Compliance dates for NOx emission limits for SWEPCO Flint Creek Power Plant Boiler No. 1, White Bluff Units 1 and 2, and Independence Units 1 and 2;
- Low-load NOx limits applicable to White Bluff Units 1 and 2 and Independence Units 1 and 2 during periods of operation at less than fifty percent of the unit's maximum heat input rating;
- SO_2 emission limits for White Bluff Units 1 and 2; and
- Compliance dates for SO_2 emission limits for Independence Units 1 and 2.

On April 25, 2017, EPA published in the Federal Register a partial stay of the effectiveness of the AR RH FIP (82 FR 18994). Specifically, EPA stayed from April 25, 2017 until July 24, 2017 (ninety days) the compliance dates for the NOx emission limits at SWEPCO Flint Creek Power Plant Boiler No. 1, White Bluff Units 1 and 2, and Independence Units 1 and 2, as well as the compliance dates for the SO_2 emission limits for White Bluff units 1 and 2 and Independence Units 1 and 2. This action did not alter or extend the ultimate compliance dates for these units nor did it stay requirements for other units subject to the FIP.

III. BART Requirements for NOx for Subject-to-BART Units Participating in the CSAPR Program

Arkansas meets all current requirements under 40 C.F.R. § 51.308(e)(4), which states the following:

> A State subject to a trading program established in accordance with § 52.38 or § 52.39 under a Transport Rule Federal Implementation Plan need not require BART–eligible fossil fuel-fired steam electric plants in the State to install, operate, and maintain BART for the pollutant covered by such trading program in the State.

Arkansas is currently subject to a trading program established in accordance with 40 C.F.R. § 52.38 under a Transport Rule Federal Implementation Plan for NOx during the ozone season. As a result, Arkansas need not require BART-eligible fossil fuel-fired steam electric plant units participating in the CSAPR program in the State to install, operate, and maintain BART for NOx.

On June 7, 2012, EPA published a final rule (77 FR 33642) allowing states participating in the CSAPR trading program, which is also known as the Transport Rule (76 FR 48208), to use CSAPR to satisfy BART, including states participating only for ozone season NOx. Reliance on the CSAPR trading program as better than source-specific BART has repeatedly withstood legal scrutiny.[9]

Since promulgating the regulations that allowed the use of CSAPR as an alternative that achieves greater visibility improvements than source-specific BART, EPA has promulgated an update to the CSAPR program with more stringent budgets (81 FR 74504). Revisions to the program as a result of this update are codified at 40 C.F.R. § 52.318. The CSAPR Update revised the ozone season NOx budget for Arkansas units from 15,110 tons in 2015 to 12,048 tons (10,132 allocated to existing EGUs) in 2017 with a further reduction to 9,210 (7,781 allocated to existing EGUs) in 2018 and beyond.

CSAPR has been subject to extensive litigation since the program was initially established in 2011. In 2012, CSAPR was vacated and remanded to EPA by the D.C. Circuit Court.[10] In 2014, the U.S. Supreme Court reversed the D.C. Circuit opinion, and the D.C. Circuit Court lifted the stay of CSAPR.[11] On July 18, 2015, the D.C. Circuit generally upheld CSAPR, but remanded without vacating the CSAPR Phase 2 emissions budgets for some states.[12] Arkansas was not included among the states for which budgets were remanded. Due to this partial remand of budgets, EPA proposed a sensitivity analysis showing that EPA's 2012 demonstration that CSAPR qualifies as a BART alternative would not be adversely affected by modifying the assumptions to reflect the actions that have been or are expected to be taken in response to the D.C. Circuit's remand of CSAPR Phase 2 budgets.[13] On September 29, 2017, EPA affirmed the

[9] *e.g. Nat'l Parks Conservation Ass'n v. McCarthy*, 816 F.3d 989, 995 (8th Cir. 2016)
(The Eighth Circuit upheld EPA's approval of CSAPR as better than BART for units in Minnesota's SIP).
[10] *EME Homer City Generation, L.P. v. EPA* (No. 12-1182)
[11] *EPA. V. EME Homer City Generation, L. P.* 572 U.S. __ (2014)
[12] *EME Homer City Generation, L.P. v. EPA* (No. 12-1182, Document #1564814)
[13] 81 FR 78954

continued validity of the Agency's 2012 determination that participation in CSAPR meets RHR criteria for an alternative to source-specific BART.[14]

It is appropriate under 40 C.F.R § 51.308 to provide additional flexibility for CSAPR participating subject-to-BART units in Arkansas by allowing participation in the CSAPR ozone season NOx trading program to satisfy RHR requirements in place of source-specific BART requirements for NOx. Participation in CSAPR for ozone season NOx is federally enforceable under 40 C.F.R. 52.38 and the ozone season NOx requirements under CSAPR apply to the following BART-eligible units:

- Arkansas Electric Cooperative Corporation (AECC) Bailey Plant Unit 1;
- AECC McClellan Plant Unit 1;
- SWEPCO Flint Creek Power Plant Boiler No. 1;
- Entergy Arkansas, Inc. (Entergy) Lake Catherine Plant Unit 4;
- Entergy White Bluff Units 1 and 2 and Auxiliary Boiler;

Arkansas Pollution Control and Ecology Commission Regulation No. 19, Chapter 15, contains emission limits included in the partially-approved, partially disapproved 2008 AR RH SIP. There is currently a variance in place on those limits included in Regulation No. 19, Chapter 15. Because those emission limits are not enforceable and the use of CSAPR fulfills NOx requirements for the subject-to-BART EGUs, the NOx emission limits for EGUs in Regulation No. 19 Chapter 15 are not necessary. ADEQ intends to file with the Arkansas Pollution Control and Ecology Commission a petition to initiate rulemaking to repeal those source-specific BART NOx emission limits in Regulation 19 Chapter 15.

IV. Reasonable Progress

The 1999 RHR requires states to establish reasonable progress goals RPGs for each Class I area within the state. These goals must ensure reasonable progress consistent with the URP necessary to achieve natural visibility conditions by 2064 on the twenty percent worst days and no degradation on the twenty percent best days. In establishing RPGs, the RHR requires states to consider four factors: (1) cost of compliance, (2) the time necessary for compliance, (3) the energy and non-air quality environmental impacts of compliance, and (4) the remaining useful life of potentially affected sources. If a state determines that additional progress beyond what is necessary to achieve the URP is reasonable, the RHR rule states that "the State should adopt that amount of progress as its goal for the first-long-term strategy." The RHR rules also require states to provide a demonstration as part of the SIP if the State determines that the URP needed to reach natural conditions is not reasonable.

[14] 82 FR 45481

In the 2008 AR RH SIP, ADEQ established a URP for Caney Creek and Upper Buffalo wilderness areas based on the progress needed to reach natural conditions by 2064 in each area. The 2008 AR RH SIP established RPGs based on a combination of existing control requirements and BART requirements. The SIP demonstrated that these measures would provide for a rate of progress that improves visibility conditions on the worst days at a rate that surpasses the URP and prevents degradation on the best days. ADEQ reasoned that no four factor analysis was required because the State determined that no additional controls were necessary to ensure reasonable progress toward natural visibility by 2064 beyond those controls required for sources subject to BART requirements. Therefore, the 2008 AR RH SIP did not include a four factor analysis.

In 2012, EPA issued a partial approval and a partial disapproval of the 2008 AR RH SIP. In this action, EPA approved the URP, but disapproved the RPGs. In justifying its disapproval of Arkansas's RPGs, EPA asserted that the URP does not establish a "safe harbor" for the State in setting its RPGs and that Arkansas should have performed a four factor analysis and determined whether additional progress would be reasonable.[15] This submittal addresses EPA's disapproval of the reasonable progress analysis included in the 2008 AR RH SIP by considering key pollutants that contribute to visibility impairment in Arkansas Class I areas and using the four factors to assess whether NOx controls on sources that are not subject to BART are reasonable.

A. Identification of Key Pollutants and Source Categories That Contribute to Visibility Impairment in Arkansas Class I Areas

Included with the 2008 AR RH SIP, ADEQ provided emissions and air quality modeling performed by Central Regional Air Planning Association (CENRAP) in support of SIP development in the central states region.[16] As part of this modeling, the Particulate Source Apportionment Technology Tool (PSAT), included with CAMx Version 4.4, was used to provide source apportionment by geographic regions and major source categories for pollutants that contribute to visibility impairment at each of the Class I areas in the central states region.[17] The PSAT results demonstrate that sulfate (SO_4) from point sources is the principle driver of visibility extinction at both Arkansas Class I areas on the twenty percent worst days.

1. Regional Particulate Source Apportionment for Caney Creek and Upper Buffalo Wilderness Areas

Table 1 shows the modeled relative contributions to light extinction for each source category at Caney Creek and Upper Buffalo wilderness areas on the twenty-percent worst days in 2002.

[15] Approval and Promulgation of Implementation Plans; Arkansas Regional Haze State Implementation Plan; Interstate Transport State Implementation Plan to Address Pollution Affecting Visibility and Regional Haze: Proposed Rule (76 FR 64195)

[16] The central states region includes Texas, Oklahoma, Louisiana, Arkansas, Kansas, Missouri, Nebraska, Iowa, Minnesota; and tribal governments included in these states.

[17] August 27, 2007 CENRAP PSAT tool: W20% Projected Bext;

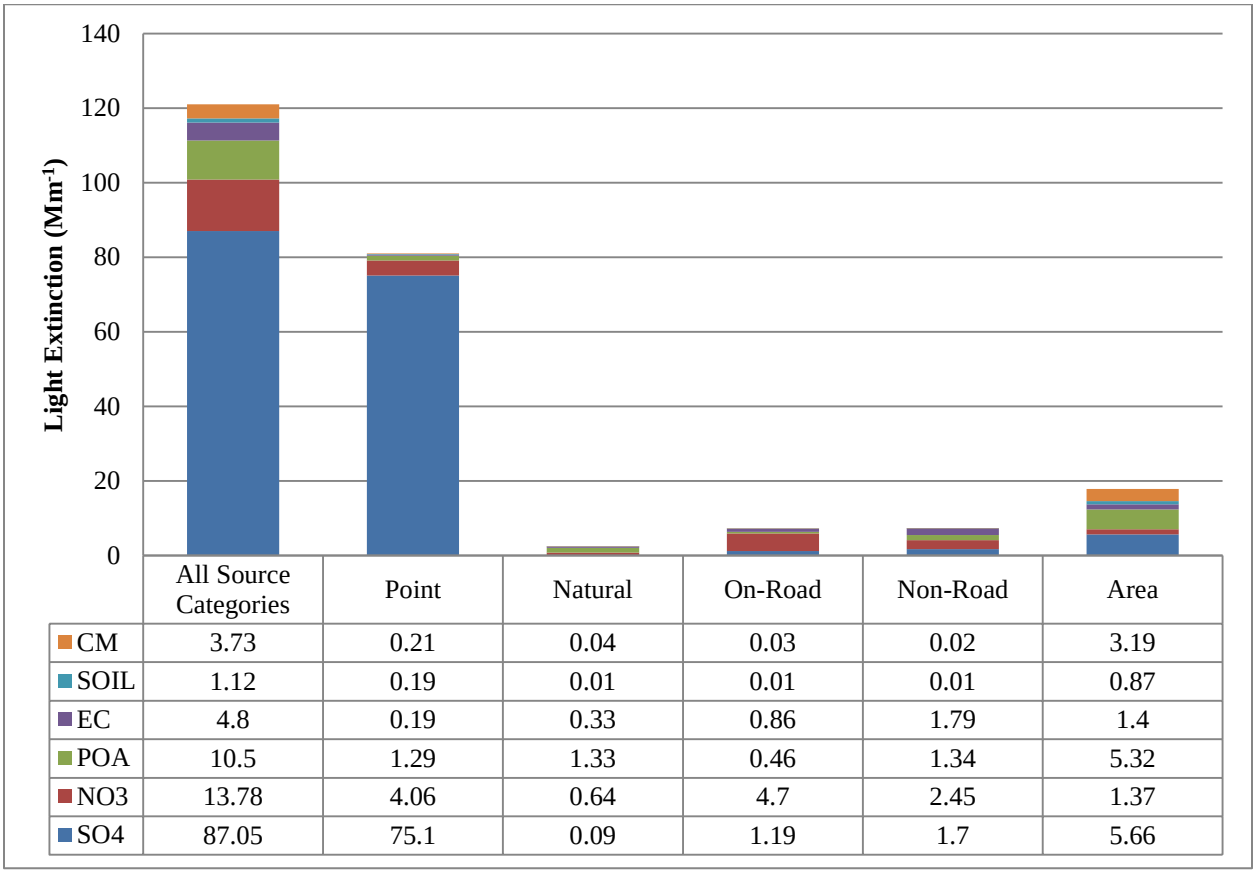
Point sources, responsible for approximately sixty percent of total light extinction at each Arkansas Class I area, are the primary contributor to visibility extinction on the twenty percent worst days. Area sources are the next largest contributor to light extinction at Arkansas Class I areas; however, area sources only contribute thirteen percent and sixteen percent of total light extinction at Caney Creek and Upper Buffalo wilderness areas, respectively. The other source categories each contribute between two percent and six percent of total light extinction at Arkansas Class I areas.

Table 1 Modeled Light Extinction for the 20% Worst Days at Caney Creek and Upper Buffalo Wilderness Areas in 2002 (Mm^{-1})

	Point	Natural	On-Road	Non-Road	Area
Caney Creek	81.04	2.45	7.26	7.31	17.81
Upper Buffalo	77.8	2.39	6.62	7.72	20.46

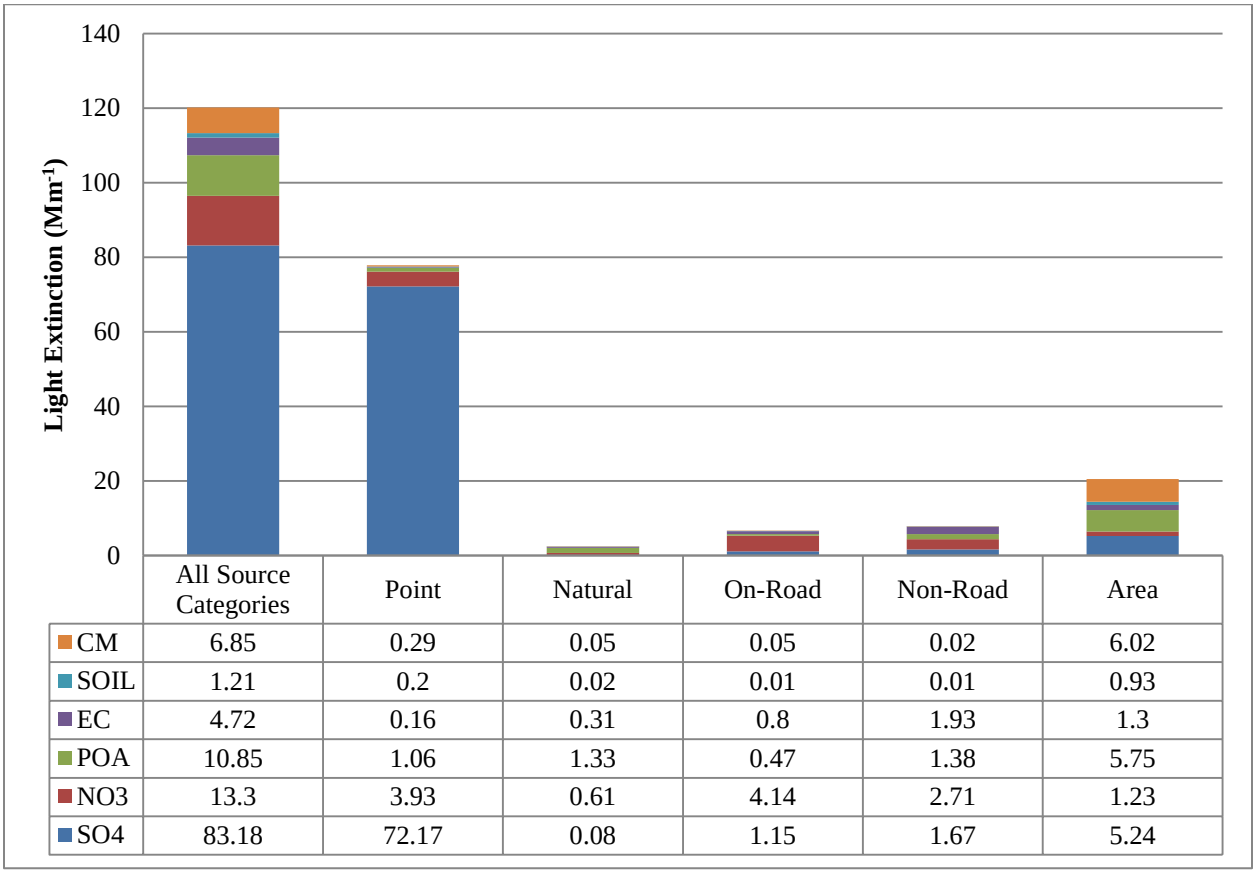
Figure 2 and Figure 3 show the modeled relative contributions to light extinction for each species and source category at Caney Creek and Upper Buffalo wilderness areas on the twenty percent worst days in 2002. According to the 2002 PSAT results, sulfates (SO_4) contributed approximately sixty-five percent and sixty-three percent of modeled visibility extinction at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2002. The point source category contributed eighty-six percent and eighty-seven percent of light extinction due to SO_4 at Caney Creek and Upper Buffalo, respectively, on the twenty percent worst days. The other source categories contribute much smaller proportions of light extinction due to SO_4. In fact, point sources of SO_4 contributed fifty-five to fifty-six percent of total light extinction at Arkansas Class I areas. By contrast, nitrate (NO_3) contributed approximately ten percent, primary organic aerosols (POA) contributed approximately eight percent, elemental carbon (EC) contributed approximately four percent, and soil contributed approximately one percent of modeled visibility extinction at both wilderness areas in 2002 on the twenty worst days. Crustal material (CM) contributed approximately three percent and five percent of modeled visibility extinction at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days. Relative contributions from on-road and point sources each represent approximately a third of light extinction attributed to NO_3. Area sources were the primary driver of light extinction attributed to POA, soil, and CM. Light extinction attributed to EC is primarily driven by non-road and area sources.

Figure 2 Modeled Light Extinction for the 20% Worst Days at Caney Creek Wilderness Area in 2002



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	3.73	0.21	0.04	0.03	0.02	3.19
SOIL	1.12	0.19	0.01	0.01	0.01	0.87
EC	4.8	0.19	0.33	0.86	1.79	1.4
POA	10.5	1.29	1.33	0.46	1.34	5.32
NO3	13.78	4.06	0.64	4.7	2.45	1.37
SO4	87.05	75.1	0.09	1.19	1.7	5.66

Figure 3 Modeled Light Extinction for the 20% Worst Days at Upper Buffalo Wilderness Area in 2002



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	6.85	0.29	0.05	0.05	0.02	6.02
SOIL	1.21	0.2	0.02	0.01	0.01	0.93
EC	4.72	0.16	0.31	0.8	1.93	1.3
POA	10.85	1.06	1.33	0.47	1.38	5.75
NO3	13.3	3.93	0.61	4.14	2.71	1.23
SO4	83.18	72.17	0.08	1.15	1.67	5.24

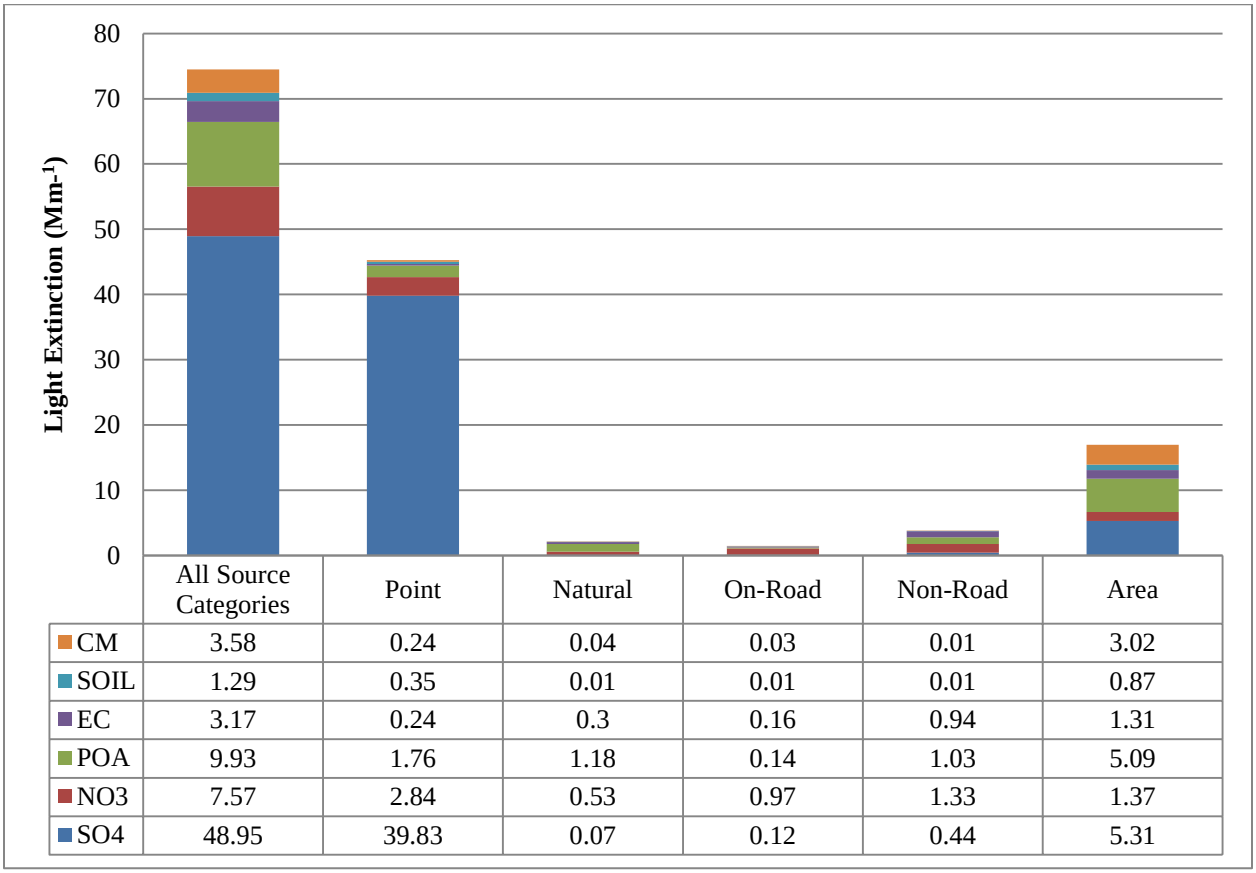
Table 2 shows the modeled relative contributions to light extinction for each source category at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2018. Point sources are projected to remain the primary contributor to light extinction at Arkansas Class I areas. Point sources are projected to contribute approximately fifty-three percent of total light extinction at Caney Creek and fifty percent of total light extinction at Upper Buffalo on the twenty percent worst days in 2018. Area sources are also projected to continue to be the second largest contributor to light extinction with contributions of twenty percent of total light extinction at Caney Creek and twenty-three percent of total light extinction at Upper Buffalo on the twenty percent worst days in 2018. Natural, on-road, and non-road sources are projected to continue to contribute a very small portion of total light extinction at Arkansas Class I areas on the twenty percent worst days in 2018.

Table 2 Modeled Light Extinction for the 20% Worst Days at Caney Creek Upper Buffalo Wilderness Areas in 2018 (Mm^{-1})

	Point	Natural	On-Road	Non-Road	Area
Caney Creek	45.27	2.12	1.44	3.76	16.96
Upper Buffalo	43.02	2.24	1.57	4.25	19.71

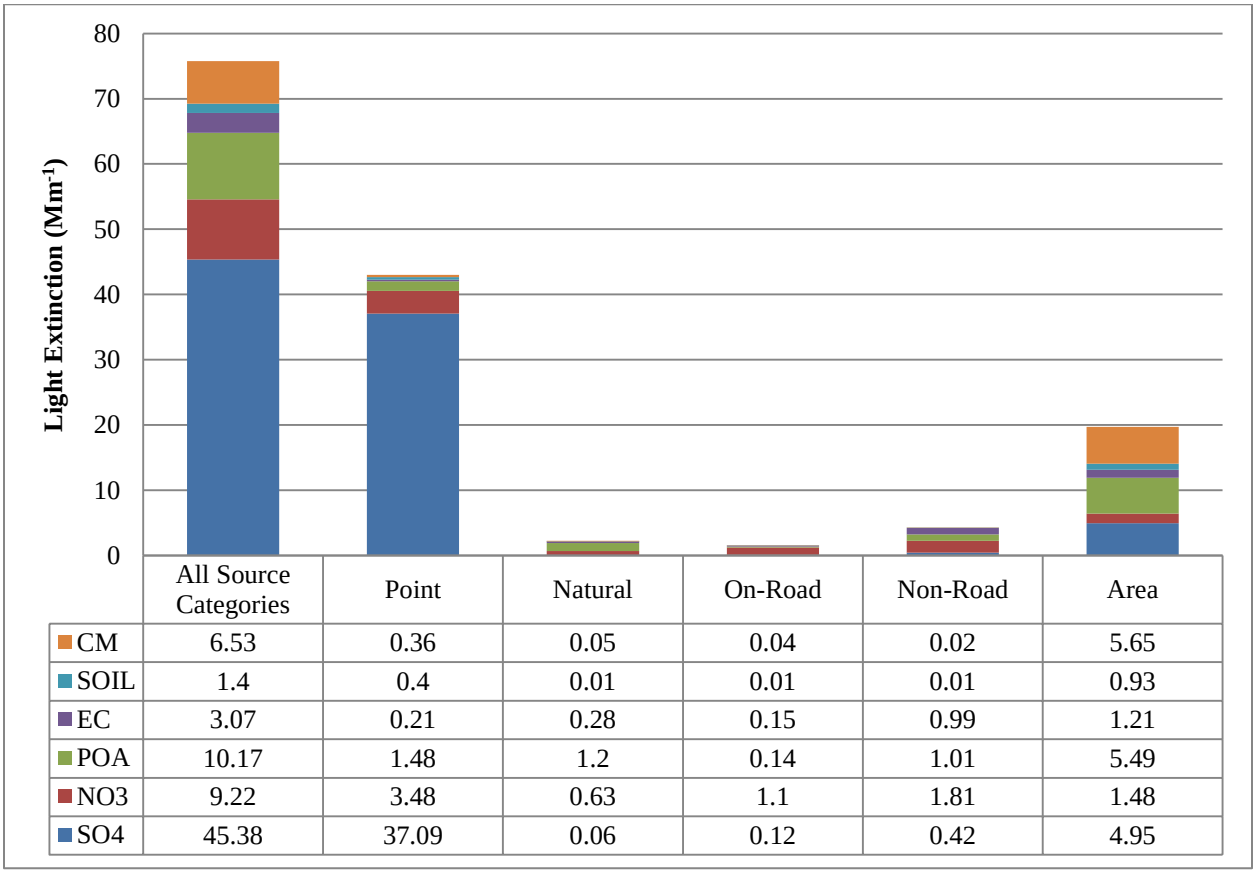
Figure 4 and Figure 5 show the modeled relative contributions to light extinction for each species and source category at Caney Creek and Upper Buffalo wilderness areas on the twenty percent worst days in 2018. According to the regional PSAT data, light extinction attributed to SO_4 is projected to decrease on the twenty percent worst days by forty-four percent at Caney Creek and by forty-five percent at Upper Buffalo between 2002 and 2018; however, SO_4 is projected to continue to be the primary driver of total light extinction. The 2018 projections show that point sources will continue to be the primary source of light extinction due to SO_4. Point sources of SO_4 are projected to contribute forty-three to forty-six percent of total light extinction on the twenty percent worst days in 2018 in Arkansas Class I areas. The other species are also projected to see reductions in their contribution to total light extinction; however, their relative contributions to total light extinction during 2018 remain much smaller than that of SO_4. Light extinction on the twenty percent worst days attributed to NO_3 from on-road sources is projected to decrease more rapidly than light extinction attributed to NO_3 from point sources; however, point sources of NO_3 will only contribute three to four percent of total light extinction at Arkansas Class I areas on the twenty percent worst days based on 2018 projections.

Figure 4 Modeled Light Extinction for the 20% Worst Days at Caney Creek Wilderness Area in 2018 (Mm^{-1})



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	3.58	0.24	0.04	0.03	0.01	3.02
SOIL	1.29	0.35	0.01	0.01	0.01	0.87
EC	3.17	0.24	0.3	0.16	0.94	1.31
POA	9.93	1.76	1.18	0.14	1.03	5.09
NO3	7.57	2.84	0.53	0.97	1.33	1.37
SO4	48.95	39.83	0.07	0.12	0.44	5.31

Figure 5 Modeled Light Extinction for the 20% Worst Days at Upper Buffalo Wilderness Area in 2018 (Mm^{-1})



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	6.53	0.36	0.05	0.04	0.02	5.65
SOIL	1.4	0.4	0.01	0.01	0.01	0.93
EC	3.07	0.21	0.28	0.15	0.99	1.21
POA	10.17	1.48	1.2	0.14	1.01	5.49
NO3	9.22	3.48	0.63	1.1	1.81	1.48
SO4	45.38	37.09	0.06	0.12	0.42	4.95

2. Arkansas Particulate Source Apportionment for Caney Creek and Upper Buffalo Wilderness Areas

The relative contribution of sources within Arkansas to total light extinction on the twenty percent worst days at both Arkansas Class I areas is small. Species attributed to Arkansas sources contributed approximately ten percent of total light extinction on the twenty percent worst days in Arkansas Class I areas according to 2002 data and are projected to contribute between thirteen and fourteen percent of total light extinction on the twenty percent worst days in Arkansas Class I areas in 2018. Total light extinction is projected to decrease by thirty-five percent on the twenty percent worst days at Arkansas Class I areas between 2002 and 2018. Light extinction on the twenty percent worst days attributed to species from Arkansas sources is projected to decrease by seventeen percent at Caney Creek and to decrease by eleven percent at Upper Buffalo between 2002 and 2018.

Table 3 shows the relative contributions of sources within Arkansas to light extinction for each source category at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2002. Area sources had a larger impact on visibility extinction than did

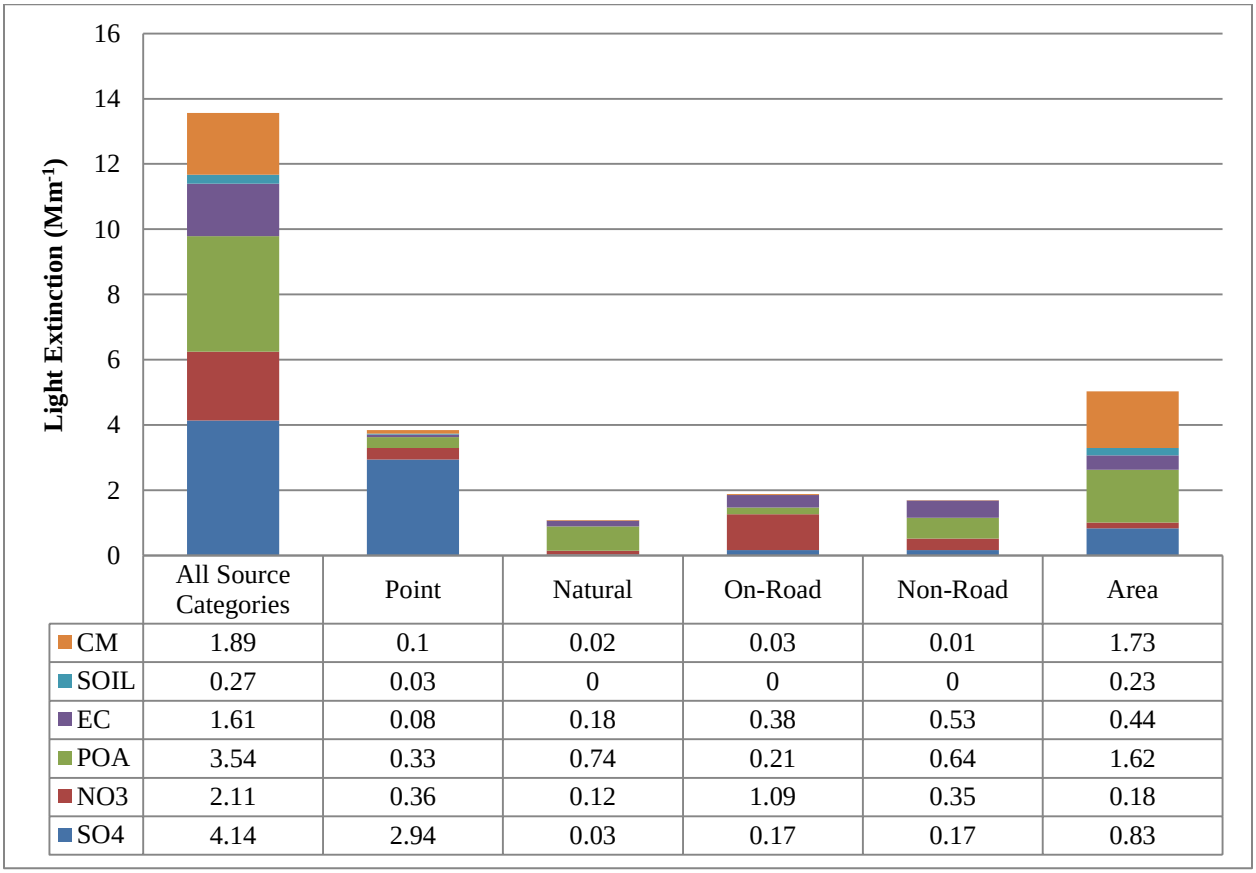
point sources when only sources within Arkansas were considered. On the twenty percent worst days in 2002, area sources contributed approximately thirty-seven percent of light extinction attributed to Arkansas sources (four percent of total light extinction) at Caney Creek and fifty percent of light extinction attributed to Arkansas sources (five percent of total light extinction) at Upper Buffalo. Point sources contributed approximately twenty-eight percent of light extinction attributed to Arkansas sources (three percent of total light extinction) at Caney Creek and twenty-four percent of light extinction attributed to Arkansas sources (two percent of total light extinction) at Upper Buffalo on the twenty percent worst days. The other sources in Arkansas contributed between seven and fourteen percent each to light extinction attributed to Arkansas sources (approximately one percent each to total light extinction) at Arkansas Class I areas on the twenty percent worst days in 2002.

Table 3 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Caney Creek and Upper Buffalo Wilderness Areas in 2002 (Mm^{-1})

	Point	Natural	On-Road	Non-Road	Area
Caney Creek	3.85	1.1	1.88	1.72	5.03
Upper Buffalo	3.25	0.94	1.29	1.26	6.72

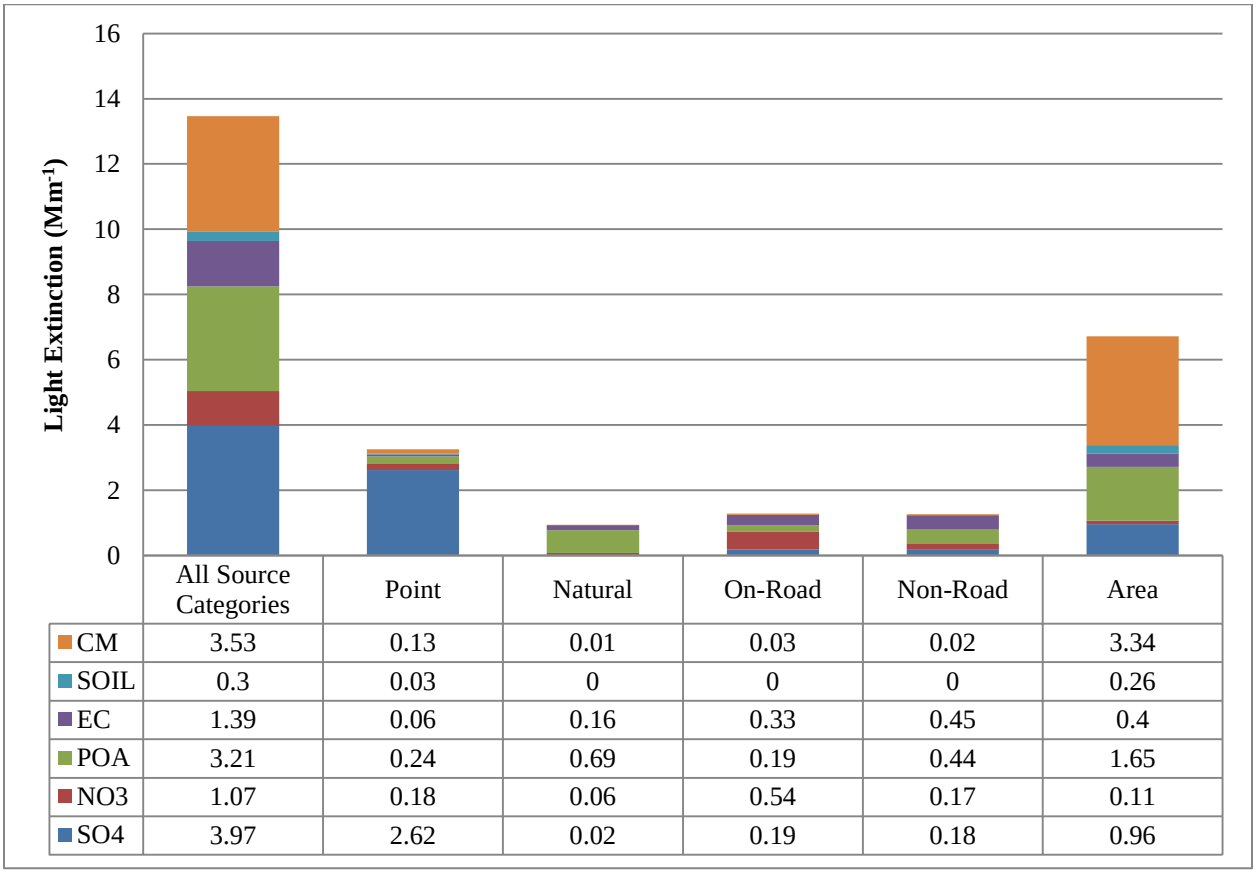
Figure 6 and Figure 7 show the relative contributions of sources within Arkansas to light extinction for each source category and species at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2002. SO4 from Arkansas sources contributed approximately three percent of total modeled visibility extinction at Caney Creek and Upper Buffalo wilderness areas in 2002 on the twenty percent worst days. The point source category contributed approximately two thirds of the light extinction attributed to SO4 from Arkansas sources at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2002. POA from Arkansas sources contributed approximately three percent and two percent of total light extinction on the twenty percent worst days at Caney Creek and Upper Buffalo wilderness areas, respectively. Area sources were the primary driver of light extinction due to POA. NO3 from Arkansas sources contributed approximately two percent and one percent to light extinction at Caney Creek and Upper Buffalo wilderness areas on the twenty percent worst days, respectively. On-road sources accounted for approximately fifty percent of the light extinction at Arkansas Class I areas attributed to Arkansas NO3 sources. EC from Arkansas sources contributed approximately one percent and soil from Arkansas sources contributed approximately 0.2% to total light extinction at both Arkansas Class I areas on the twenty percent worst days. Attribution to light extinction from Arkansas sources of EC was split primarily between on-road, non-road, and area sources. Light extinction from Arkansas sources of soil was primarily attributed to area sources. CM from Arkansas sources, primarily area sources, contributed approximately one and two percent of total light extinction at Caney Creek and Upper Buffalo wilderness areas, respectively.

Figure 6 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Caney Creek Wilderness Area in 2002 (Mm^{-1})



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	1.89	0.1	0.02	0.03	0.01	1.73
SOIL	0.27	0.03	0	0	0	0.23
EC	1.61	0.08	0.18	0.38	0.53	0.44
POA	3.54	0.33	0.74	0.21	0.64	1.62
NO3	2.11	0.36	0.12	1.09	0.35	0.18
SO4	4.14	2.94	0.03	0.17	0.17	0.83

Figure 7 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Upper Buffalo Wilderness Area in 2002 (Mm^{-1})



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	3.53	0.13	0.01	0.03	0.02	3.34
SOIL	0.3	0.03	0	0	0	0.26
EC	1.39	0.06	0.16	0.33	0.45	0.4
POA	3.21	0.24	0.69	0.19	0.44	1.65
NO3	1.07	0.18	0.06	0.54	0.17	0.11
SO4	3.97	2.62	0.02	0.19	0.18	0.96

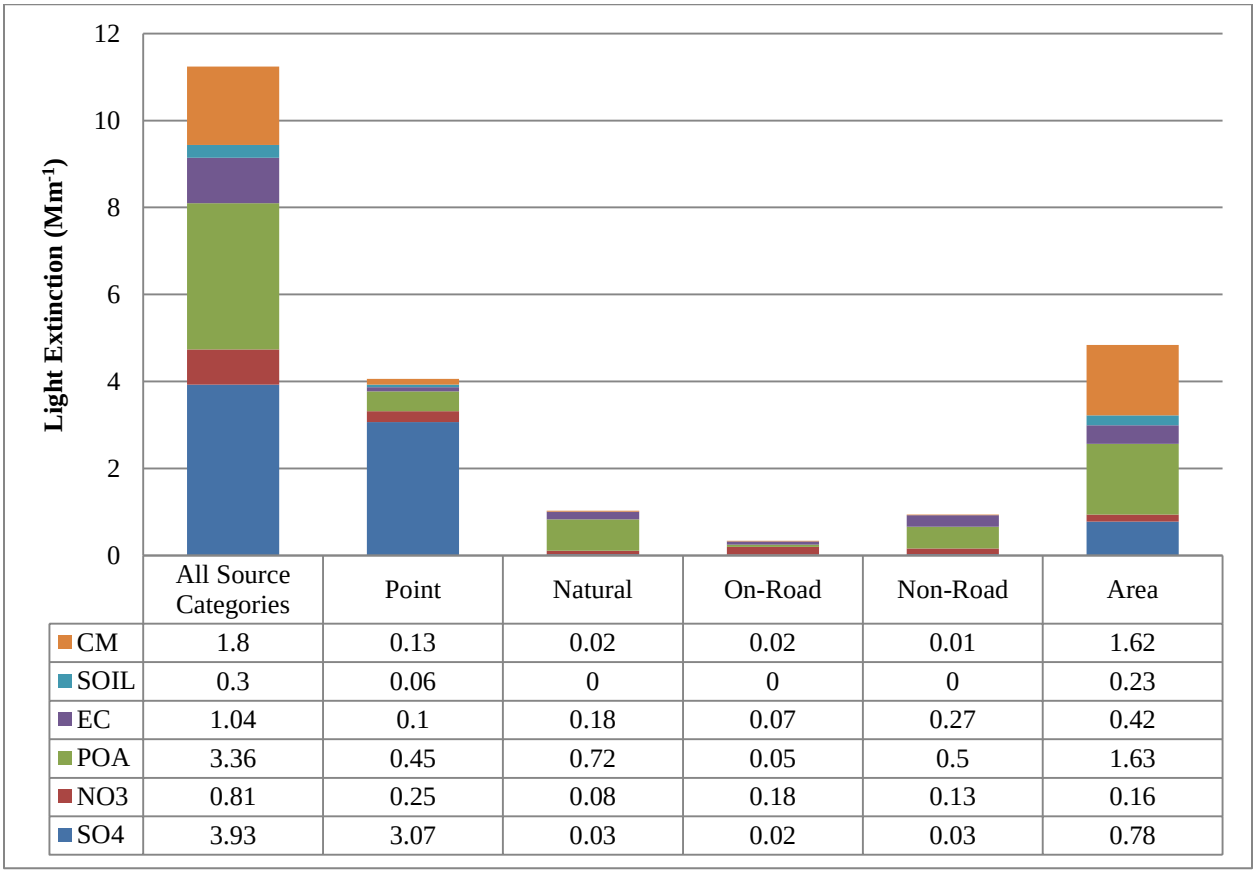
Table 4 shows the relative contributions of sources within Arkansas to light extinction for each source category at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2018. Area sources are projected to continue to have a larger impact on visibility extinction than do point sources when only sources located in Arkansas are considered. Area sources are projected to contribute approximately forty-three percent of light extinction attributed to Arkansas sources (six percent of total light extinction) at Caney Creek and fifty-four percent of light extinction attributed to Arkansas sources (eight percent) of total light extinction) at Upper Buffalo. Point sources are projected to contribute approximately thirty-six percent of light extinction attributed to Arkansas sources (five percent of total light extinction) at Caney Creek and thirty percent of light extinction attributed to Arkansas sources (four percent of total light extinction) at Upper Buffalo. The other sources in Arkansas are projected to contribute between two percent and nine percent each to light extinction from Arkansas sources (0.3–1.2% of total light extinction) at Arkansas Class I areas on the twenty percent worst days in 2018.

Table 4 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Caney Creek and Upper Buffalo Wilderness Areas in 2018 (Mm^{-1})

	Point	Natural	On-Road	Non-Road	Area
Caney Creek	4.05	1.04	0.35	0.95	4.85
Upper Buffalo	3.63	0.91	0.3	0.66	6.52

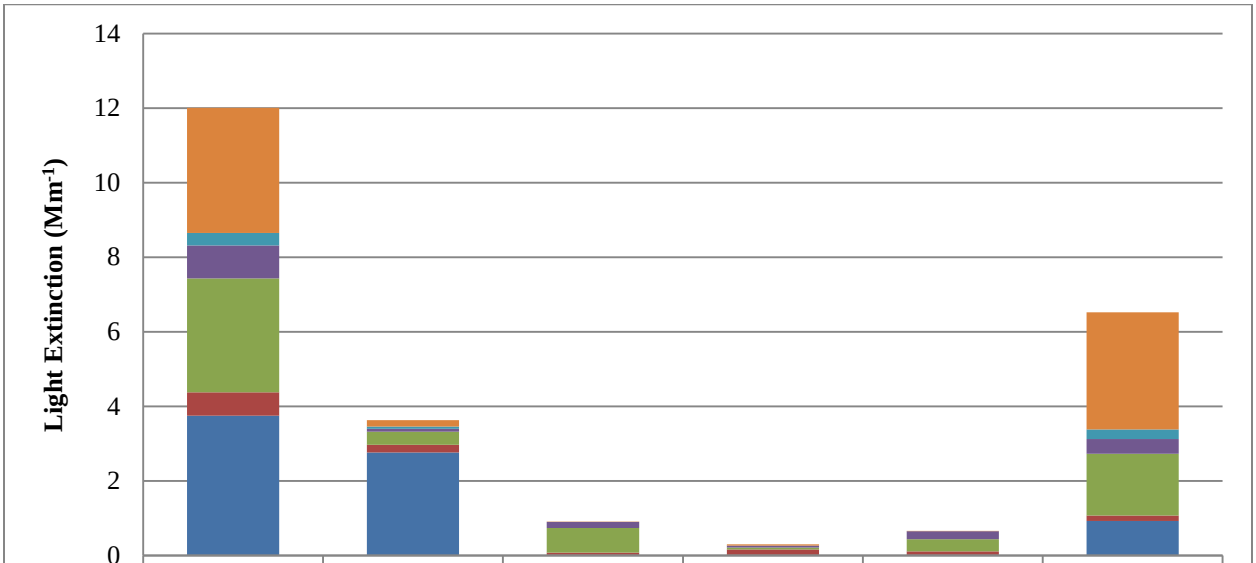
Figure 8 and Figure 9 show the relative contributions of sources within Arkansas to light extinction for each species and source category at Caney Creek and Upper Buffalo wilderness areas, respectively, on the twenty percent worst days in 2018. According to the PSAT data for Arkansas sources, light extinction attributed to Arkansas NO_3 sources is projected to decrease by sixty-two percent at Caney Creek and by forty-one percent at Upper Buffalo. This projected decrease is largely due to a decrease in light extinction attributed to NO_3 from Arkansas on-road sources. Overall light extinction attributed to Arkansas sources of SO_4 are projected to decrease at Arkansas Class I areas; however, light extinction attributed to point sources of SO_4 located in Arkansas is projected to increase by four percent at Caney Creek and five percent at Upper Buffalo on the twenty percent worst days. Nevertheless, the contribution to total light extinction of SO_4 from Arkansas point sources remains relatively small—three percent of total light extinction at each Arkansas Class I area. Light extinction due to Arkansas sources of POA, EC, and CM are also projected to decrease. Light extinction due to Arkansas sources of soil is projected to increase; but, soil will remain the smallest Arkansas contributor to light extinction at both Arkansas Class I areas.

Figure 8 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Caney Creek Wilderness Area in 2018



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	1.8	0.13	0.02	0.02	0.01	1.62
SOIL	0.3	0.06	0	0	0	0.23
EC	1.04	0.1	0.18	0.07	0.27	0.42
POA	3.36	0.45	0.72	0.05	0.5	1.63
NO3	0.81	0.25	0.08	0.18	0.13	0.16
SO4	3.93	3.07	0.03	0.02	0.03	0.78

Figure 9 Modeled Light Extinction due to Arkansas Sources for the 20% Worst Days at Upper Buffalo Wilderness Area in 2018



	All Source Categories	Point	Natural	On-Road	Non-Road	Area
CM	3.36	0.17	0.01	0.03	0.01	3.14
SOIL	0.33	0.06	0	0	0	0.26
EC	0.89	0.08	0.16	0.06	0.21	0.39
POA	3.05	0.35	0.66	0.05	0.33	1.66
NO3	0.63	0.21	0.06	0.14	0.09	0.14
SO4	3.75	2.76	0.02	0.02	0.02	0.93

3. Summary of Key Pollutant and Source Category Findings

The region-wide PSAT data indicate that the relative contribution of SO_4 to light extinction at Arkansas Class I areas is much higher than for other pollutants on the twenty percent worst days. The majority of light extinction due to SO_4 can be attributed to point sources. The PSAT results for Arkansas sources illustrate that the relative contribution to light extinction of the various species from Arkansas sources is not as weighted toward SO_4 as the regional data set showed. Approximately a quarter of light extinction at Arkansas Class I areas resulting from sources located in Arkansas can be attributed to point sources of SO_4. Light extinction from all species associated with the point source category is smaller than for area sources when only sources located in Arkansas are considered. POA and CM are the primary species associated with area source contributions to light extinction.

After examining both region-wide PSAT data and data for Arkansas sources, ADEQ has identified SO_4 as the key species contributing to light extinction at Caney Creek and Upper Buffalo wilderness areas. Area sources do contribute a larger proportion of total light extinction when only sources located in Arkansas are considered; however, the cost-effectiveness for

control of POA and CM species from many individual small sources is difficult to quantify. Only a very small proportion of total light extinction is due to NO_3 from Arkansas sources and this proportion has historically been driven by onroad sources, which are regulated by national vehicle emission standards. NO_3 from Arkansas point sources contributed less than half a percent of total light extinction on the twenty percent worst days at Caney Creek and Upper Buffalo based on 2002 PSAT data and is projected to contribute even less in 2018. Attribution of light extinction to soil and EC for Caney Creek and Upper Buffalo remain in both regional and Arkansas data sets. The primary driver of SO_4 formation is emissions of SO_2 from point sources both region-wide and in Arkansas. As such, ADEQ will evaluate in a subsequent SIP large sources of SO_2 to determine whether their emissions and proximity to Arkansas Class I areas warrant further analysis using the four statutory factors.

B. Consideration of NOx Controls for Reasonable Progress

Because visibility impairment due to NO_3 from Arkansas point sources is miniscule, ADEQ anticipates that additional controls of NOx emissions from point sources in the State would not yield meaningful visibility improvements at Arkansas Class I areas. Furthermore, Arkansas EGUs that have a nameplate capacity of 25 MW or greater participate in the CSAPR ozone season NOx emissions trading program. In addition to those subject-to-BART units identified in Section III of this SIP, the following EGUs in Arkansas are required to participate in CSAPR for ozone season NOx:

- City Water & Light – City of Jonesboro;
- Associated Electric Cooperative, Inc. Dell Power Plant;
- AECC Fulton Generating Station;
- AEP/SWEPCO Harry D. Mattison Power Plant;
- Entergy Harvey Couch;
- Entergy Hot Spring Generating Facility;
- AECC Magnet Cove;
- Entergy Independence;
- John W. Turk Jr. Power Plant;
- AECC Oswald Generating Station;
- Evergreen Packaging Pine Bluff Energy Center;
- Plum Point Energy Station;
- Entergy Robert E Ritchie;
- AECC Thomas Fitzhugh; and
- Entergy Union Power Station.

In the AR RH FIP, EPA required one of these facilities, Entergy Independence, to install low NOx burners despite the negligible impact NO_3 from Arkansas sources has on visibility impacts in Arkansas Class I areas. This SIP revision replaces NOx control requirements included in the

AR RH FIP for Independence with reliance upon the CSAPR trading program for ozone season NOx for all Arkansas EGUs participating in the CSAPR program.

C. Interstate Visibility Transport

Sources in Arkansas impact two Class I areas in Missouri: Hercules Glade Wilderness Area and Mingo Wilderness Area. CENRAP PSAT data indicates that Arkansas sources contributed approximately seven percent of light extinction at Hercules Glades Wilderness Area and four percent of light extinction at Mingo Wilderness Area. The impact of Arkansas sources are projected to increase between 2002 and 2018 to approximately nine percent of total light extinction at Hercules Glades Wilderness Area and five percent at Mingo Wilderness area based on the CENRAP PSAT data.

Figure 10 and Figure 11 demonstrate that Missouri is on track to achieve its visibility goals. In Missouri's 2009 Regional Haze SIP, Missouri established 2018 reasonable progress goals of 23.71 dv for Mingo Wilderness Area and 23.06 dv for Hercules Glades Wilderness Area. The most recent calculations for the twenty percent haziest days and twenty percent best days for Class I areas were performed for 2015.[18] For both Mingo Wilderness Area and Hercules Glades Wilderness Area, visibility impairment on the twenty percent haziest days in 2015 beat Missouri's 2018 RPGs for both Class I areas. The most recent five-year rolling average of observed visibility impairment on the twenty percent haziest days at Hercules Glades Wilderness Area beat Missouri's 2018 RPG for that Class I area and the most recent five year-rolling average of observed visibility impairment on the twenty percent haziest days at Mingo Wilderness Area is on track to beat Missouri's RPG for that Class I area. The visibility progress observed indicates that sources in Arkansas are not interfering with the achievement of Missouri's RPGs for Hercules Glades and Mingo Wilderness Areas. Therefore, no additional controls on sources within Arkansas are necessary to ensure that other states' visibility goals for their Class I areas are met.

[18] http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_group_means_7_16.csv

Figure 10 Hercules Glades Reasonable Progress Assessment – 20% Worst Days

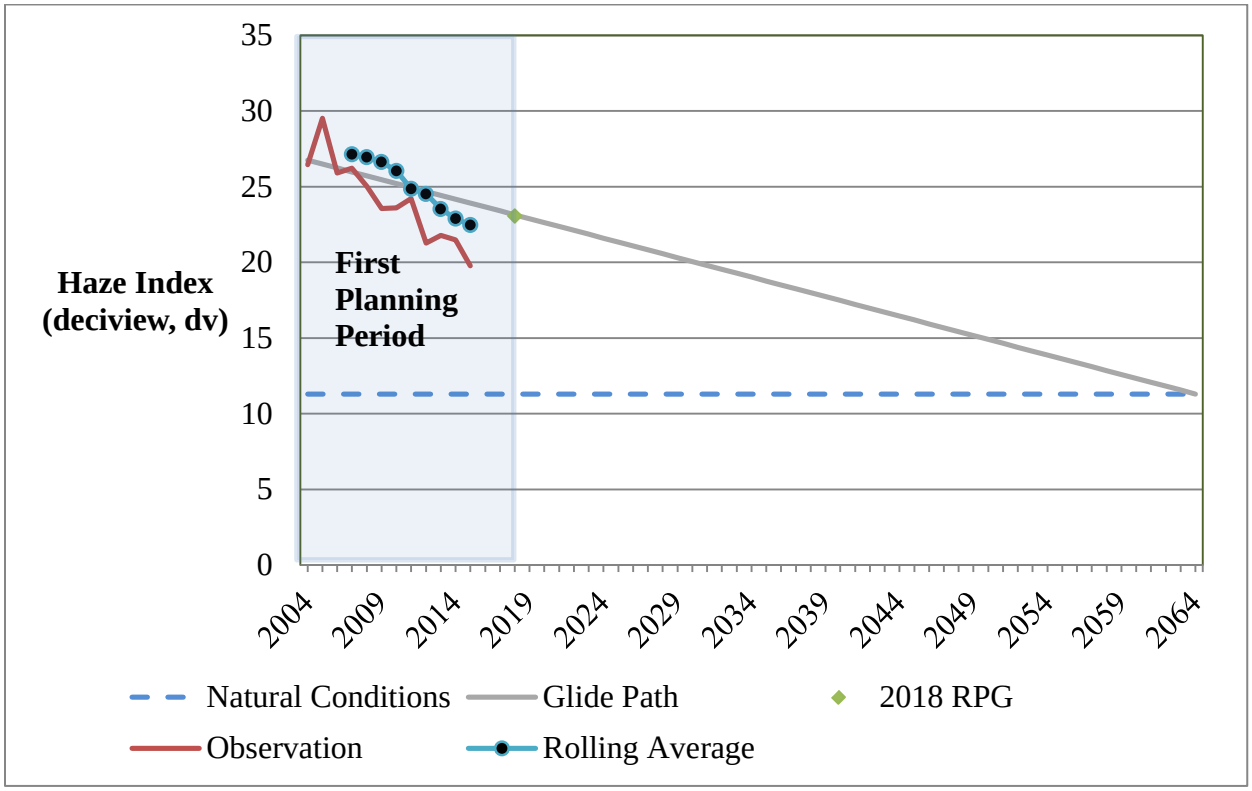
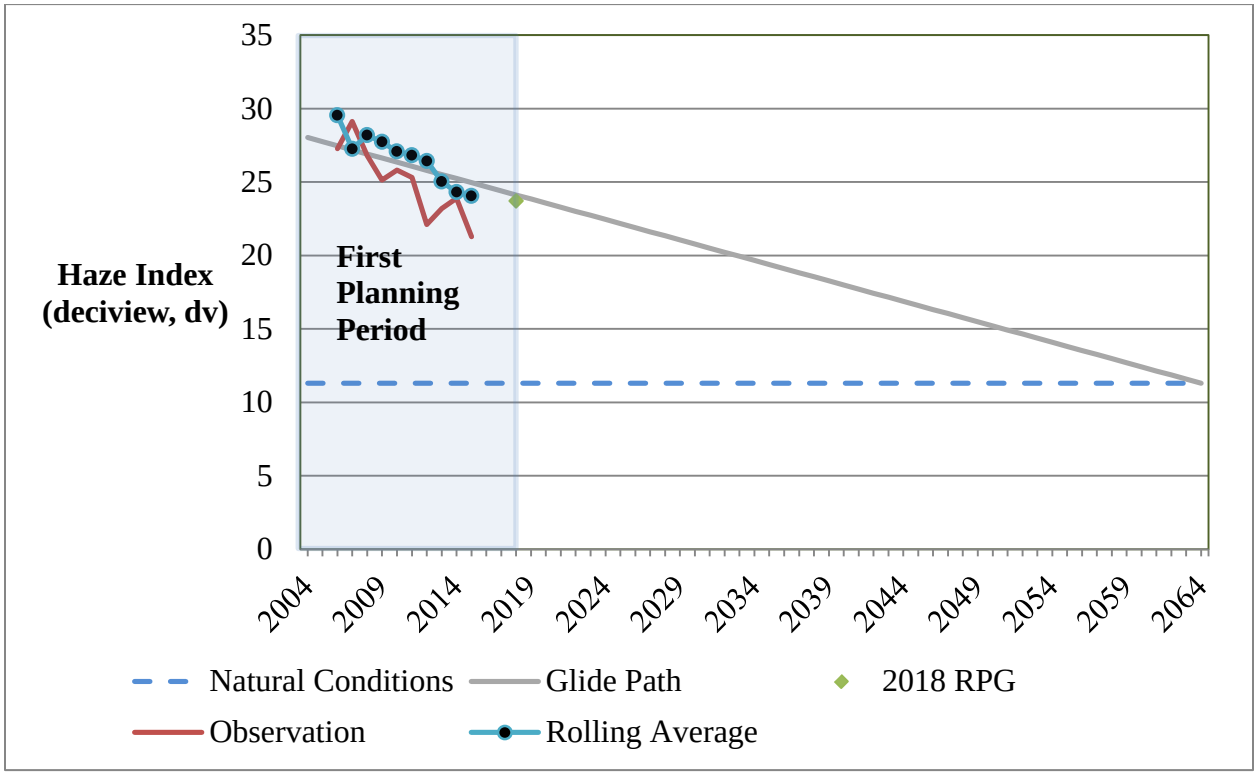


Figure 11 Mingo Reasonable Progress Assessment – 20% Worst Days



V. Review, Consultations, and Comments

A. EPA Review with Parallel Processing

On July 12, 2017, the State of Arkansas submitted the public review draft of this SIP revision, along with a request for parallel processing and a draft notice of public hearing and opportunity for comment, to EPA. Arkansas also requested that EPA stay the NOx emission limits for EGUs contained in the AR RH FIP during EPA's review of this SIP revision and withdraw such limits upon approval of this SIP revision. On September 11, 2017, EPA proposed to approve Arkansas's draft SIP revision contingent upon finalization of EPA's determination that CSAPR continues to be better than BART and submission by Arkansas of the final SIP. On September 29, 2017, EPA finalized their affirmation that participation in CSAPR meets RHR criteria for an alternative to source-specific BART.[19] This final SIP revision submittal does not significantly change requirements from the draft SIP revision for which EPA proposed approval.

B. Federal Land Manager Consultation

In accordance with the provisions of 40 C.F.R. § 51.308(i)(2), ADEQ consulted with designated FLM staff personnel. This consultation will give FLMs the opportunity to discuss their assessment of the impact of the proposed SIP revisions on Arkansas Class I areas——Upper Buffalo Wilderness Area and Caney Creek—and other Class I areas.

On June 14, 2017, ADEQ submitted letters to notify the federal land manager staff of this proposed SIP revision and to provide them with electronic access to the revision and related documents. Comments received from the FLMs were considered and posted to ADEQ's Regional Haze webpage: https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx. The FLM contact list, notification letters, correspondence, comments and responses to comments are included in Tab E of this proposed SIP package.

C. Consultation with States

For the 2008 AR RH SIP, ADEQ engaged in extensive interstate consultation with states participating in the CENRAP RPO. Because Missouri has two Class I areas impacted by Arkansas sources, ADEQ submitted a letter on June 14, 2017 to Missouri Department of Natural Resources (DNR) air pollution control program staff to notify them of this proposed SIP revision and to provide them with electronic access to the revision and related documents. The notification letter is included in Tab E of this proposed SIP package. Missouri DNR did not have any comments on this SIP revision

[19] 82 FR 45481

D. Public Review

ADEQ provided notice of a public hearing to receive public comments on this proposed SIP revision. The notice of the proposal and public hearing were published in the Arkansas Democrat Gazette, which is a newspaper in circulation statewide, on July 8 and July 9, 2017 and was posted on ADEQ's website concurrently with newspaper publication of the public notice. The notice provide logistical information regarding the public hearing and the length of the public comment period. The public comment period for this SIP revision began on July 8, 2017 and concluded at 4:30 pm on August 14, 2017. The public hearing was held at the Arkansas Department of Environmental Quality at 2:00 pm on August 14, 2017.

The notice contained information on the availability of the proposed SIP revision for public inspection at ADEQ information depositories, ADEQ headquarters, and ADEQ's Regional Haze webpage.

Both oral and written comments received by ADEQ during the public comment period were posted on the ADEQ Regional Haze web page. Copies of written comments, a summary of ADEQ's response to comments, and records from the public hearing are included in Tab E.

Tab C:

Evidence of Participation in the Cross-State Air Pollution Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52, 78, and 97

[EPA–HQ–OAR–2015–0500; FRL–9950–30–OAR]

RIN 2060–AS05

Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) published the original Cross-State Air Pollution Rule (original CSAPR) on August 8, 2011, to address interstate transport of ozone pollution under the 1997 ozone National Ambient Air Quality Standards (NAAQS) and interstate transport of fine particulate matter ($PM_{2.5}$) pollution under the 1997 and 2006 $PM_{2.5}$ NAAQS. The EPA is finalizing this Cross-State Air Pollution Rule Update (CSAPR Update) to address interstate transport of ozone pollution with respect to the 2008 ozone NAAQS. This final rule will benefit human health and welfare by reducing ground-level ozone pollution. In particular, it will reduce ozone season emissions of oxides of nitrogen (NO_X) in 22 eastern states that can be transported downwind as NO_X or, after transformation in the atmosphere, as ozone, and can negatively affect air quality and public health in downwind areas.

For these 22 eastern states, the EPA is issuing Federal Implementation Plans (FIPs) that generally provide updated CSAPR NO_X ozone season emission budgets for the electric generating units (EGUs) within these states, and that implement these budgets via modifications to the CSAPR NO_X ozone season allowance trading program that was established under the original CSAPR. The EPA is finalizing these new or revised FIP requirements only for certain states that have failed to submit an approvable State Implementation Plan (SIP) addressing interstate emission transport for the 2008 ozone NAAQS. The FIPs require affected EGUs in each covered state to reduce emissions to comply with program requirements beginning with the 2017 ozone season (May 1 through September 30). This final rule partially addresses the EPA's obligation under the Clean Air Act to promulgate FIPs to address interstate emission transport for the 2008 ozone NAAQS. In conjunction with other federal and state actions to reduce ozone pollution, these requirements will assist downwind states in the eastern United States with attaining and maintaining the 2008 ozone NAAQS.

This CSAPR Update also is intended to address the July 28, 2015 remand by the United States Court of Appeals for the District of Columbia Circuit of certain states' original CSAPR phase 2 ozone season NO_X emission budgets. In addition, this rule updates the status of certain states' outstanding interstate ozone transport obligations with respect to the 1997 ozone NAAQS, for which the original CSAPR provided a partial remedy.

DATES: This final rule is effective on December 27, 2016.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2015–0500. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Mr. David Risley, Clean Air Markets Division, Office of Atmospheric Programs (Mail Code 6204M), Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460; telephone number: (202) 343–9177; email address: *Risley.David@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preamble Glossary of Terms and Abbreviations

The following are abbreviations of terms used in the preamble.

CAA or Act Clean Air Act
CAIR Clean Air Interstate Rule
CAMx Comprehensive Air Quality Model With Extensions
CBI Confidential Business Information
CEMS Continuous Emission Monitoring Systems
CFR Code of Federal Regulations
CSAPR Cross-State Air Pollution Rule
EGU Electric Generating Unit
EPA U.S. Environmental Protection Agency
FIP Federal Implementation Plan
FR Federal Register
GWh Gigawatt Hours
ICR Information Collection Request
IPM Integrated Planning Model
Km Kilometer
lb/mmBtu Pounds per Million British Thermal Unit
LNB Low-NO_X Burners
mmBtu Million British Thermal Unit
MOVES Motor Vehicle Emission Simulator
NAAQS National Ambient Air Quality Standard
NBP NO_X Budget Trading Program
NEI National Emission Inventory
NO_X Nitrogen Oxides
NODA Notice of Data Availability
NSPS New Source Performance Standard
OFA Overfire Air
$PM_{2.5}$ Fine Particulate Matter
PPB Parts Per Billion
RIA Regulatory Impact Analysis
SC–CO_2 Social Cost of Carbon
SCR Selective Catalytic Reduction
SIP State Implementation Plan
SMOKE Sparse Matrix Operator Kernel Emissions
SNCR Selective Non-Catalytic Reduction
SO_2 Sulfur Dioxide
TSD Technical Support Document

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I. Executive Summary

The EPA published the original Cross-State Air Pollution Rule (original CSAPR) [1] on August 8, 2011 to address the interstate transport of emissions with respect to the 1997 ozone National Ambient Air Quality Standards (NAAQS) and the 1997 and 2006 fine particulate matter ($PM_{2.5}$) NAAQS.[2] The EPA is finalizing this Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS (CSAPR Update) to address the interstate transport of emissions with respect to the 2008 ozone NAAQS. The 2008 ozone NAAQS is an 8-hour standard that was set at 75 parts per billion (ppb).[3] The EPA proposed the CSAPR Update with respect to the 2008 ozone NAAQS on December 3, 2015 (80 FR 75706), and solicited comment on that action. The EPA provided an additional opportunity to comment on the air quality modeling platform and air quality modeling results that were used for the proposed CSAPR Update, through an August 4, 2015 Notice of Data Availability (NODA) (80 FR 46271) requesting comment on these data. This final rule is informed by comments received on the NODA and proposed CSAPR Update. This CSAPR Update also is intended to address the remand by the United States Court of Appeals for the District of Columbia Circuit of certain states' original CSAPR NO_X ozone season phase 2 emission budgets. Additionally, this rule updates the status of outstanding interstate ozone transport obligations for states that the original CSAPR provided a partial remedy with respect to the 1997 ozone NAAQS.

A. Purpose of Regulatory Action

The purpose of this rulemaking is to protect public health and welfare by reducing interstate emission transport that significantly contributes to nonattainment, or interferes with maintenance, of the 2008 ozone NAAQS in the eastern U.S. 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.

Studies have established that ozone occurs on a regional scale (*i.e.*, hundreds of miles) over much of the eastern U.S., with elevated concentrations occurring in rural as well as metropolitan areas.[4] [5] To reduce this regional-scale ozone transport, assessments of ozone control approaches have concluded that NO_X control strategies are effective. Further, studies have found that EGU NO_X emission reductions can be effective in reducing ozone pollution—specifically 8-hour peak concentrations, which is the form of the 2008 ozone standard. For example, studies have shown EGU NO_X reductions achieved under one of the EPA's prior interstate transport rulemakings known as the NO_X SIP Call [6] were effective in reducing 8-hour peak ozone concentrations during the ozone season.[7]

Clean Air Act (CAA or the Act) section 110(a)(2)(D)(i)(I), sometimes called the "good neighbor provision,"

[1] *See* 76 FR 48208 (August 8, 2011).

[2] The original CSAPR did not evaluate the 2008 ozone standard because the 2008 ozone NAAQS was under reconsideration during the analytic work for the rule.

[3] *See* 73 FR 16436 (March 27, 2008).

[4] Bergin, M.S. et al. (2007) Regional air quality: Local and interstate impacts of NO_X and SO_2 emissions on ozone and fine particulate matter in the eastern United States. Environmental Sci & Tech. 41: 4677–4689.

[5] 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.

[6] 63 FR 57356 (October 27, 1998).

[7] Gégo et al. (2007) Observation-based assessment of the impact of nitrogen oxides emissions reductions on O_3 air quality over the eastern United States. J. of Applied Meteorology and Climatology 46: 994–1008.

requires states [8] to prohibit emissions that will contribute significantly to nonattainment or interfere with maintenance in any other state with respect to any primary or secondary NAAQS. The statute vests states with the primary responsibility to address interstate emission transport through the development of good neighbor State Implementation Plans (SIPs). The EPA supports state efforts to submit good neighbor SIPs for the 2008 ozone NAAQS and has shared information with states to facilitate such SIP submittals. However, the CAA also requires the EPA to fill a backstop role by issuing Federal Implementation Plans (FIPs) where states fail to submit good neighbor SIPs or the EPA disapproves a submitted good neighbor SIP.

On July 13, 2015, the EPA published a rule finding that 24 states [9] failed to make complete submissions that address the requirements of section 110(a)(2)(D)(i)(I) related to the interstate transport of pollution as to the 2008 ozone NAAQS. *See* 80 FR 39961 (July 13, 2015) (effective August 12, 2015). This CSAPR Update finalizes FIPs for 13 of these states (Alabama, Arkansas, Illinois, Iowa, Kansas, Michigan, Mississippi, Missouri, Oklahoma, Pennsylvania, Tennessee, Virginia, and West Virginia). On June 15, 2016 and July 20, 2016, the EPA published additional rules finding that New Jersey and Maryland, respectively, also failed to submit transport SIPs for the 2008 ozone NAAQS. *See* 81 FR 38963 (June 15, 2016) (effective July 15, 2016); 81 FR 47040 (July 20, 2016) (Maryland, effective August 19, 2016). This final CSAPR Update also finalizes FIPs addressing the good neighbor provision for these two states. Additionally, the EPA is finalizing FIPs for seven states for which it finalized disapproval of the states' good neighbor SIPs for the 2008 ozone NAAQS: Indiana, Kentucky, Louisiana, New York, Ohio, Texas, and Wisconsin. The FIPs being promulgated partially address the EPA's outstanding CAA obligations to prohibit interstate transport of air pollution which will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to the 2008 ozone NAAQS. The EPA also determines that it has fully satisfied its FIP obligation as to 9 states (Florida, Georgia, Maine, Massachusetts, Minnesota, New Hampshire, North Carolina, South Carolina, and Vermont), which the EPA has determined do not contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to the 2008 ozone NAAQS.

The EPA is finalizing a FIP for each of the 22 states subject to this rule, having found that they failed to submit a complete good neighbor SIP (15 states) or having issued a final rule disapproving their good neighbor SIP (7 states). However, even after these FIPs take effect, any state included in this rule can submit a good neighbor SIP at any time that, if approved by the EPA, could replace the FIP for that state. Additionally, CSAPR provides states with the option to submit abbreviated SIPs to customize the methodology for allocating CSAPR NO_X ozone season allowances while participating in the ozone season trading program and the EPA is extending that approach in this rule.

The 22 states for which the EPA is promulgating FIPs to reduce interstate ozone transport as to the 2008 ozone NAAQS are listed in Table I.A–1.

TABLE I.A–1—LIST OF 22 COVERED STATES FOR THE 2008 8-HOUR OZONE NAAQS

State name
Alabama
Arkansas
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maryland
Michigan
Mississippi
Missouri
New Jersey
New York
Ohio
Oklahoma
Pennsylvania
Tennessee
Texas
Virginia
West Virginia
Wisconsin

The final CSAPR Update addresses collective contributions of ozone pollution from states in the eastern U.S. and builds on previous eastern-focused efforts to address collective contributions to interstate transport, including the NO_X SIP Call, the Clean Air Interstate Rule,[10] and the original CSAPR rules. The EPA is not finalizing FIPs to address interstate emission transport for western states, where there may be additional factors to consider in the EPA's and state's evaluations.

The EPA finds, in the final air quality modeling on which this rule is based, one state for which the EPA proposed a FIP in the proposed CSAPR Update rule, North Carolina, is not linked to any downwind nonattainment or maintenance receptors. Therefore, the EPA is not finalizing a FIP for North Carolina.

For 14 of the eastern states evaluated in this rule (Connecticut, Florida, Georgia, Maine, Massachusetts, Minnesota, Nebraska, New Hampshire, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, and Vermont), the EPA has determined that emissions from those states do not significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS in downwind states. Accordingly, the EPA has determined that it need not require further emission reductions from sources in these states to address the good neighbor provision as to the 2008 ozone NAAQS.

Of the 22 states covered in this CSAPR Update, 21 states [11] have original CSAPR NO_X ozone season FIP requirements with respect to the 1997 ozone NAAQS. One state, Kansas, has newly added CSAPR NO_X ozone season FIP requirements in this action. For the 22 states affected by one of the FIPs finalized in this action, the EPA is promulgating new FIPs with EGU NO_X ozone season emission budgets to reduce interstate transport for the 2008 ozone NAAQS.

One state, Georgia, has an ongoing original CSAPR NO_X ozone season FIP requirement with respect to the 1997 ozone NAAQS, but the EPA has found that is does not contribute to interstate transport with respect to the 2008 ozone NAAQS. The EPA did not reopen comment on Georgia's interstate transport obligation with respect to the 1997 ozone NAAQS in this rulemaking, so Georgia's original CSAPR NO_X ozone season requirements (including its emission budget) continue unchanged.

In addition to reducing interstate ozone transport with respect to the 2008 ozone NAAQS, this rule also addresses the status of outstanding interstate ozone transport obligations with respect

[8] The term "state" has the same meaning as provided in CAA section 302(d) which specifically includes the District of Columbia.

[9] The states included in this finding of failure to submit are: 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.

[10] 70 FR 25162 (May 12, 2005).

[11] Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

to the 1997 ozone NAAQS. In the original CSAPR, the EPA promulgated FIPs for 25 states to address ozone transport with respect to the 1997 NAAQS. For 11 of these states,[12] the original CSAPR rulemakings quantified ozone season NO_X emission reductions that were not necessarily sufficient to eliminate all significant contribution to downwind nonattainment or interference with downwind maintenance of the 1997 ozone NAAQS. Relying on modeling completed for this final rule, this action finds that, with implementation of the original CSAPR NO_X ozone season emission budgets, emissions from ten of these states no longer significantly contribute to downwind nonattainment or interference with maintenance for the 1997 ozone NAAQS. The EPA further finds that, with implementation of the CSAPR Update NO_X ozone season emission budgets, emissions from these ten states also no longer significantly contribute to downwind nonattainment or interference with maintenance for the 1997 ozone NAAQS. With respect to Texas, the modeling shows that emissions from within the state no longer significantly contribute to downwind nonattainment or interference with maintenance for the 1997 ozone NAAQS even without implementation of the original CSAPR NO_X ozone season emission budget. Accordingly, sources in Texas will no longer be subject to the emissions budget calculated to address the 1997 ozone NAAQS. However, as described earlier, this rule finalizes a new emissions budget for Texas designed to address interstate transport with respect to the 2008 ozone NAAQS.

This action is also intended to address the portion of the July 28, 2015 opinion of the United States Court of Appeals for the District of Columbia (D.C. Circuit) remanding without vacatur 11 states' CSAPR phase 2 NO_X ozone season emission budgets. *EME Homer City Generation, L.P.*, v. *EPA*, No. 795 F.3d 118, 129–30, 138 (*EME Homer City II*). This action promulgates new NO_X ozone season budgets addressing interstate transport with respect to the 2008 ozone NAAQS that take effect in 2017, which replace the invalidated phase 2 budgets for 8 states, and also removes the remaining three states from the CSAPR NO_X ozone season trading program as a result of the EPA's finding that these three states do not significantly contribute to downwind nonattainment or interference with maintenance for the 2008 standard.[13]

The EPA acknowledges that, in *EME Homer City II*, the D.C. Circuit also remanded without vacatur the CSAPR phase 2 SO_2 emission budgets as to four states. 795 F.3d at 129, 138. This final rule does not address the remand of these CSAPR phase 2 SO_2 annual emission budgets. On June 27, 2016, the EPA released a memorandum outlining the agency's approach for responding to the D.C. Circuit's July 2015 remand of the CSAPR phase 2 SO_2 annual emission budgets for Alabama, Georgia, South Carolina and Texas. The memorandum can be found at *https://www3.epa.gov/airtransport/CSAPR/pdfs/CSAPR_SO2_Remand_Memo.pdf.*

On October 1, 2015, the EPA strengthened the ground-level ozone NAAQS, based on extensive scientific evidence about ozone's effects on public health and welfare.[14] While reductions achieved by this final rule will aid in attainment and maintenance of the 2015 standard, the CSAPR Update rule to reduce interstate emission transport with respect to the 2008 ozone NAAQS is a separate and distinct regulatory action and is not meant to address the CAA's good neighbor provision with respect to the 2015 ozone NAAQS final rule.

The EPA notes that the level of the annual $PM_{2.5}$ NAAQS was also revised after CSAPR was promulgated (78 FR 3086, January 15, 2013). However, this final rule does not address the 2012 $PM_{2.5}$ standard.[15]

B. Major Provisions

To reduce interstate emission transport under the authority provided in CAA section 110(a)(2)(D)(i)(I), this rule further limits ozone season (May 1 through September 30) NO_X emissions from electric generating units (EGUs) in 22 eastern states using the same framework used by the EPA in developing the original CSAPR. The CSAPR framework provides a 4-step process to address the requirements of the good neighbor provision for ambient ozone or $PM_{2.5}$ standards: (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 downwind nonattainment or interfere with downwind 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, reducing the identified upwind emissions via regional emission allowance trading programs. Each time the relevant NAAQS are revised, this process can be applied for the new NAAQS. In this final action, the EPA applies this 4-step CSAPR framework to update CSAPR with respect to the 2008 ozone NAAQS.

The EPA is aligning implementation of this rule with relevant attainment dates for the 2008 ozone NAAQS, as required by the D.C. Circuit's decision in *North Carolina* v. *EPA*.[16] The EPA's final 2008 Ozone NAAQS SIP Requirements Rule[17] established the attainment deadline of July 20, 2018 for ozone nonattainment areas currently designated as Moderate. Because the attainment date falls during the 2018 ozone season, the 2017 ozone season will be the last full season from which data can be used to determine attainment of the NAAQS by the July 20, 2018 attainment date. Therefore, consistent with the court's instruction in *North Carolina*, the EPA establishes emission budgets and implementation of these emission budgets starting with the 2017 ozone season.

In order to apply the first and second steps of the CSAPR 4-step framework to interstate transport for the 2008 ozone NAAQS, the EPA used air quality modeling to project ozone concentrations at air quality monitoring sites to 2017. The EPA updated this modeling for the final rule, using the most current complete dataset available, taking into account comments submitted on the August 2015 Air Quality Modeling NODA and on the CSAPR Update rule proposal. For the final rule, the EPA evaluated modeling

[12] Alabama, Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, Tennessee, and Texas. (*See* CSAPR Final Rule, 76 FR at 48220, and the CSAPR Supplemental Rule, 76 FR at 80760, December 27, 2011).

[13] The EPA is promulgating new emission budgets that would replace the invalidated CSAPR phase 2 NO_X ozone season budgets for Iowa, Maryland, Michigan, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, Virginia, West Virginia, and Wisconsin. The EPA is removing Florida, North Carolina, and South Carolina from the CSAPR ozone season NO_X trading program.

[14] 80 FR 65291 (October 26, 2015).

[15] The EPA issued a memo addressing CAA section 110(a)(2)(D)(i)(I) requirements for the 2012 $PM_{2.5}$ NAAQS, see "Information on the Interstate Transport 'Good Neighbor' Provision for the 2012 Fine Particulate Matter National Ambient Air Quality Standards under Clean Air Act section 110(a)(2)(D)(i)(I)," March 17, 2016.

[16] 531 F.3d 896, 911–12 (D.C. Cir. 2008) (holding that the EPA must coordinate interstate transport compliance deadlines with downwind attainment deadlines).

[17] 80 FR 12264, 12268; 40 CFR 51.1103.

projections for air quality monitoring sites and considered current ozone monitoring data at these sites to identify receptors that are anticipated to have problems attaining or maintaining the 2008 ozone NAAQS. The EPA then uses air quality modeling to assess contributions from upwind states to these downwind receptors and evaluates these contributions relative to a screening threshold of 1 percent of the NAAQS. States with contributions that equal or exceed 1 percent of the NAAQS are identified as warranting further analysis for significant contribution to nonattainment or interference with maintenance. States with contributions below 1 percent of the NAAQS are considered to not significantly contribute to nonattainment or interfere with maintenance of the NAAQS in downwind states.[18]

To apply the third step of the 4-step CSAPR framework, the EPA quantified emission budgets that 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. To establish the CSAPR Update emission budgets, the EPA evaluated levels of uniform NO_X control stringency, represented by an estimated marginal cost per ton of NO_X reduced. The EPA applied the CSAPR multi-factor test to evaluate 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. The EPA used this multi-factor assessment to gauge the extent to which emission reductions are needed, and to ensure those reductions do not represent over-control.

The multi-factor test generates a "knee in the curve" at a point where emission budgets reflect a control stringency with an estimated marginal cost of $1,400 per ton. This level of stringency in emission budgets represents the level at which incremental EGU NO_X reduction potential and corresponding downwind ozone air quality improvements are maximized with respect to marginal cost. That is, the ratio of emission reductions to marginal cost and the ratio of ozone improvements to marginal cost are maximized relative to the other emission budget levels evaluated. The EPA finds that very cost-effective EGU NO_X reductions can make meaningful and timely improvements in downwind ozone air quality to address interstate ozone transport for the 2008 ozone NAAQS for the 2017 ozone season. Further, this evaluation shows that emission budgets reflecting the $1,400 per ton cost threshold do not over-control upwind states' emissions relative to either the downwind air quality problems to which they are linked or the 1 percent contribution threshold that triggered further evaluation. As a result, the EPA is finalizing EGU NO_X ozone season emission budgets developed using uniform control stringency represented by $1,400 per ton. The emission budgets that the EPA is finalizing in FIPs for the CSAPR Update rule are summarized in table I.B–1.

TABLE I.B–1—FINAL 2017 EGU NO_X OZONE SEASON EMISSION BUDGETS FOR THE CSAPR UPDATE RULE

[Ozone season NO_X tons]

State	CSAPR update rule 2017* emission budgets
Alabama	13,211
Arkansas	12,048/9,210
Illinois	14,601
Indiana	23,303
Iowa	11,272
Kansas	8,027
Kentucky	21,115
Louisiana	18,639
Maryland	3,828
Michigan	17,023
Mississippi	6,315
Missouri	15,780
New Jersey	2,062
New York	5,135
Ohio	19,522
Oklahoma	11,641
Pennsylvania	17,952
Tennessee	7,736
Texas	52,301
Virginia	9,223
West Virginia	17,815
Wisconsin	7,915
22 State Region	316,464/313,626

*The EPA is finalizing CSAPR EGU NO_X ozone season emission budgets for Arkansas of 12,048 tons for 2017 and 9,210 tons for 2018 and subsequent control periods.

Our analysis shows that there is uncertainty regarding whether or not meaningful, cost-effective non-EGU emission reductions are achievable for the 2017 ozone season. Therefore, non-EGU reductions are not included in the final rule.

For most states, the EGU NO_X ozone season emission budgets finalized in this action represent a partial remedy to address interstate emission transport for the 2008 ozone NAAQS.[19] However, as stated in the proposal, the EPA believes that it is beneficial to implement, without further delay, EGU NO_X reductions that are achievable in the near term, particularly before the Moderate area attainment date of 2018. Generally, notwithstanding that additional reductions may be required to fully address the states' interstate transport obligations, the EGU NO_X emission reductions implemented by this final rule are needed for upwind states to eliminate their significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS and for downwind states with ozone nonattainment areas that are required to attain the standard by July 20, 2018.

To meet the fourth step of the four-step CSAPR framework (*i.e.*, implementation), the FIPs contain enforceable measures necessary to achieve the emission reductions in each state. The FIPs contained in this CSAPR Update require power plants in covered states (*i.e.*, states that significantly contribute to ozone nonattainment or interfere with maintenance of the ozone standard in the east) to participate in a CSAPR NO_X ozone season Group 2 allowance trading program. CSAPR's trading programs and the EPA's prior emission trading programs (*e.g.*, CAIR and the NO_X SIP Call) provide a proven implementation framework for achieving emission reductions. In addition to providing environmental certainty (*i.e.*, a cap on emissions), these programs also provide regulated sources with flexibility in choosing compliance strategies. By using the CSAPR allowance trading programs, the EPA is applying an implementation framework that was shaped by notice and comment in previous rulemakings and reflects the evolution of these programs in response to court decisions and practical experience gained by states, industry and the EPA. Further, this program is familiar to the EGUs that will be regulated under this rule, which means that monitoring, reporting, and compliance will continue as they are already conducted under CSAPR's current ozone season and annual programs.[20]

[18] As discussed further in section V, EPA's modeling showed that the following eastern states contribute below the 1 percent contribution threshold to downwind nonattainment or maintenance receptors: Connecticut, Florida, Georgia, Maine, Massachusetts, Minnesota, Nebraska, New Hampshire, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, and Vermont.

[19] The requirements for one state, Tennessee, will fully eliminate that state's significant contribution to downwind nonattainment and interference with maintenance of the 2008 ozone NAAQS.

[20] One state, Kansas, will have a new CSAPR ozone season requirement. EGUs located in Kansas currently participate in the CSAPR NO_X and SO_2 annual programs. The remaining 22 states were

The CSAPR Update establishes two trading groups within the CSAPR NO_X ozone season allowance trading program—Group 1 for Georgia and Group 2 for the 22 CSAPR Update states. At this time, Georgia is the only state included in the CSAPR NO_X ozone season Group 1 trading program. The EPA will issue distinct allowances for these trading groups; CSAPR NO_X ozone season Group 1 allowances and CSAPR NO_X ozone season Group 2 allowances. Covered entities demonstrate compliance by holding and surrendering one allowance for each ton of NO_X emitted during the ozone season. In order to ensure that the CSAPR NO_X ozone season trading program implements emission reductions needed to meet the Clean Air Act's good neighbor requirements for the CSAPR Update states, the EPA finalizes a prohibition on allowance usage between Georgia and the CSAPR Update states. However, the EPA provides an option for Georgia to voluntarily adopt via SIP an emission budget that is commensurate with CSAPR Update emission budgets that could include Georgia in the Group 2 trading program with the CSAPR Update states. Implementation of Group 1 and Group 2 trading programs is substantially the same as the original CSAPR NO_X ozone season trading program. For states with continuing obligations to address interstate transport with respect to the 1997 ozone NAAQS as well as obligations under this rule with respect to the 2008 ozone NAAQS,[21] the EPA is coordinating the FIP requirements for the two NAAQS by providing that compliance with the 2008 ozone NAAQS FIP requirements simultaneously satisfies the state's transport obligations with respect to the less stringent 1997 ozone NAAQS. These states will therefore only be required to comply with the CSAPR NO_X ozone season Group 2 requirements.

For this CSAPR Update, the EPA considered whether, and to what extent, banked[22] 2015 and 2016 CSAPR NO_X ozone season allowances should be eligible for compliance in the CSAPR Update rule states. As proposed, the CSAPR Update finalizes a limit on the number of banked allowances carried over based on the need to assure that the CAA objective of the CSAPR Update is achieved. This approach transitions some allowances for compliance to further ensure feasibility of implementing the CSAPR Update rule. The EPA proposed to use turn-in ratios calculated using a formula—essentially the same formula that the EPA is finalizing in this rule. Specifically, the final rule establishes a one-time allowance conversion that transitions a limited number of banked vintage 2015 and 2016 allowances for compliance use in CSAPR Update states. This allowance conversion limits the number of banked allowances to 1.5 years of states' aggregated CSAPR variability limits (approximately 99,700 allowances) in order to ensure that implementation of the trading program will result in NO_X emission reductions sufficient to address significant contribution to nonattainment or interference with maintenance of downwind pollution with respect to the 2008 ozone NAAQS.

The compliance requirements of this final rule are in addition to existing, on-the-books EPA and state environmental regulations. To the extent that new, unplanned actions may also reduce EGU NO_X emissions within a state included in the CSAPR Update, whether for compliance with other environmental requirements or for other reasons, such actions would help the state comply with its good neighbor requirements. The final FIP compliance requirements begin with the 2017 ozone season and will continue for subsequent ozone seasons to ensure that upwind states included in this rule meet their Clean Air Act obligation to address interstate emission transport with respect to the 2008 ozone NAAQS for 2017 and future years. Even after the attainment deadline has passed, areas are required to continue to attain and maintain the NAAQS, and these good neighbor emission limits will ensure that future emissions are consistent with states' ongoing good neighbor obligations.

The EPA is finalizing revisions to the Code of Federal Regulations (CFR), specifically: 40 CFR part 97, subparts BBBBB and EEEEE (federal CSAPR NO_X ozone season trading programs); 40 CFR 52.38(b) (CSAPR NO_X ozone season FIP requirements and rules on replacing or modifying the FIP requirements through a SIP revision); state-specific subparts of 40 CFR part 52 for 25 states (descriptions for these states of FIP requirements and consequences of SIP revisions related to ozone season NO_X emissions); and 40 CFR part 78 (provisions addressing the scope of coverage of the administrative appeal procedures) to address interstate transport for the 2008 ozone NAAQS. In addition, as proposed, various minor corrections are being finalized to these CFR sections and other sections of parts 52, 78, and 97 relating to the CSAPR ozone season and annual trading programs.

The remainder of this preamble is organized as follows: Section III describes the EPA's legal authority for this action; section IV describes the human health and environmental context, the EPA's overall approach for addressing interstate transport through use of the CSAPR framework, and the EPA's response to the remand of certain CSAPR NO_X ozone season emission budgets; section V describes the air quality modeling platform and emission inventories that the EPA used in its assessment of downwind receptors of concern and upwind state ozone contributions to those receptors for the final rule; section VI describes the EPA's approach to quantify upwind state obligations in the form of final EGU NO_X emission budgets; section VII details the implementation requirements including key elements of the CSAPR allowance trading program and deadlines for compliance; section VIII describes the expected costs, benefits, and other impacts of this rule; section IX discusses changes to the existing regulatory text for the CSAPR FIPs and the CSAPR trading programs; and section X discusses the statutes and executive orders affecting this rulemaking. The preamble sections include certain significant comments and responses to comments as they pertain to the topic covered in each section.

C. Benefits and Costs

The rule will achieve near-term emission reductions from the power sector, lowering ozone season NO_X in 2017 by 61,000 tons, compared to 2017 projections without the rule.

Consistent with Executive Order 13563, "Improving Regulation and Regulatory Review," the EPA has estimated the costs and benefits of the rule. Estimates here are subject to uncertainties discussed further in the Regulatory Impact Analysis (RIA) in the docket. The estimated net benefits of the rule at 3 percent and 7 percent discount rates are $460 million to $810 million and $450 million to $790 million (2011$), respectively. The non-monetized benefits include reduced ecosystem impacts and improved visibility. Discussion of the rule's costs and benefits is provided in preamble section VIII and in the RIA, which is found in the docket for this final rule. The EPA's estimate of the rule's costs

included in the original CSAPR ozone season program as to the 1997 ozone NAAQS.

[21] Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee.

[22] Allowances that were not used for compliance and were saved for use in a later compliance period.

and quantified benefits is summarized in Table I.C–1.

TABLE I.C–1—SUMMARY OF COMPLIANCE COSTS, MONETIZED BENEFITS, AND MONETIZED NET BENEFITS OF THE FINAL RULE FOR 2017

[2011$]

Description	Impacts (benefits at 3% discount rate) ($ millions)	Impacts (benefits at 7% discount rate) ($ millions)
Annualized Compliance Costs[a]	68	68
Monetized benefits [b]	530 to 880	520 to 860
Monetized Net benefits (benefits-costs)	460 to 810	450 to 790

[a] The annualized compliance costs estimate is used as a proxy for the total annualized social costs. These costs are determined using the 4.77% percent discount rate from the electricity sector model used for this analysis and are rounded to two significant figures. The annualized compliance costs presented here reflect the cost to the electricity sector of complying with the FIPs. These costs do not include monitoring, recordkeeping, and reporting costs, which are reported separately. See Chapter 4 of the RIA for this final rule for details and explanation.

[b] Total monetized health benefits are estimated at 3 percent and 7 percent discount rates and are rounded to two significant figures. The total monetized benefits reflect the human health benefits associated with reducing exposure to ozone and $PM_{2.5}$. It is important to note that the monetized benefits and co-benefits include many but not all health effects associated with pollution exposure. Benefits are shown as a range reflecting studies from Krewski et al. (2009) with Smith et al. (2009) to Lepeule et al. (2012) with Zanobetti and Schwartz (2008).

II. General Information

A. To whom does this final action apply?

This rule affects EGUs, and regulates the following groups:

Industry group	NAICS*
Fossil fuel-fired electric power generation	221112

*North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that the EPA is now aware will be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your entity is regulated by this action, you should carefully examine the applicability criteria found in 40 CFR 97.504 and 97.804. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

III. Legal Authority

A. The EPA's Statutory Authority for the Final Rule

The statutory authority for this final action is provided by the CAA as amended (42 U.S.C. 7401 *et seq.*). Specifically, sections 110 and 301 of the CAA provide the primary statutory underpinnings for this rule. The most relevant portions of section 110 are subsections 110(a)(1), 110(a)(2), and 110(a)(2)(D)(i)(I), and 110(c)(1).

Section 110(a)(1) provides that states must make SIP submissions "within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof)," and that these SIP submissions are to provide for the "implementation, maintenance, and enforcement" of such NAAQS.[23] The statute directly imposes on states the duty to make these SIP submissions, and the requirement to make the submissions is not conditioned upon the EPA taking any action other than promulgating a new or revised NAAQS.[24]

The EPA has historically referred to SIP submissions made for the purpose of satisfying the applicable requirements of CAA sections 110(a)(1) and 110(a)(2) as "infrastructure SIP" submissions. Section 110(a)(1) addresses the timing and general requirements for infrastructure SIP submissions, and section 110(a)(2) provides more details concerning the required content of these submissions. It includes a list of specific elements that "[e]ach such plan" submission must address.[25] All states, regardless of whether the state includes areas designated as nonattainment for the relevant NAAQS, must have SIPs that meet the applicable requirements of section 110(a)(2), including provisions of section 110(a)(2)(D)(i)(I) described later and that are the focus of this rule.

Section 110(c)(1) requires the Administrator to promulgate a FIP at any time within 2 years after the Administrator: (1) Finds that a state has failed to make a required SIP submission, (2) finds a SIP submission to be incomplete pursuant to CAA section 110(k)(1)(C), or (3) disapproves a SIP submission, unless the state corrects the deficiency through a SIP revision that the Administrator approves before the FIP is promulgated.[26]

Section 110(a)(2)(D)(i)(I), also known as the "good neighbor provision," provides the basis for this action. It requires that each state SIP shall include provisions sufficient to "prohibit[] . . . any source or other type of emissions activity within the State from emitting any air pollutants in amounts which will—(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS]."[27]

The EPA has previously issued three rules interpreting and clarifying the requirements of section 110(a)(2)(D)(i)(I) for states in the eastern half of the United States. These rules, and the associated court decisions addressing these rules, provide important guidance regarding the requirements of section 110(a)(2)(D)(i)(I).

The NO_X SIP Call, promulgated in 1998, addressed the good neighbor provision for the 1979 1-hour ozone NAAQS and the 1997 8-hour ozone NAAQS.[28] The rule required 22 states and the District of Columbia to amend their SIPs and limit NO_X emissions that contribute to ozone nonattainment. The EPA set a NO_X ozone season budget for each covered state, essentially a cap on ozone season NO_X emissions in the state. Sources in the covered states were given the option to participate in a regional cap-and-trade program, known as the NO_X Budget Trading Program (NBP). The NO_X SIP Call was largely upheld by the D.C. Circuit in *Michigan*

[23] 42 U.S.C. 7410(a)(1).

[24] *See EPA* v. *EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1601 (2014).

[25] The EPA's general approach to infrastructure SIP submissions is explained in greater detail in individual notices acting or proposing to act on state infrastructure SIP submissions and in guidance. *See, e.g.*, Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Sections 110(a)(1) and 110(a)(2) (Sept. 2013).

[26] 42 U.S.C. 7410(c)(1).

[27] 42 U.S.C. 7410(a)(2)(D)(i)(I).

[28] 63 FR 57356 (Oct. 27, 1998).

v. *EPA*, 213 F.3d 663 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001).

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.[29] CAIR required SIP revisions in 28 states and the District of Columbia to ensure that certain emissions of sulfur dioxide (SO_2) and/or NO_X—important precursors of regionally transported $PM_{2.5}$ (SO_2 and NO_X) and ozone (NO_X)—were prohibited. Like the NO_X SIP Call, states were given the option to participate in a regional cap-and-trade program to satisfy their SIP obligations. When the EPA promulgated the final CAIR in May 2005, the 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. Those states were required by the CAA to have submitted good neighbor SIPs for those standards by July 2000.[30] These findings of failure to submit triggered a 2-year clock for the EPA to issue FIPs to address interstate transport, and on March 15, 2006, the EPA promulgated FIPs to ensure that the emission reductions required by CAIR would be achieved on schedule.[31] CAIR was remanded to the EPA by the D.C. Circuit in *North Carolina*, 531 F.3d 896 (D.C. Cir. 2008), *modified on reh'g*, 550 F.3d 1176. For more information on the legal considerations of CAIR and the D.C. Circuit holding in *North Carolina*, refer to the preamble of the original CSAPR rule.[32]

In 2011, the EPA promulgated the original CSAPR to address the issues raised by the remand of CAIR and additionally to address the good neighbor provision for the 2006 $PM_{2.5}$ NAAQS.[33] CSAPR requires 28 states to reduce SO_2 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. To accomplish implementation aligned with the applicable attainment deadlines, the EPA promulgated FIPs for each of the 28 states covered by CSAPR. The FIPs implement regional cap-and-trade programs to achieve the necessary emission reductions. States can submit good neighbor SIPs at any time that, if approved by the EPA, would replace the CSAPR FIP for that state.[34] As discussed later, CSAPR was the subject of decisions by both the D.C. Circuit and the Supreme Court, which largely upheld the rule.

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), vacating CSAPR and holding, among other things, that states had no obligation to submit good neighbor SIPs until the EPA had first quantified each state's good neighbor obligation.[35] The implication of this decision was that the EPA did not have authority to promulgate the CSAPR FIPs as a result of states' failure to submit or the EPA's disapproval of good neighbor SIPs. The D.C. Circuit also held that the EPA erred in apportioning upwind emission reduction obligations using uniform cost thresholds, and that such approach may result in unnecessary over-control.[36] The EPA sought review, first with the D.C. Circuit *en banc* and then with the Supreme Court. While the D.C. Circuit declined to consider the EPA's appeal *en banc*,[37] on January 23, 2013, the Supreme Court granted the EPA's petition for certiorari.[38]

On April 29, 2014, the Supreme Court issued a decision reversing the D.C. Circuit's *EME Homer City* opinion on CSAPR and held, among other things, that under the plain language of the CAA, states must submit SIPs addressing the good neighbor provision within 3 years of promulgation of a new or revised NAAQS, regardless of whether the EPA first provides guidance, technical data or rulemaking to quantify the state's obligation.[39] Thus, the Supreme Court affirmed that states have an obligation in the first instance to address the good neighbor provision after promulgation of a new or revised NAAQS, a holding that also applies to states' obligation to address interstate transport for the 2008 ozone NAAQS. The Court also reversed the D.C. Circuit's holding that the EPA's use of cost to apportion upwind states' emission reduction obligations was impermissible, finding that the EPA's approach was a "permissible construction of the statute."[40] The Supreme Court remanded the litigation to the D.C. Circuit for further proceedings.

Finally, 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 II*, 795 F.3d 118. This decision largely upheld the EPA's approach to addressing interstate transport in CSAPR, leaving the rule in place and affirming the EPA's interpretation of various statutory provisions and the EPA's technical decisions. The decision also remanded the rule without vacatur for reconsideration of the EPA's emission budgets for certain states. In particular and as discussed in section IV, the court declared invalid the CSAPR phase 2 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. The court's decision explicitly applies to 11 states: Florida, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia. *Id.* at 129–30, 138. The court also remanded without vacatur the CSAPR phase 2 SO_2 annual emission budgets for four states (Alabama, Georgia, South Carolina, and Texas) for reconsideration. *Id.* at 129, 138. The court instructed the EPA to act "promptly" in addressing these issues on remand. *Id.* at 132.[41]

Section 301(a)(1) of the CAA also gives the Administrator of the EPA general authority to prescribe such regulations as are necessary to carry out her functions under the Act.[42] Pursuant to this section, the EPA has authority to clarify the applicability of CAA requirements. In this action, among other things, the EPA is clarifying the applicability of section 110(a)(2)(D)(i)(I) by identifying NO_X emissions in certain states that must be prohibited pursuant

[29] 70 FR 25162 (May 12, 2005).

[30] 70 FR 21147 (May 12, 2005).

[31] 71 FR 25328 (April 28, 2006).

[32] 76 FR 48208, 48217 (Aug. 8, 2011).

[33] 76 FR 48208.

[34] Alabama has submitted, and EPA has approved, a SIP revision that replaces the CSAPR FIPs for the annual trading programs in Alabama. 81 FR 59869 (Aug. 31, 2016).

[35] *EME Homer City Generation, L.P.* v. *EPA*, 696 F.3d 7, 31 (D.C. Cir. 2012) (*EME Homer City I*).

[36] *Id.* at 23–27.

[37] *EME Homer City Generation, L.P.* v. *EPA*, No. 11–1302 (D.C. Cir. January 24, 2013), ECF No. 1417012 (denying the EPA's motion for rehearing en banc).

[38] *EPA* v. *EME Homer City Generation, L.P.*, 133 S. Ct. 2857 (2013) (granting the EPA's and other parties' petitions for certiorari).

[39] *EPA* v. *EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1600–01 (2014).

[40] *Id.* at 1606–07.

[41] In 2011, EPA finalized a supplemental rule that added five states to the CSAPR NO_X ozone season trading program, 76 FR 80760 (Dec. 27, 2011). In 2012, the EPA also finalized two rules making certain revisions to CSAPR. 77 FR 10324 (Feb. 21, 2012); 77 FR 34830 (June 12, 2012). Various petitioners filed legal challenges to these rules in the D.C. Circuit. *See Public Service Company of Oklahoma* v. *EPA*, No. 12–1023 (D.C. Cir., filed Jan. 13, 2012); *Wisconsin Public Service Corp.* v. *EPA*, No. 12–1163 (D.C. Cir., filed Apr. 6, 2012); *Utility Air Regulatory Group* v. *EPA*, No. 12–1346 (D.C. Cir., filed Aug. 9, 2012). These cases were held in abeyance during the pendency of the litigation in *EME Homer City*, and remain pending in the D.C. Circuit as of the date of signature of this rule.

[42] 42 U.S.C. 7601(a)(1).

to this section with respect to the 2008 ozone NAAQS.

In particular, the EPA is using its authority under sections 110 and 301 to promulgate FIPs that establish or revise EGU NO_X ozone season emission budgets for 22 eastern states to mitigate their significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS in another state.[43] The EPA is also responding to the court's remand in *EME Homer City II* with respect to the remanded NO_X ozone season emission budgets.

B. FIP Authority for Each State Covered by the Final Rule

As discussed previously, all states have an obligation to submit SIPs that address the applicable requirements of CAA section 110(a)(2) within 3 years of promulgation of a new or revised NAAQS. With respect to the 2008 ozone NAAQS, states were required to submit SIPs addressing the good neighbor provision by March 12, 2011. If the EPA finds that a state has failed to submit a SIP to meet its statutory obligation to address section 110(a)(2)(D)(i)(I) or if the EPA disapproves a good neighbor SIP, then the EPA has not only the authority but the obligation, pursuant to section 110(c)(1), to promulgate a FIP to address the CAA requirement no later than 2 years after the finding or disapproval.

On July 13, 2015, the EPA published a rule finding that 24 states failed to make complete submissions that address the requirements of section 110(a)(2)(D)(i)(I) related to the interstate transport of pollution as to the 2008 ozone NAAQS. *See* 80 FR 39961 (July 13, 2015) (effective August 12, 2015). The finding action triggered a 2-year deadline for the EPA to issue FIPs to address the good neighbor provision for these states by August 12, 2017. The states included in this finding of failure to submit are: 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.

Several additional eastern states—Connecticut, Delaware, Indiana, Kentucky, Louisiana, Maryland, Nebraska, New Jersey, New York, North Dakota, Ohio, Rhode Island, South Dakota, Texas, Wisconsin, and the District of Columbia—had previously submitted SIPs to address the requirements of section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. Since the EPA issued the findings notice, the agency has also received a SIP submission addressing the good neighbor provision for the 2008 ozone NAAQS from the states of Maine, New Hampshire, North Carolina, and Vermont. Maryland and New Jersey subsequently withdrew their good neighbor SIP submittals addressing the 2008 ozone standard. The 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) related to the interstate transport of pollution as to the 2008 ozone NAAQS. *See* 81 FR 47040 (July 20, 2016) (Maryland, effective August 19, 2016); 81 FR 38963 (June 15, 2016) (New Jersey, effective July 15, 2016). The finding actions triggered a 2-year deadline for the EPA to issue FIPs to address the good neighbor provision for Maryland by August 19, 2018 and New Jersey by July 15, 2018.

To the extent that the EPA had not finalized action on these SIPs at proposal, the states were encouraged to evaluate their submissions in light of the information provided in the proposal with respect to interstate ozone transport for the 2008 ozone NAAQS. The EPA has finalized disapproval or partial disapproval of the good neighbor SIPs from Indiana, Kentucky, Louisiana, New York, Ohio, Texas and Wisconsin,[44] triggering the EPA's authority and obligation to promulgate FIPs that implement the requirements of the good neighbor provision for those states. The EPA has approved good neighbor SIPs addressing the 2008 ozone standard submitted by Nebraska, North Dakota, and South Dakota. The EPA has not yet taken final action to approve or disapprove the SIPs submitted by Connecticut, Delaware, the District of Columbia, Maine, New Hampshire, North Carolina, Rhode Island, and Vermont. However, the EPA is not finalizing FIPs as to these states in this action. The EPA will review and act upon these states' SIPs in separate, future actions.

Comment: Some commenters have questioned the EPA's authority to propose FIPs for certain states before the EPA has either issued findings of failure to submit good neighbor SIPs or taken final action to approve or disapprove pending good neighbor SIPs submitted by those states. Commenters state that the EPA's development of FIPs prior to taking those actions upsets the balance of state and federal authority. Some commenters state that this approach is inconsistent with the sequencing of events envisioned by Congress in CAA section 110(c). Another commenter contends that the CAA contemplates that states should have an opportunity to correct any problems with its SIP in a timely fashion and avoid imposition of a FIP. The commenter states that, until the EPA proposes to disapprove a state's SIP, the state does not know what corrections would be necessary.

One commenter states that the Supreme Court's decision in *EPA* v. *EME Homer City Generation* means that the EPA may issue a FIP if more than two years have elapsed since the EPA found the state's SIP was inadequate. The commenter suggests that states should be given the opportunity to submit a SIP after the EPA establishes a state budget before a FIP is implemented. The commenter states that the EPA adhered to the CAA in prior transport rulemakings like the NO_X SIP Call and CAIR by allowing states to decide how to meet budgets quantified by the EPA.

Response: The EPA disagrees with commenters' contention that we cannot propose a FIP for a state prior to taking final action on the state's SIP. CAA section 110(c) provides that the EPA "shall promulgate a [FIP] *at any time* within two years after" the EPA either finds that a state has failed to make a required submission or disapproves a SIP, in whole or in part. As the Supreme Court confirmed in *EPA* v. *EME Homer City Generation,* "EPA is not obliged to wait two years or postpone its action even a single day: The Act empowers the Agency to promulgate a FIP 'at any time' within the two-year limit." 134 S. Ct. at 1601.

The EPA's proposal was not the "promulgation" of a FIP. Rather, the EPA is only finalizing FIPs for those states for which the EPA has either made a finding of failure to submit a SIP addressing the state's good neighbor obligation as to the 2008 ozone NAAQS or for which the EPA disapproved the state's good neighbor SIP. Accordingly, consistent with section 110(c), the EPA is only promulgating FIPs for those states that the EPA found have failed to address the statutory SIP obligation.

The EPA also disagrees that it was required to provide states with an opportunity to submit a SIP addressing the budgets calculated in this rule

[43] One state, Kansas, will have a new CSAPR ozone season requirement under this final rule. The remaining 21 states were included in the original CSAPR ozone season program as to the 1997 ozone NAAQS.

[44] The EPA has finalized a partial disapproval of the good neighbor SIP from the state of Wisconsin. The EPA partially approved Wisconsin's SIP as to the state's significant contribution to nonattainment and partially disapproved as to the state's interference with maintenance of the 2008 ozone NAAQS. *See* 81 FR 53309 (August 12, 2013).

before promulgating a FIP. The Supreme Court clearly held that the Act does not "condition the duty to promulgate a FIP on EPA's having first quantified an upwind State's good neighbor obligations." 134 S. Ct. at 1601. Nor does the Act "require EPA to furnish upwind States with information of any kind about their good neighbor obligations before a FIP issues." *Id.* While the EPA has taken a different approach in some prior rulemakings by providing states with an opportunity to submit a SIP after the EPA quantified the states' budgets, the circumstances of this rule require a different approach. As discussed in more detail earlier, it is important for the EPA to assure that emission reductions are achieved, to the extent feasible, by the 2017 ozone season in order to assist downwind areas with meeting the July 20, 2018 attainment deadline for Moderate nonattainment areas. If the EPA were to permit states an opportunity to develop and submit state plans to address the emission reductions required by this rule before imposing a federal plan, the EPA could not ensure that these emission reductions would be achieved in a timely manner. However, states may submit SIPs to replace the FIPs promulgated in this final rule at any time. Some types of SIPs that a state might consider are outlined in more detail later in section VII.

In addition to the agency's general FIP authority and the comments received on that issue, there is a unique issue related to the EPA's FIP obligation for Kentucky. On March 7, 2013, the EPA finalized action on the State of Kentucky's SIP submission addressing, among other things, the good neighbor provision requirements for the 2008 ozone NAAQS.[45] The EPA disapproved the submission as to the good neighbor requirements. In the notice, the EPA explained that the disapproval of the good neighbor portion of the state's infrastructure SIP submission did not trigger a mandatory duty for the EPA to promulgate a FIP to address these requirements.[46] Citing the D.C. Circuit's decision *EME Homer City I,* the EPA explained that the court concluded states have no obligation to make a SIP submission to address the good neighbor provision for a new or revised NAAQS until the EPA first defines a state's obligations pursuant to that section.[47] Therefore, because a good neighbor SIP addressing the 2008 ozone standard was not at that time required, the EPA indicated that its disapproval action would not trigger an obligation for the EPA to promulgate a FIP to address the interstate transport requirements.[48]

On April 30, 2013, the Sierra Club filed a petition for review of the EPA's action in the United States Court of Appeals for the Sixth Circuit based on the agency's conclusion that the FIP clock was not triggered by the disapproval of Kentucky's good neighbor SIP.[49] Subsequently, on April 29, 2014, the Supreme Court issued a decision reversing and vacating the D.C. Circuit's decision in *EME Homer City.* Following the Supreme Court decision, the EPA requested, and the Sixth Circuit granted, vacatur and remand of the portion of the EPA's final action on Kentucky's good neighbor SIP that determined that the FIP obligation was not triggered by the disapproval.[50]

In this document, the EPA is correcting the portion of the Kentucky disapproval notice indicating that the FIP clock would not be triggered by the SIP disapproval. The EPA believes that the EPA's obligation to develop a FIP was triggered on the date of the judgment issued by the Supreme Court in *EPA* v. *EME Homer City Generation,* June 2, 2014, and the EPA is obligated to issue a FIP at any time within two years of that date. The EPA does not believe that the FIP obligation was triggered as of the date of the SIP disapproval because the controlling law as of that date was the D.C. Circuit decision in *EME Homer City I,* which held that states had no obligation to submit a SIP and the EPA had no authority to issue a FIP until the EPA first quantified each state's emission reduction obligation under the good neighbor provision. Accordingly, the most reasonable conclusion is that the EPA's FIP obligation was triggered when the Supreme Court clarified the state and federal obligations with respect to the good neighbor provision. Thus, the EPA finds that the FIP obligation was triggered as of June 2, 2014, and that the EPA was obligated to promulgate a FIP that corrects the deficiency by June 2, 2016.

IV. Air Quality Issues Addressed and Overall Approach for the Final Rule

A. The Interstate Transport Challenge Under the 2008 Ozone Standard

1. Background on the Nature of the Interstate Ozone Transport Problem

Interstate transport of NO_X emissions poses significant challenges with respect to attaining the 2008 ozone NAAQS in the eastern U.S. and thus presents a threat to public health and welfare. The following sections discuss the nature and sources of ozone, how ozone is transported in the atmosphere and across state boundaries, and ozone's impacts on human health and the environment.

a. *Nature of ozone and the Ozone NAAQS.* 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 (CH_4), 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.[51] Ground-level ozone concentrations and temperature are highly correlated in the eastern U.S. with observed ozone increases of 2–3 ppb per degree Celsius reported.[52] Increased temperatures may also increase emissions of volatile man-made and biogenic organics and can indirectly increase anthropogenic NO_X emissions as well (*e.g.,* increased electricity generation to power air conditioning).

The 2008 primary and secondary ozone standards are both 75 ppb as an 8-hour maximum level. Specifically, the standards require that an area may not exceed 75 ppb using the 3-year average of the fourth highest 24-hour maximum 8-hour rolling average ozone concentration.

b. *Ozone transport.* Precursor emissions can be transported downwind directly or, after transformation in the atmosphere, as ozone. Studies have

[45] 78 FR 14681 (March 7, 2013).

[46] *Id.* at 14683.

[47] *Id.*

[48] *Id.*

[49] *Sierra Club* v. *EPA,* Case No. 13–3546 (6th Cir., filed Apr. 30, 2013).

[50] Order, *Sierra Club* v. *EPA,* Case No. 13–3546, Document No. 74–1 (Mar. 13, 2015).

[51] 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.

[52] Bloomer, B.J., J.W. Stehr, C.A. Piety, R.J. Salawitch, *and* R.R. Dickerson (2009), Observed relationships of ozone air pollution with temperature and emissions, Geophys. Res. Lett., 36, *L09803.*

established that ozone formation, atmospheric residence, and transport occurs on a regional scale (*i.e.*, hundreds of miles) over much of the eastern U.S., 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 compounds the difficulty for downwind states in meeting health-based air quality standards (*i.e.*, 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. Bergin et al., for example, examined the impacts of statewide emissions of NO_X, SO_2, and VOCs on concentrations of ozone and fine particulate matter in the eastern U.S. They found on average 77 percent of each state's ground-level ozone is produced by precursor emissions from upwind states.[53] Liao et al., showed the impacts of interstate transport of anthropogenic NO_X and VOC emissions on peak ozone formation in 2007 in the Mid-Atlantic U.S. Results suggest reductions in anthropogenic NO_X emissions from EGU and non-EGU sources from the Great Lakes region as well as northeastern and southeastern U.S. would be effective for decreasing area-mean peak ozone concentrations in the Mid-Atlantic.[54]

The EPA has previously concluded in the NO_X SIP Call, CAIR, and CSAPR that, for reducing regional-scale ozone transport, a NO_X control strategy is effective. While substantial progress has been made in reducing ozone in many urban areas, regional-scale ozone transport is still an important component of peak ozone concentrations during the summer ozone season. Model assessments have looked at impacts on peak ozone concentrations after potential emission reduction scenarios for NO_X and VOCs for NO_X-limited and VOC-limited areas. For example, Jiang and Fast concluded that NO_X emission reductions strategies would be effective in lowering ozone mixing ratios in urban areas and Liao et al. showed NO_X reductions would reduce peak ozone concentrations in non-attainment areas in the Mid-Atlantic (*i.e.* a 10 percent reduction in EGU and non-EGU NO_X emissions would result in approximately a 6 ppb reduction in peak ozone concentrations in Washington, DC).[55] Assessments of ozone conducted for the October 2015 Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone (EPA–452/R–15–007) also show the importance of NO_X emissions on ozone transport. This analysis is in the docket for this rule and also can be found in the docket for the 2015 ozone NAAQS, Docket No. EPA–HQ–OAR–2013–0169–0057.

Further, studies have found that EGU NO_X emission reductions, particularly, can be effective in reducing ozone pollution as quantified by the form of the 2008 ozone standard, 8-hour peak concentrations. Specifically, studies have found that EGU NO_X emission reductions can be effective in reducing the upper end of the cumulative ozone distribution in the summer on a regional scale.[56] Analysis of air quality monitoring data trends shows reductions in summertime ozone concurrent with implementation of EGU NO_X reduction programs.[57] Gilliland et al. presented reductions in observed versus modeled ozone concentrations in the eastern U.S. downwind from major NO_X sources. The results showed significant reductions in ozone concentrations (10–25 percent) from observed measurements (CASTNET and AQS)[58] between 2002 and 2005, linking reductions in EGU NO_X emissions from upwind states with ozone reductions downwind of the major source areas.[59] Another study shows that EGU NO_X emissions can contribute between 5 ppb and 25 ppb to average 8-hour peak ozone concentrations in Mid-Atlantic metropolitan statistical areas.[60] Additionally, Gégo et al. showed that ground-level ozone concentrations were significantly reduced after the NO_X SIP Call in regions downwind of major EGUs in the Ohio River Valley.[61]

Previous regional ozone transport efforts, including the NO_X SIP Call, CAIR, and CSAPR, required ozone season NO_X reductions from EGUs to address interstate transport of ozone. The EPA has taken comment on regulating EGU NO_X emissions to address interstate ozone transport in the notice-and-comment process for these rulemakings. The EPA received no significant adverse comments in any of these earlier proposals regarding the rules' focus on ozone season EGU NO_X reductions to address interstate ozone transport. Further, many comments received on the proposed CSAPR Update encouraged the EPA to seek further EGU NO_X reductions to address interstate transport for the 2008 ozone NAAQS. As described later in this document, the EPA's analysis finds that the power sector continues to be capable of making NO_X reductions that reduce interstate transport with respect to ground-level ozone.

c. *Health and environmental effects.* Exposure to ambient 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. In ecosystems, ozone exposure causes visible foliar injury, decreases plant growth, and affects ecosystem community composition. For more information on the human health and welfare and ecosystem effects associated with ambient ozone exposure, see the EPA's October 2015 Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone (EPA–452/R–15–007) in the docket for this rule and can be also found in the docket for the 2015 ozone NAAQS, Docket No. EPA–HQ–OAR–2013–0169–0057.

[53] Bergin, M.S. *et al.* (2007) Regional air quality: local and interstate impacts of NO_X and SO_2 emissions on ozone and fine particulate matter in the eastern United States. Environmental Sci & Tech. 41: 4677–4689.

[54] 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.

[55] Jiang, G.; Fast, J.D. (2004) Modeling the effects of VOC and NO_X emission sources on ozone formation in Houston during the TexAQS 2000 field campaign. Atmospheric Environment 38: 5071–5085.

[56] Hidy, G.M. and Blanchard C.L. (2015) Precursor reductions and ground-level ozone in the Continental United States. J. of Air & Waste Management Assn. 65, 10.

[57] Simon, H. *et al.* (2015) Ozone trends across the United States over a period of decreasing NO_X and VOC emissions. Environmental Science & Technology 49, 186–195.

[58] CASTNET is the EPA's Clean Air Status and Trends Network. AQS is the EPA's Air Quality System.

[59] Gilliland, A.B. *et al.* (2008) Dynamic evaluation of regional air quality models: Assessing changes in O_3 stemming from changes in emissions and meteorology. Atmospheric Environment 42: 5110–5123.

[60] Summertime Zero-Out Contributions of regional NO_X and VOC emissions to modeled 8-hour ozone concentrations in the Washington, DC, Philadelphia, PA, and New York City MSAs.

[61] Gégo *et al.* (2007) Observation-based assessment of the impact of nitrogen oxides emissions reductions on O_3 air quality over the eastern United States. J. of Applied Meteorology and Climatology 46: 994–1008.

2. Events Affecting Application of the Good Neighbor Provision for the 2008 Ozone NAAQS

On March 12, 2008, the EPA promulgated a revision to the NAAQS, lowering both the primary and secondary standards to 75 ppb. *See* National Ambient Air Quality Standards for Ozone, Final Rule, 73 FR 16436 (March 27, 2008). These revisions of the NAAQS, in turn, triggered a 3-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 3-year SIP development period, on September 16, 2009, the EPA announced [62] that it would reconsider the 2008 ozone NAAQS. To reduce the workload for states during the interim period of reconsideration, the EPA also announced its intention to propose staying implementation of the 2008 standards with respect to a number of the requirements. On January 6, 2010, the EPA proposed to revise the 2008 NAAQS for ozone from 75 ppb to a level within the range of 60 to 70 ppb. *See* 75 FR 2938 (January 19, 2010). The EPA indicated its intent to issue final standards based upon the reconsideration by summer 2011.

On August 8, 2011, the EPA published the original CSAPR, in response to the D.C. Circuit's remand of the EPA's prior federal transport rule, CAIR. *See* 76 FR 48208 (August 8, 2011). 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, consistent with the direction of the President, the Administrator of the Office of Information and Regulatory Affairs of the Office of Management and Budget returned the draft final 2008 ozone rule the EPA had developed upon reconsideration to the agency for further consideration.[63] In view of that action and the timing of the agency's ongoing periodic review of the ozone NAAQS required under CAA section 109 (as announced on September 29, 2008), the EPA decided to coordinate further proceedings on its voluntary reconsideration of the 2008 ozone standards with its ongoing periodic review of the ozone NAAQS.[64] Implementation for the original 2008 ozone standards was renewed. However, a number of legal developments pertaining to the EPA's promulgation of the original CSAPR created uncertainty surrounding the EPA's statutory interpretation and implementation of the good neighbor provision.

On August 21, 2012, the D.C. Circuit issued a decision in *EME Homer City Generation, L.P.* v. *EPA* addressing several legal challenges to CSAPR and holding, among other things, that states had no obligation to submit good neighbor SIPs until the EPA had first quantified each state's good neighbor obligation.[65] According to that decision, the submission deadline for good neighbor SIPs under the CAA would not necessarily be tied to the promulgation of a new or revised NAAQS. While the EPA disagreed with this interpretation of the statute and sought review of the decision in the D.C. Circuit and the U.S. Supreme Court, the EPA complied with the D.C. Circuit's ruling during the pendency of its appeal. In particular, the EPA indicated that, consistent with the D.C. Circuit's opinion, it would not at that time issue findings that states had failed to submit good neighbor SIPs for the 2008 ozone NAAQS.[66]

On January 23, 2013, the Supreme Court granted the EPA's petition for certiorari.[67] On April 29, 2014, the Supreme Court reversed the D.C. Circuit's *EME Homer City* opinion on CSAPR and held, among other things, that under the plain language of the CAA, states must submit SIPs addressing the good neighbor provision within 3 years of promulgation of a new or revised NAAQS, regardless of whether the EPA first provides guidance, technical data, or rulemaking to quantify the state's obligation.[68] Thus, the Supreme Court affirmed that states have an obligation in the first instance to address the good neighbor provision after promulgation of a new or revised NAAQS, a holding that also applies to the states' obligation to address transport for the 2008 ozone NAAQS.

States were therefore required to submit SIPs addressing the good neighbor provision with respect to the 2008 ozone NAAQS by March 12, 2011. Under the Supreme Court's holding, to the extent that states have failed to submit SIPs to meet this statutory obligation or the EPA has disapproved SIPs, then the EPA has not only the authority, but the obligation, to promulgate FIPs to address the CAA requirement.

B. Approach To Address Ozone Transport Under the 2008 Ozone NAAQS via FIPs

1. Requiring Emission Reductions From Upwind States

As described in section IV.A.1.b, the EPA finds that upwind EGU emission reductions are generally effective at reducing interstate transport of ozone pollution. And as described in section VI, with respect to this rule, the EPA finds that upwind emission reductions are achievable and will result in important and meaningful decreases in harmful downwind ozone pollution.

At the same time, the EPA also notes that section 110(a)(2)(D)(i)(I) of the CAA only requires upwind states to prohibit emissions that will significantly contribute to nonattainment or interfere with maintenance of the NAAQS in other states. It does not shift to upwind states the full responsibility for ensuring that all areas in downwind states attain and maintain the NAAQS. Downwind states also have control responsibilities because, among other things, the Act requires each state to adopt enforceable plans (*i.e.*, State Implementation Plans) to attain and maintain air quality standards. The requirements established for upwind states through this final rule will supplement downwind states' local emission control strategies. The downwind states' local control strategies, in conjunction with the emission reductions from upwind states that this rule will provide, promote attainment and maintenance of the 2008 ozone NAAQS.

The Clean Air Act's good neighbor provision requires states and the EPA to address interstate transport of air pollution that affects downwind states' ability to attain and maintain NAAQS. Other provisions of the CAA, namely sections 179B and 319(b), are available

[62] Fact Sheet. The EPA to reconsider Ozone Pollution Standards. *http://www.epa.gov/groundlevelozone/pdfs/O3_Reconsideration_FACT%20SHEET_091609.pdf.*

[63] *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.*

[64] *Id.*

[65] *EME Homer City I,* 696 F.3d at 31.

[66] *See, e.g.,* Memorandum from the Office of Air and Radiation former Assistant Administrator Gina McCarthy to the EPA Regions, "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," November 19, 2012; 78 FR 65559 (November 1, 2013) (final action on Florida infrastructure SIP submission for 2008 8-hour ozone NAAQS); 78 FR 14450 (March 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 FR 2884 (January 15, 2013).

[67] *EPA* v. *EME Homer City Generation, L.P.,* 133 S. Ct. 2857 (2013) (granting the EPA's and other parties' petitions for certiorari).

[68] *EPA* v. *EME Homer City Generation, L.P.,* 134 S. Ct. at 1600–01.

to deal with NAAQS exceedances not attributable to the interstate transport of pollution covered by the good neighbor provisions but caused by emission sources outside the control of a downwind state. These provisions address international transport and exceptional events, respectively.[69] [70]

Comment: Some commenters claimed that local measures should be evaluated first, before requiring upwind emission reductions, in terms of efforts to attain and maintain the 2008 ozone NAAQS. Commenters also claimed that the EPA failed to adequately evaluate local measures to reduce ozone concentrations at identified nonattainment and maintenance receptors.

Response: The EPA disagrees with these comments. First, the Clean Air Act makes no reference to considering local measures before upwind measures in planning for attainment and maintenance of a NAAQS. In fact, the EPA notes that commenters' local-first argument is at opposition with the NAAQS implementation schedule provided in the CAA. Specifically, the Clean Air Act requires upwind states to submit infrastructure SIPs, including requirements to address interstate transport, within three years of promulgation of a new or revised NAAQS. Submission of interstate transport SIP requirements is one of the first chronological actions in NAAQS implementation. States are required to submit attainment plans for Moderate ozone nonattainment areas within 3 years of nonattainment designation, which normally comes two to three years after promulgation of a new or revised NAAQS. Marginal ozone nonattainment areas that fail to meet their attainment deadlines and are reclassified as Moderate areas may be provided a new deadline upon reclassification to submit Moderate area plans. *See* CAA section 182(i). Depending on the designations schedule, Moderate area attainment plans would be due approximately 5 years after promulgation of a new or revised standards, *i.e.,* 2 years after interstate transport SIPs, and plans for reclassified areas would follow even later. Commenters' request that the EPA not evaluate upwind obligations until downwind controls have been evaluated is therefore unavailing under the statutory structure. If states or the EPA waited until Moderate area attainment plans were due before requiring upwind reductions, then these upwind reductions would be delayed several years beyond the mandatory CAA schedule. Further, the CAA implementation timeline implies that requiring local reductions first would place an inequitable burden on downwind areas by requiring them to plan for attainment and maintenance without any upwind actions. Adhering to the CAA schedule provides that downwind areas are able to plan for attainment and maintenance while accounting for previously determined and quantified upwind actions.

Further, the commenters are incorrect in asserting that the EPA has not considered any local controls obligations at downwind receptors when quantifying upwind state emission reductions. As described further in section VI, when evaluating air quality improvements at each level of control stringency, the EPA assumed that the downwind state home to an identified receptor would make emission reductions at an equivalent level of control stringency. While this final rule does not mandate any particular level of reductions in downwind states, the analysis to quantify upwind state reductions assumes that downwind states share responsibility for addressing identified air quality problems with the upwind states.

2. Focusing on 2017 for Analysis and Implementation

The EPA is aligning the analysis and implementation of this final rulemaking with the 2017 ozone season (May 1–September 30) in order to assist downwind states with timely attainment of the 2008 ozone NAAQS. On March 6, 2015, the EPA's final 2008 Ozone NAAQS SIP Requirements Rule [71] revised the attainment deadline for ozone nonattainment areas currently designated as Moderate to July 20, 2018. The EPA established this deadline in the 2015 Ozone SIP Requirements Rule after previously establishing a deadline of December 31, 2018, which was vacated by the D.C. Circuit Court in *Natural Resources Defense Council* v. *EPA.* [72] In order to demonstrate attainment by this deadline, states will need to rely on design values calculated using ozone season data from 2015 through 2017, since the July 20, 2018 deadline does not afford enough time for measured data of the full 2018 ozone season. Therefore, consistent with the court's instruction in *North Carolina,* the EPA has identified achievable upwind emissions reductions and aligned implementation of these reductions, to the extent possible, for the 2017 ozone season. These 2017 reductions can positively influence air quality that would be used to demonstrate attainment. To the extent that ozone improvements in 2017 yield the 4th highest daily maximum 8-hour average concentrations for all monitors in the area that are below the level of the 2008 ozone NAAQS, states can request a 1-year attainment date extension under CAA section 181(a)(5), as interpreted in 40 CFR 51.1107.

The EPA has therefore conducted its analyses of downwind air quality problems and upwind state contributions based on projections to the 2017 ozone season. The EPA also limits its assessment of NO_X mitigation potential to those strategies that are feasible for the 2017 ozone season. This rulemaking also finalizes the 2017 ozone season as the initial control period for the finalized FIPs.

Comment: Several comments claimed that requiring reductions beginning with the 2017 ozone season does not provide sufficient time to implement emission reductions for compliance with this rulemaking's limitations on emissions.

Response: The EPA disagrees with these comments. In establishing its limitations on emissions (*i.e.,* emission budgets and corresponding assurance levels), under the CSAPR Update rule the EPA explicitly took into account the fact that only certain emission reduction strategies can be implemented for the 2017 ozone season. Specifically, the

[69] The EPA recognizes that both in-state and upwind wildfires may contribute to monitored ozone concentrations. The EPA encourages all states to consider how the appropriate use of prescribed fire may benefit public safety and health by resulting in fewer ozone exceedances for both the affected state and their neighboring states.

[70] The CAA and the EPA's implementing regulations, specifically the Exceptional Events Rule at 40 CFR 50.14, allow for the exclusion of air quality monitoring data from regulatory determinations when events, including wildland fires, contribute to NAAQS exceedances or violations if they meet certain requirements, including the criterion that the event be not reasonably controllable or preventable. Wildland fires can be of two types: Wildfire (unplanned) and prescribed fire (planned). Under the Exceptional Events Rule, unless there is evidence to the contrary, wildfires are considered, by their nature, to be not reasonably controllable or preventable. Because prescribed fires on wildland are intentionally ignited for resource management purposes, to meet the not reasonably controllable or preventable criterion, they must be conducted under a certified Smoke Management Program or employ basic smoke management practices. Both types of wildland fire must also satisfy the other rule criteria for influenced air quality monitoring data to be excluded under the Exceptional Events Rule. In November 2015, the EPA proposed revisions to the Exceptional Events Rule and released a draft guidance document, which applies the proposed rule revisions to wildfire events that could influence ozone concentrations. These actions, which the EPA intends to finalize in the summer of 2016, further clarify the treatment of wildland fires under the Exceptional Events Rule.

[71] 80 FR 12264, 12268 (Mar. 6, 2015); 40 CFR 51.1103.

[72] 777 F.3d 456 (D.C. Cir. 2014).

agency considered activities that may be implemented quickly, such as turning on and optimizing existing SCR at power plants. The emission budgets are thus calculated to reflect only those activities that can be implemented by the 2017 ozone season.[73] Further, the CSAPR Update rule provides regulated entities the ability to comply by means of the CSAPR limited interstate trading program, which gives flexibility in compliance and does not require any specific action for compliance at any specific facility, other than holding allowances to cover emitted tons of pollution. Within this allowance trading program, the EPA also facilitates compliance by carrying over some banked allowances that can be used for compliance with the CSAPR Update, starting in 2017. More information about compliance feasibility is provided in section VII. Additionally, the EPA provides an EGU NO_X Mitigation Strategies Final Rule TSD, which is found in the docket for this final rule that further discusses the feasibility of complying with this rule's emissions requirements.

3. The CSAPR Framework

The original CSAPR used a four-step framework to address the requirements of the good neighbor provision for the 1997 ozone NAAQS and the 1997 and 2006 $PM_{2.5}$ NAAQS.[74] The EPA is following the same CSAPR framework in this CSAPR Update to identify and address the requirements of the good neighbor provision with respect to the newer 2008 ozone NAAQS. By applying the CSAPR framework with respect to the newer 2008 ozone NAAQS, the EPA is using an approach that is informed by public comment on the original CSAPR rulemaking and has been reviewed in litigation by the D.C. Circuit Court of Appeals and the Supreme Court. The four steps are: (1) Identifying downwind receptors that are expected to have problems attaining or maintaining clean air standards[75] (*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, reducing the identified upwind emissions through regional emission allowance trading programs. The following subsections include summaries of the four steps and comments and responses on the application of the CSAPR framework from the proposal.

a. *Step 1.* In the original CSAPR, downwind air quality problems were assessed using modeled future air quality concentrations for a year aligned with attainment deadlines for the NAAQS considered in that rulemaking. The assessment of future air quality conditions generally accounts for on-the-books emission reductions[76] and the most up-to-date forecast of future emissions in the absence of the transport policy being evaluated (*i.e.*, base case conditions). The locations of downwind air quality problems are identified as those with monitors that are projected to be unable to attain (*i.e.*, nonattainment receptor) or maintain (*i.e.*, maintenance receptor) the standard. This final rule follows this same general approach. However, in this rule, the EPA also considers current monitored air quality data to further inform the projected identification of downwind air quality problems for this final rule. The proposed CSAPR Update put forward this change from the original CSAPR approach and commenters generally supported consideration of monitoring data. Further details and application of step one are described in section V of this rulemaking.

Comment: Some commenters challenged the methodology proposed by the EPA to identify maintenance receptors in the step 1 analysis. Commenters contend that maintenance receptors for purposes of the CSAPR Update analysis should only be identified as those areas that were previously designated nonattainment. The commenters explain that the proposed methodology for identifying maintenance receptors is inconsistent with how the statute defines maintenance areas in section 175A of the CAA. Other commenters contend that the EPA should not identify an area as a maintenance receptor where the area currently measures clean data. The commenters are concerned that it is arbitrary and capricious to treat clean data differently with respect to identifying nonattainment receptors and maintenance receptors.

Response: The EPA does not agree with the commenters' contention that it may only identify maintenance receptors as those areas that were once designated nonattainment. Such an interpretation would be contrary to the statutory process for SIP development. Area designations occur two to three years after promulgation of a new or revised NAAQS pursuant to CAA section 107(d)(1)(B)(i). State SIP submissions pursuant to CAA section 110(a)(1) and (2), including good neighbor SIPs, are also due three years after promulgation of a new or revised NAAQS. Attainment plans for those areas designated nonattainment are due between 18 months and 4 years after designation, depending on the pollutant, pursuant to the requirements of subpart D of title I of the CAA. Re-designations, including application of the requirements of CAA section 175A to develop a maintenance plan, by definition, occur after the initial designation and frequently well after the development and submission of the state's attainment plan.

Given that the statutory timeframe for development of the good neighbor SIP requires submission before the downwind state's development of an attainment plan, before an area is likely to be re-designated from nonattainment to attainment (with the attendant maintenance plan obligations), and in some cases before or at the same time designations for a new or revised standard might be finalized, the EPA does not believe it is reasonable to interpret the good neighbor provision to make states' emission reduction obligations dependent on either current or prior designations of downwind areas with potential air quality problems in other states. While circumstances related to implementation of the 2008 ozone NAAQS (described in more detail earlier) led many states to delay submission of good neighbor SIPs addressing that standard and while the EPA is, in this case, addressing its FIP obligation many years after designations were finalized, these circumstantial factors do not revise the Congressional intent inherent in the statutory structure just described.

Moreover, section 110(a)(1) instructs states to submit plans that provide for the "implementation, maintenance, and enforcement" of the NAAQS. Nothing in the provision indicates that states need only address maintenance of air quality

[73] This is true with one exception. The EPA finds that for Arkansas it is reasonable to delay EGU NO_X reduction potential for certain new combustion controls until 2018 and therefore gives Arkansas a 2017 budget that does not reflect these controls and a 2018 budget that does reflect these controls. This issue is discussed further in Section VI.

[74] *See* CSAPR, Final Rule, 76 FR 48208 (August 8, 2011).

[75] As noted in section IV, the term maintenance used under the CSAPR framework is distinct from the term as applied the plan required of nonattainment areas redesignated to attainment.

[76] Since CSAPR was designed to replace CAIR, CAIR emissions reductions were not considered "on-the-books."

in those areas that were once formally designated nonattainment as to a particular NAAQS. Therefore, where CAA section 110(a)(2)(D)(i)(I) instructs state plans to prohibit emissions activity within the state which will "interfere with maintenance" of the NAAQS in any other state, this provision is logically read consistent with section 110(a)(1) to require upwind states to address the maintenance of the NAAQS in all areas downwind. In this respect, the EPA does not agree with commenters that its identification of maintenance receptors for purposes of the good neighbor provision is constrained by the applicability of the provisions in CAA section 175A. Although the statute invokes the word "maintenance" in that provision to describe the requirements for maintenance plans that apply in areas that have been re-designated from nonattainment to attainment, the good neighbor provision neither implicitly nor explicitly indicates that a state's evaluation of whether it interferes with maintenance in another state should be limited to evaluation of areas subject to the requirements of section 175A.

Regardless of designation, any area may violate the NAAQS if emissions affecting air quality in that area are not adequately controlled. The court in *North Carolina* was specifically concerned with such areas when it rejected the view that "a state can never 'interfere with maintenance' unless the EPA determines that at one point it 'contribute[d] significantly to nonattainment.'" 531 F.3d at 910. The court pointed out that areas barely attaining the standard due in part to emissions from upwind sources would have "no recourse" pursuant to such an interpretation. *Id.* Accordingly, the court instructed the EPA to give "independent significance" to the maintenance prong of CAA section 110(a)(2)(D)(i)(I) by separately identifying such downwind areas for purposes of defining states' obligations pursuant to the good neighbor provision.

In areas that are currently measuring clean data with respect to the 2008 ozone NAAQS, these measurements can be driven by a number of factors, including recent meteorology that is not conducive to ozone formation. Due to the variable nature of meteorology, the fact that such areas are currently attaining the standard does not address whether the areas might struggle to maintain the standard in the future, which was precisely the issue raised in *North Carolina*. The EPA's approach to defining maintenance receptors directly responds to these concerns raised by the D.C. Circuit in *North Carolina*. Thus, although the EPA has considered recent monitored data for purposes of identifying nonattainment receptors in this rulemaking, it does not believe the data should inform the agency's identification of maintenance receptors.

b. *Step 2.* The original CSAPR used a screening threshold of one percent of the NAAQS[77] to identify upwind states that were "linked" to downwind air pollution problems. States were identified as needing further evaluation for actions to address transport if their air quality impact was greater than or equal to one percent of the NAAQS for at least one downwind problem receptor (*i.e.,* nonattainment or maintenance receptor identified in step 1). For ozone, the impacts include those from total emissions within the state of anthropogenic volatile organic compounds (VOC) and NO_X from all sectors. The EPA evaluated a given state's contribution based on the average relative downwind impact calculated over multiple days. States whose air quality impacts to all downwind problem receptors were below this threshold did not require further evaluation for actions to address transport—that is, these states were determined to make insignificant contributions to downwind air quality problems and therefore have no emission reduction obligations under the good neighbor provision. The EPA used this threshold because it determined that much of the ozone nonattainment problem in the eastern half of the United States results from collective impacts of relatively small contributions from a number of upwind states. Use of the one percent threshold for CSAPR is discussed in the preambles to the proposed and final CSAPR rules. *See* 75 FR 45237 (Aug. 2, 2010); 76 FR 48238 (Aug. 8, 2011).

The EPA is using the same approach for identifying states that are linked to downwind nonattainment and maintenance receptors in this final rule because the EPA's analysis shows that much of the ozone nonattainment problem being addressed by this rule is still the result of the collective impacts of relatively small contributions from many upwind states. Therefore, application of a uniform threshold helps the EPA to identify those upwind states that should share responsibility for addressing the downwind nonattainment and maintenance problem to which they collectively contribute. Continuing to use one percent of the NAAQS as the screening metric to evaluate collective contribution from many upwind states also allows the EPA (and states) to apply a consistent framework to evaluate interstate emission transport under the "good neighbor" provision from one NAAQS to the next. Accordingly, the EPA has applied an air quality screening threshold calculated as one percent of the 2008 ozone NAAQS, 0.75 ppb, to identify those states "linked" to downwind nonattainment and maintenance receptors with respect to the 2008 ozone NAAQS which require further analysis to identify potential emission reductions. Consistent with the EPA's findings in the original CSAPR, the agency has determined that states with contributions to all downwind nonattainment and maintenance receptors below this threshold make insignificant contributions to downwind air quality problems and therefore have no emission reduction obligations under the good neighbor provision with respect to the 2008 ozone NAAQS. Application of step 2 is described in section V.

Comment: Some commenters supported the continued use of an air quality screening threshold of one percent of the NAAQS to identify upwind states requiring further analysis. However, some commenters opposed the use of the proposed one percent threshold because the commenters claim that the EPA had not technically demonstrated that continued use of the one percent screening metric is appropriate for linking an upwind state to a downwind nonattainment or maintenance receptor with respect to the 2008 ozone NAAQS. Some commenters believed that use of the one percent threshold was too stringent given that the proposed rule only focuses on emission reductions from one sector, EGUs. Other commenters believed that one percent (0.75 ppb) was not stringent enough, and they recommended using a lower value such as 0.5 ppb.

Response: The EPA continues to believe that it is appropriate to use a threshold of one percent of the NAAQS for identifying states which merit further analysis to determine if emission reductions may be warranted. The EPA has consistently determined in past analyses conducted for the NO_X SIP Call, CAIR, and CSAPR that ozone nonattainment problems generally result from relatively small contributions from many upwind states, along with contributions from in-state sources and in some cases, substantially larger

[77] *See* section IV.B for a discussion of the Supreme Court's consideration of the one percent threshold.

contributions from a subset of particular upwind states.[78]

The EPA determined that it is appropriate to use a low air quality threshold when analyzing states' collective contributions to downwind nonattainment and maintenance for ozone as well as $PM_{2.5}$.

To further support the EPA's evaluation of the appropriate screening threshold to use for this purpose, the EPA compiled the contribution modeling results from the air quality modeling conducted for this rule in order to analyze the impact of different possible thresholds. The EPA notes that similar contribution modeling data were available for comment in the docket for the proposed CSAPR Update. This compiled analysis demonstrates the reasonableness of continuing to use one percent as an air quality threshold to account for the combined impact of relatively small contributions from many upwind states. *See* the Air Quality Modeling Technical Support Document for the Final Cross-State Air Pollution Rule Update (AQM TSD). For each of the ozone receptors identified in the final CSAPR Update rule analysis, the EPA identified: (1) The total upwind state contributions, and (2) the amount of the total upwind state contribution that is captured at one percent, five percent, and half (0.5) percent of the NAAQS. The EPA continues to find that the total collective contribution from upwind states' sources represent a significant portion of the ozone concentrations at downwind nonattainment and maintenance receptor locations. This analysis shows that the one percent threshold generally captures a substantial percentage of the total pollution transport affecting downwind states without also implicating states that contribute insignificant amounts.

In response to commenters who advocated for a lower threshold, the EPA observes that the analysis shows that a lower threshold would result in relatively modest increases in the overall percentage of ozone pollution transport captured relative to the amounts captured at the one percent level at a majority of the receptors. A lower percent threshold could lead to emission reduction responsibilities in additional states that individually have a relatively small impact on those receptors, compared to other upwind states — an indicator that emission controls in those states are likely to have a smaller air quality impact at the downwind receptor.

In response to commenters who advocated for a higher threshold, the EPA observes that the analysis of a 5 percent threshold shows that a higher threshold would result in a relatively large reduction in the overall percentage of ozone pollution transport captured relative to the amounts captured at the one percent level at a majority of the receptors. In fact, at a 5 percent threshold there would not be any upwind states linked to the nonattainment and maintenance receptors in Texas.

As a result of our analyses of higher and lower thresholds, as described in the AQM TSD, the agency is not convinced that selecting a threshold below one percent or above one percent is necessary or desirable.

Comment: Some commenters suggested more specifically that a 0.5 ppb threshold would be more appropriate for upwind states contributing to downwind receptors in Texas. The commenters note that the lower threshold will add more states in the rule and address more of the maximum combined upwind state impacts to Texas' receptors.

Response: The EPA agrees that a lower threshold of 0.5 ppb would capture more of the upwind states that contribute to Texas receptors. However, the contribution of upwind state interstate transport to receptors in Texas is less than the upwind state interstate transport contribution identified for other downwind nonattainment and maintenance receptors in this rule. Therefore, the potential ozone reductions that would result from including additional upwind states are relatively small. The EPA believes it is therefore reasonable to use a uniform threshold for all states included in this rule.

c. *Step 3.* For states that are linked in step 2 to downwind air quality problems, the original CSAPR evaluated emission reductions available in upwind states by application of uniform levels of control stringency, represented by cost. The EPA evaluated NO_X reductions that were available in upwind states by applying uniform levels of control stringency to entities in these states. For each uniform level of control stringency evaluated, the EPA used a multi-factor test to evaluate cost, NO_X reduction potential, and downwind air quality impacts. This multi-factor test was used to select a uniform level of control stringency on the remaining allowable emissions—those available after reducing significant contribution to nonattainment or interference with maintenance of a NAAQS downwind. The use of uniform control stringency also reasonably apportions upwind responsibility among linked upwind states. This approach was upheld by the Supreme Court in *EPA* v. *EME Homer City Generation.*[79]

In this final rule, the EPA applies this approach to establish EGU NO_X emission budgets that reflect NO_X reductions necessary to reduce interstate ozone transport for the 2008 NAAQS. In this process, the EPA also explicitly evaluates whether the budget quantified for each state would result in over-control, as required by the Supreme Court and the D.C. Circuit.[80] Specifically, the multi-factor test is used to evaluate whether an upwind state is linked solely to downwind air quality problems that are resolved at a given uniform control stringency, or if upwind states reduce their emissions at a given uniform control stringency such that contributions from sources in the state no longer meet or exceed the one percent air quality contribution threshold. This evaluation of cost, NO_X reductions, and air quality improvements, including consideration of potential over-control, results in the EPA's quantification of upwind emissions that significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS downwind. The EPA's assessment of significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS and our development of EGU NO_X ozone season emission budgets is described in section VI of this document.

Comment: Some commenters claim that the CSAPR framework requires the same remedy for states linked solely to maintenance receptors as it does for states linked to nonattainment receptors and these commenters suggested that states linked solely to maintenance problems should have a different, less stringent requirement. These commenters contend that, as a result, the EPA has failed to given independent significance to the "interfere with maintenance" clause of CAA section 110(a)(2)(D)(i)(I) as compared to the "significant contribution" clause of that provision. The commenters contend that it constitutes over-control to impose budgets based on the same uniform control stringency to address both states that interfere with maintenance of the NAAQS in downwind states and those

[78] *See* NO_X SIP Call, 63 FR 57356, 57375–377 (October 27, 1998); CAIR, 70 FR 25162, 25172 & 25186 (May 12, 2005); CSAPR, 76 FR 48208, 48236–237 (August 8, 2011).

[79] *EPA* v. *EME Homer City Generation, L.P.*, 134 S. Ct. at 1606–07.

[80] *Id.* at 1608; *EME Homer City II*, 795 F.3d at 127.

that significantly contribute to nonattainment in downwind states. The commenters cite the Supreme Court's opinion in *EPA* v. *EME Homer City Generation,* explaining that the EPA may only limit emissions "by just enough to permit an already-attaining State to maintain satisfactory air quality." 134 S. Ct. at 1604 n.18.

Response: The EPA disagrees with these comments. The CSAPR framework gives independent meaning to the "maintenance" prong of CAA section 110(a)(2)(D)(i)(I) as required by D.C. Circuit's decision in *North Carolina.* By identifying those downwind areas that are at risk of exceeding the NAAQS if historical meteorology conducive to ozone formation occurs again, the EPA thereby defines upwind states linked to these areas as having a transport obligation.[81] In its decision, on remand from the Supreme Court, the D.C. Circuit confirmed that the EPA's approach to identifying maintenance receptors in CSAPR comported with the court's prior instruction to give independent meaning to the "interfere with maintenance" prong in the good neighbor provision. *EME Homer City II,* 795 F.3d at 136. The EPA's analysis indicates that the maintenance receptors identified in this rulemaking are at risk of NAAQS violations and therefore should be afforded protection.

CAA section 110(a)(2)(D)(i)(I) requires that state implementation plans, or the EPA where such plans are insufficient, prohibit emissions which will interfere with maintenance of the NAAQS in downwind states. Once the EPA identifies maintenance receptors, the EPA is compelled by the CAA to prohibit emissions that would jeopardize the ability of these receptors to maintain the standard. Put another way, it would be inconsistent with the CAA for the EPA to identify receptors that are at risk of NAAQS violations given certain conditions due to transported upwind emissions and then not prohibit the emissions that place the receptor at risk.

Moreover, the Supreme Court has acknowledged that the "interfere with maintenance" clause of the good neighbor provision is ambiguous with respect to how the EPA should quantify and allocate the emission reduction obligations for states linked to downwind maintenance concerns. The Supreme Court clearly stated that "[n]othing in *either* clause of the Good Neighbor Provision provides the criteria by which EPA is meant to apportion responsibility." *EPA* v. *EME Homer City Generation, L.P.,* 134 S. Ct. at 1604 n.18 (emphasis in original). Thus, the EPA is afforded deference to develop an appropriate application of this requirement so long as it is a "permissible construction of the statute." *Chevron, U.S.A., Inc.* v. *NRDC, Inc.,* 467 U.S. 837, 843, 104 S. Ct. 2778, 2782 (1984). The Supreme Court held that it was a permissible interpretation of the statute to apportion responsibility for states linked to nonattainment receptors considering "both the magnitude of upwind States' contributions and the cost associated with eliminating them." *EPA* v. *EME Homer City Generation, L.P.,* 134 S. Ct. at 1606. It is equally reasonable and permissible to use these factors to apportion responsibility among upwind states linked to maintenance receptors because the goal in both instances is to prohibit the "amounts" of pollution that will either significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind. The EPA's contribution analysis demonstrates that the amounts of pollution prohibited through implementation of the budgets finalized in this rule will, under certain projected conditions, otherwise contribute to downwind nonattainment and interfere with maintenance of the 2008 ozone NAAQS in downwind states.

All of that being said, contrary to the commenters' contention, the CSAPR framework does not necessarily dictate that upwind states linked solely to maintenance receptors be subject to the same level of NO_X control stringency as upwind states linked to nonattainment receptors. Rather, the selection of NO_X control stringency is in part informed by the difficulty of resolving the identified downwind air quality problem to which each state is linked. (*See* the components, including air quality considerations, of the multi-factor test described in section VI.D.)The data and analysis for the CSAPR Update show that the maintenance-only receptors generally represent less severe air quality problems than the nonattainment receptors. Specifically, in the final CSAPR Update modeling, maintenance-only receptors have an average maximum design value that is 1.9 ppb above the 2008 ozone NAAQS while nonattainment receptors have an average maximum design value that is 3.1 ppb above the NAAQS. As described in section VI.D, the specific emission reduction obligation for each state is limited by the amount of air quality improvement needed to either attain or maintain the NAAQS at the particular receptor to which the state's emissions are linked. These data therefore demonstrate that states linked to maintenance-only receptors would generally have a lesser emission reduction obligation than states linked to nonattainment receptors, but for the partial nature of this rule.

The original CSAPR rulemaking provides an example of this differentiation of control stringency based on the severity of downwind air quality problems. In that rulemaking, some states reduced their significant contribution of SO_2 for purposes of addressing downwind $PM_{2.5}$ nonattainment and maintenance problems at a lower uniform cost control stringency, while other states needed to comply with budgets calculated at a higher uniform control stringency in order to resolve their transport obligations.[82]

In the case of a full solution, which EPA is not promulgating in this action, a similar differentiation in the level of control stringency may emerge between the upwind states linked solely to maintenance and the upwind states linked to nonattainment. However, given the unique circumstances of this rulemaking and the need to obtain emission reductions on a tight timeframe in order to assist downwind states with meeting the downwind 2018 attainment deadline, the EPA is only quantifying a subset of each state's emission reduction obligation pursuant to the good neighbor provision. The EPA's analysis shows that even when all the emission reductions required by this rule are in place, both attainment and maintenance problems at downwind receptors may remain, and the EPA will need to evaluate whether the upwind states' emission reduction obligations should be more stringent considering other factors not addressed by this rule, including control strategies that can be implemented on a longer timeframe or by other source categories. Thus, the commenters are incorrect to state that the EPA is necessarily imposing the same remedy (in the form of the same level of control stringency) for states linked only to maintenance-only receptors as those linked to nonattainment receptors by way of applying the CSAPR framework. It is only due to the partial nature of the remedy provided by this rule that the EPA is finalizing a single uniform level of control stringency for all CSAPR Update states.

[81] 531 F.3d 896, 910–911 (D.C. Cir. 2008) (noting that the EPA's failure to separately address maintenance problems under CAIR "unlawfully nullifies that aspect of the statute and provides no protection for downwind areas that, despite the EPA's predictions, still find themselves struggling to meet NAAQS due to upwind interference").

[82] 76 FR at 48257–259.

d. *Step 4.* Finally, the original CSAPR used allowance trading programs to implement the necessary emission reductions represented by the emission budgets identified in step 3. Emission allowances were issued to units covered by the trading program, and each covered unit can then retain and/or acquire however many allowances are needed to cover its ozone season NO_X emissions over the course of each control period; however, because the total number of allowances issued in each period is limited to the sum of the states' emission budgets, total emissions across all affected EGUs are similarly limited such that overall emissions are controlled. Additionally, the original CSAPR included variability limits, which define the amount by which collective emissions within a state may exceed the level of that state's budget in a given control period to account for variability in EGU operations while still ensuring that the necessary emission reductions are achieved in each state. The variability limits for the CSAPR NO_X ozone season trading program is 21 percent of each state's budget. CSAPR set assurance levels equal to the sum of each state's emission budget plus its variability limit. The original CSAPR included assurance provisions that would require additional allowance surrenders in the instance that emissions in the state exceed the state's assurance level. This limited interstate trading approach is responsive to previous court decisions.[83] *See* discussion in section VII of this preamble. The EPA is applying this same approach to implement reductions in interstate transport for the 2008 ozone NAAQS in the CSAPR Update. Implementation of the CSAPR Update allowance trading program (CSAPR NO_X ozone season Group 2) is described in section VII of this final rule. This new program is substantially similar to the existing CSAPR NO_X ozone season program.

Comment: Some stakeholders have observed that a subset of existing post-combustion EGU NO_X controls (*e.g.,* SCR) may not have operated in recent years because CAIR or CSAPR allowance prices were below the operating costs of the controls. These commenters suggest that, accordingly, CAIR or CSAPR did not achieve optimal environmental protection, as identified by requiring existing controls to operate.

Response: Regional allowance trading programs set a limit on the overall amount of allowable emissions. This limit reflects a reduction from uncontrolled emission levels and compliance is demonstrated through an allowance trading program that allows regulated entities the flexibility to determine their own compliance path. In states that participated in both CAIR and CSAPR ozone season programs, summer NO_X emissions dropped by 20 percent from 2009 to 2015, and compliance was demonstrated nearly 100 percent of the time due to rigorous emissions monitoring and allowance tracking. These outcomes, combined with air quality improvements, demonstrate the environmental achievements of these programs. The EPA notes that the allowance prices were low because of significant emission reductions that took place by other means (*e.g.,* new low-emitting generating capacity coming online that replaced older, higher emitting generation as well as EGU retirements). These other means significantly reduced emissions and helped the power sector meet the CAIR and CSAPR emission budgets without relying on the use of allowances. In light of these and other dramatic reductions in power sector pollution, the supply of CAIR and CSAPR allowances rose and their prices fell. In this case, certain utilities appear to have turned off their emission controls, relying instead on purchased allowances. The EPA notes, however, that in this case, the overall net effect of these activities has been a significant reduction in emissions. The EPA expects that certain aspects of this final rule will alleviate some of these concerns about allowance prices. In particular, this action establishes new emission budgets to address the more stringent 2008 ozone NAAQS that are calculated based on a uniform cost that is reflective of, among other things, operating existing controls. *See* section VI in this preamble on EGU NO_X reductions and emission budgets.

4. Partial Versus Full Resolution of Transport Obligation

Given the unique circumstances surrounding the implementation of the 2008 ozone standard that have delayed state and the EPA's efforts to address interstate transport, at this time the EPA is focusing its efforts on the immediately available and cost-effective emission reductions that are achievable by the 2017 ozone season.

This rulemaking establishes (or revises currently established) FIPs for 22 eastern states under the good neighbor provision of the CAA. These FIPs contain requirements for EGUs in these states to reduce ozone season NO_X emissions beginning with the 2017 ozone season. As noted in section VI, the EPA has identified important EGU emission reductions that are cost-effective and achievable by the 2017 ozone season in the covered states through actions such as turning on and operating existing pollution controls. These readily available emission reductions will assist downwind states in attaining and maintaining the 2008 ozone NAAQS and will provide human health and welfare benefits through reduced exposure to ground-level ozone pollution.

While these reductions are necessary to assist downwind states in attaining and maintaining the 2008 ozone NAAQS, and are necessary to address good neighbor obligations for these states, the EPA acknowledges that they may not be sufficient to fully address these states' good neighbor obligations.[84] With respect to the 2008 ozone standard, the EPA has generally not attempted 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, the EPA believes that implementation of a full remedy that includes emission reductions from EGUs as well as other sectors may not be achievable for 2017. However, a partial remedy is achievable for 2017 and therefore this rule focuses on these more immediately available reductions.

To evaluate full elimination of a state's significant contribution to nonattainment or interference with maintenance, non-EGU ozone season NO_X reductions and further EGU reductions that are achievable after 2017 should be considered. The EPA did not quantify non-EGU emissions reductions to address interstate ozone transport for the 2008 ozone NAAQS at this time because: (1) There is greater uncertainty in the non-EGU emission inventory estimates than for EGUs; and (2) based on current knowledge, there appear to be few non-EGU reductions that could be accomplished by the beginning of the 2017 ozone season. This is discussed further in section VI. Commenters generally agreed with the EPA that non-EGU emission reductions are not readily available for the 2017 ozone season but advocated that such reductions should

[83] *North Carolina,* 531 F.3d at 907–08 (EPA "must include some assurance that it achieves something measurable towards the goal of prohibiting sources 'within the State' from contributing to nonattainment or interfering with maintenance in 'any other State'.").

[84] The requirements for one state, Tennessee, will fully eliminate that state's significant contribution to downwind air quality problems.

be included as appropriate in future mitigation actions.

Because the reductions in this action are EGU-only and because the EPA has focused the policy analysis for this action on reductions available by the beginning of the 2017 ozone season, CSAPR update reductions will represent, for most states, a first, partial step to addressing a given upwind state's significant contribution to downwind air quality impacts for the 2008 ozone NAAQS. Generally, a final determination of whether the EGU NO_X reductions quantified in this rule represent a full or partial elimination of a state's good neighbor obligation for the 2008 NAAQS is subject to an evaluation of the contribution to interstate transport from non-EGUs and further EGU reductions that are achievable after 2017. However, the EPA believes that it is beneficial to implement, without further delay, EGU NO_X reductions that are achievable in the near term. The NO_X emission reductions in this final rule are needed (although they may not be all that is needed) for these states to eliminate their significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS.

Comment: Several commenters questioned whether the CAA authorizes the EPA to implement a "partial" remedy, and also suggested that the partial nature of the proposed rule might "circumvent" prior courts' instructions regarding over-control. Those commenters note that the statute does not describe a process for issuing a partial FIP, and suggest that the EPA may only issue a FIP that fully eliminates transported contribution from upwind States. These commenters also imply that the Supreme Court's approval of the EPA's use of costs in defining "significant contribution" in *EME Homer City* does not apply to the agency's approach in this rule because the commenters claim that "CSAPR was a transport rule that developed comprehensive state budgets [and][t]his proposed rule only addresses EGUs."

Other commenters were concerned that the EPA is not meeting its statutory obligation to develop federal implementation plans that fully resolve downwind transport problems. These commenters argue that the EPA's own delay in preparing a rule to resolve interstate transport with respect to the 2008 ozone NAAQS caused the tight timeline now faced by the agency, and cannot be used as an excuse for failing to promulgate a full remedy by 2017. In the alternative, commenters argue that even if time constraints only allow the EPA to impose a partial remedy by the 2017 ozone season, the agency must provide a plan now for how it will achieve the rest of the necessary reductions in the future, and suggests the agency could do so by implementing a second implementation phase to go into effect after the 2017 ozone season.

Response: The EPA disagrees with commenters who suggest that the agency lacks authority to promulgate a partial FIP. As described in section III, the EPA's current statutory deadlines to promulgate FIPs extend until 2017 and 2018 for most states, and the EPA will remain mindful of those deadlines as it evaluates what further steps may be necessary to fully address interstate transport for the 2008 ozone NAAQS.

Nothing in section 110(c)(1) of the CAA suggests that the agency is barred from taking a partial step at this time (before its FIP deadline has passed), nor does the statutory text indicate Congress' intent to preclude the EPA from tackling this problem in a step-wise process. The D.C. Circuit has held on numerous occasions that agencies have the authority to tackle problems in an incremental fashion, particularly where a lack of resources or technical expertise make it difficult to immediately achieve the statute's full mandate. *See, e.g., Grand Canyon Air Tour Coal.* v. *FAA,* 154 F.3d 455, 478 (D.C. Cir. 1998); *City of Las Vegas* v. *Lujan,* 891 F.2d 927, 935 (D.C. Cir. 1989) ("'[A]gencies have great discretion to treat a problem partially . . .' [and a] court will not strike down agency action 'if it were a first step toward a complete solution.'"); *Gen'l Am. Transp. Corp.* v. *ICC,* 872 F.2d 1048, 1059 (D.C. Cir. 1989); *Nat'l Ass'n of Broadcasters* v. *FCC,* 740 F.2d 1190, 1209–14 (D.C. Cir. 1984).

As explained previously, the EPA expects that a full resolution of upwind transport obligations would require emission reductions from sectors besides EGUs, including non-EGUs, and further EGU reductions that are achievable after 2017. Given the approaching July 2018 attainment deadline for the 2008 ozone NAAQS, developing a rule that would have covered additional sectors and emission reductions on longer compliance schedules would have required more of the EPA's resources over a longer rulemaking schedule to fully address. As discussed earlier in this document, the EPA is still in the process of developing information regarding available emission reductions from non-EGUs. Had the EPA waited to promulgate FIPs until that information was fully developed, we could not have assured emission reductions by 2017, in time to assist downwind states to meet the July 2018 attainment deadline. Accordingly, the EPA reasonably concluded that it was most prudent to promulgate a first step to address interstate transport for the 2008 ozone NAAQS that achieves those immediate reductions while addressing any remaining obligation that might be achievable on a longer timeframe in a separate rulemaking. The EPA intends to continue to collect information and undertake analyses for potential future emission reductions at non-EGUs that may be necessary to fully quantify states' interstate transport obligations in a future action.

The EPA further disagrees with commenters that its partial step here runs afoul of the Supreme Court and D.C. Circuit's instructions to avoid unnecessary over-control of upwind state emissions. As acknowledged by these commenters, due to its limited nature, this final action does not generally fully resolve downwind air quality problems, much less result in over-control of upwind state emissions relative to those air quality problems. *See* section VI for further discussion of the EPA's over-control analysis applied to address these courts' concerns. To the extent the EPA determines that it must require additional emission reductions in a later rulemaking to address interstate transport with respect to the 2008 ozone NAAQS, the EPA will also confirm that such reductions do not result in unnecessary over-control, consistent with the courts' instructions.

The EPA also disagrees that the Supreme Court's affirmation of its use of uniform control stringency to define significant contribution does not apply equally to this action. The commenters are mistaken insofar as they suggest that the original CSAPR regulated sources other than EGUs. This rule is identical to the original CSAPR rule in terms of the form of its remedy—an emission budget issued to each state, with allowances allocated to EGUs within the state. As in the original CSAPR, each state is free to submit a SIP to replace the FIP indicating that it will meet its emission budget via reductions from other sectors.

Furthermore, the EPA took a similar partial approach in quantifying interstate transport obligations with respect to the 1997 ozone NAAQS in the original CSAPR rulemaking. In that rule, the EPA's modeling indicated that there would be persistent nonattainment and maintenance problems at some receptors even after imposition of CSAPR's emission reductions. The EPA stated that, because additional emission reductions may be available at higher cost thresholds and from other sectors, such as non-EGUs, the emission

reductions quantified in the rule did not necessarily fully quantify certain states' interstate transport obligation with respect to the 1997 ozone NAAQS.[85] Therefore, for states linked to those receptors, the agency concluded that its FIP provided a partial remedy, and that more emission reductions might be required in order to fully satisfy the states' transport obligations. As discussed later, this action now concludes that the EPA has fulfilled its FIP obligation with respect to the 1997 ozone NAAQS.

Finally, the EPA disagrees with commenters who suggest that the agency's "own delay" in implementing a transport rule to address the 2008 ozone NAAQS led to the current circumstances the states and the EPA now face. Until mid-2014 when the Supreme Court reversed the D.C. Circuit's original vacatur of CSAPR, the governing judicial holding was that the EPA lacked legal authority to promulgate any FIP addressing 2008 ozone transport obligations until the agency first quantified each state's emission reduction obligation, allowed states time to submit SIPs, and acted on those SIPs.[86] In July 2015, the D.C. Circuit issued its final decision generally upholding CSAPR, albeit subject to remand without vacatur of certain state budgets for reconsideration. The agency then proceeded on an expedited basis to issue a proposal to address its FIP obligation with respect to the 2008 ozone NAAQS in the fall of 2015. While commenters and the EPA may agree that it would be best if a full remedy could be possible by the 2017 ozone season such that downwind areas would receive those benefits in time for their Moderate area attainment deadlines, such a remedy simply is not feasible in the existing timeframe.

As noted previously, CAA section 110(c)(1) directs the EPA to promulgate a FIP "at any time within two years" of its disapproval or finding of failure to submit. For the majority of states affected, that timeframe will not end until 2017 or later, and as mentioned previously, *North Carolina* compels the EPA to identify upwind reductions and implementation programs to achieve these reductions by the 2017 ozone season. As the EPA has explained, it believes that reductions from other sectors besides EGUs should be evaluated in developing a full remedy, and the agency does not have sufficient information at this time to promulgate such a rule. Therefore, given these circumstances, the agency maintains that only requiring at this time necessary and achievable reductions by the 2017 ozone season is reasonable.

5. Why Focus on Eastern States

The final CSAPR Update focuses on collective contributions of ozone pollution from states in the east. In this action, the EPA is not addressing interstate emission transport in this action for the 11 western contiguous United States.[87] The CSAPR framework builds on previous eastern-focused efforts to address collective contributions to interstate transport, including the NO_X Budget Trading Program, CAIR, and the original CSAPR rulemaking. However, for western states, the EPA believes that there may be geographically specific factors to consider in evaluating interstate ozone pollution transport. Accordingly, given the need for near-term 2017 analysis and implementation of the CSAPR Update FIPs, the EPA focused this rulemaking on eastern states where the CSAPR method for assessing collective contribution has proven effective.

The EPA did not propose CSAPR Update FIPs to address interstate emission transport for western states and it is not finalizing FIPs for any of these states. However, the EPA notes that western states are not relieved of their statutory obligation to address interstate transport under the section 110(a)(2)(D)(i)(I). The EPA and western states, working together, are continuing to evaluate interstate transport obligations on a case-by-case basis. The EPA will fulfill its backstop role with respect to issuing FIPs for western states if and when that becomes necessary. The EPA notes that a 2-year FIP clock has started for New Mexico and California following the July 13, 2015 finding of failure to submit. The EPA notes that analyses developed to support this rule, including air quality modeling and the EPA's assessment of EGU NO_X mitigation potential, contain data that can be useful for western states in developing SIPs. The data from these analyses are available in the docket for this rulemaking.[88]

The proposed CSAPR Update solicited comment on whether to promulgate FIPs to address interstate ozone transport for the 2008 ozone NAAQS for western states, either in this rulemaking or in a subsequent rulemaking. Most commenters generally agreed with the EPA's proposal to exclude western states in this rule given that there may be geographically specific factors to consider in evaluating western states' interstate transport requirements.

6. Short-Term NO_X Emissions

In eastern states, the highest measured ozone days tend to occur within the hottest days or weeks of the summer. There tends to be a higher demand for electricity (for instance, to power air conditioners) on hotter days and with this increased power demand, ozone formation can increase causing peak ozone days. In discussions with representatives and officials of eastern states in April 2013 and April 2015, and in several letters to the EPA, officials from states that are part of the Ozone Transport Region (OTR)[89] states suggested that EGU emissions transported from upwind states may disproportionally affect downwind ozone concentrations on peak ozone days in the eastern U.S. These representatives asked that the EPA consider additional peak day limits on EGU NO_X emissions.

Comment: The proposed CSAPR Update took comment on whether or not short-term (*e.g.,* peak-day) EGU NO_X emissions disproportionately impact downwind ozone concentrations and, if they do, what EGU emission limits would be reasonable complements to the seasonal CSAPR requirement. Most commenters requested that the EPA not impose a short-term limit at this time.

Response: As noted previously,[90] the EPA finds that NO_X ozone season trading programs are effective at reducing peak ozone concentrations, and the agency is therefore continuing with a seasonal approach in this final rule. The EPA will continue to look at this matter with an eye towards future rulemakings.

C. Responding to the Remand of CSAPR NO_X Ozone Season Emission Budgets

As noted previously, in *EME Homer City II,* the D.C. Circuit declared invalid the CSAPR phase 2 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. 795 F.3d at 129–30, 138. As to ten of these

[85] 76 FR 48208, 48256–57 (August 8, 2011).

[86] *EME Homer City Generation, L.P.* v. *EPA,* 696 F.3d 7, 31 (D.C. Cir. 2012).

[87] For purposes of this action, the western U.S. (or the West) consists of the 11 western contiguous states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[89] The OTR was established by the CAA amendments of 1990 to facilitate addressing the ozone problem on a regional basis and consists of the following states, or portions thereof: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, the District of Columbia and northern Virginia. 42 U.S.C. 7511c, CAA section 184.

[90] *See* Section IV.A.1.

states, the court held that the EPA's 2014 modeling conducted to support the RIA for CSAPR demonstrated that air quality problems at the downwind locations to which those states were linked would resolve by phase 2 of the CSAPR program without further transport regulation (either CAIR or CSAPR). *Id.* at 129–30. With respect to Texas, the court held that the record reflected that the ozone air quality problems to which the state was linked could be resolved at a lower cost threshold. *Id.* The court therefore remanded those budgets to the EPA for reconsideration consistent with the court's opinion. *Id.* at 138. The court instructed the EPA to act "promptly" in addressing these issues on remand. *Id.* at 132.

The court's decision explicitly applies to 11 state budgets involved in that litigation: Florida, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia. *Id.* at 129–30, 138. The EPA is finalizing FIPs for eight of those states to address interstate transport with respect to the 2008 ozone NAAQS: Maryland, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, and West Virginia. The FIPs incorporate revised emission budgets that replace the budgets promulgated in the CSAPR rule to address the 1997 ozone NAAQS, the same budgets remanded by the D.C. Circuit for reconsideration. Further, in this rule, these budgets will be effective for the 2017 ozone season, the same period in which the phase 2 budgets that were invalidated by the court are currently scheduled to become effective. Therefore, this action provides an appropriate and timely response to the court's remand by replacing the phase 2 budgets promulgated in the CSAPR to address the 1997 ozone NAAQS, which were declared invalid by the D.C. Circuit, with budgets developed to address the revised and more stringent 2008 ozone NAAQS.[91]

For the three remaining original CSAPR ozone season states affected by this portion of the *EME Homer City II* decision, Florida, North Carolina, and South Carolina, the EPA is not finalizing FIPs because the EPA's analysis performed to support the final rule does not indicate that these states are linked to any identified downwind nonattainment or maintenance receptors with respect to the 2008 ozone standard. Because the 2008 ozone NAAQS is more stringent than the 1997 ozone NAAQS, this modeling necessarily indicates that Florida, North Carolina, and South Carolina are also not linked to any remaining air quality concerns with respect to the 1997 ozone standard for which the states were regulated in the original CSAPR. Accordingly, in order to address the Court's remand with respect to these three states' interstate transport responsibility under the 1997 ozone standard, the EPA is removing these states from the CSAPR ozone season trading program beginning in 2017 when the phase 2 ozone season emission budgets were scheduled to be implemented.[92]

Comment: Some commenters contend that the D.C. Circuit's remand of the phase 2 ozone season emission budgets in *EME Homer City II* requires the EPA to calculate new budgets to address the states' transport obligations with respect to the 1997 ozone NAAQS. These commenters contend that the EPA has not fully responded to the court's remand until it quantifies new budgets.

Response: As described earlier, the D.C. Circuit remanded 10 of CSAPR's ozone season NO_X budgets because the EPA's 2014 modeling conducted to support the RIA for CSAPR demonstrated that air quality problems at the downwind locations to which those states were linked would resolve by phase 2 of the CSAPR program without further transport regulation. The court essentially found that, by phase 2 of the CSAPR program, the CSAPR record did not support the EPA's authority to require emission reductions from these 10 states in order to address the 1997 ozone NAAQS. Thus, absent any new analysis demonstrating that these states are linked to downwind air quality problems with respect to the 1997 ozone NAAQS, the EPA does not have the authority to subject these states to the CSAPR NO_X ozone season emissions program beginning in 2017 and therefore does not have the authority to calculate new emission budgets for these states to address that standard. For Florida, North Carolina, and South Carolina, the EPA is therefore relieving sources in the states from the obligation to comply with the NO_X ozone season trading program in response to the remand. For the remaining seven states, sources located in these states will no longer be subject to the phase 2 NO_X ozone season budgets calculated to address the 1997 standard; however, because these states are linked to downwind air quality problems with respect to the 2008 ozone NAAQS, the EPA is promulgating new ozone season NO_X emission budgets at 40 CFR 97.810(a). *See* also 40 CFR 52.38(b)(2)(ii) (relieving sources in all ten of these states of the obligation to comply with the remanded phase 2 NO_X ozone season emission budgets after 2016).

With respect to Texas, because the court determined that the phase 2 ozone season budget was more stringent than necessary to address Texas' interstate transport obligation with respect to the 1997 ozone NAAQS, the EPA removed Texas's budget as a constraint in the 2017 air quality modeling. Even in the absence of this constraint, the updated 2017 air quality modeling shows that the predicted average DVs and maximum DVs are below the level of the 1997 ozone NAAQS for the downwind receptors of concern to which Texas was linked in the original CSAPR rulemaking with respect the 1997 ozone NAAQS. Accordingly, the EPA has concluded that it need not require additional emission reductions from sources in Texas in order to address the state's interstate transport obligation. Thus, sources in Texas will no longer be subject to the phase 2 NO_X ozone season budget calculated to address the 1997 standard; however, because Texas is linked to downwind air quality problems with respect to the 2008 ozone NAAQS, the EPA is promulgating a new ozone season NO_X emission budget to address that standard at 40 CFR 97.810(a). *See* also 40 CFR 52.38(b)(2)(ii) (relieving sources in Texas of the obligation to comply with the remanded phase 2 NO_X ozone season emission budgets after 2016).

Separately, various petitioners filed legal challenges in the D.C. Circuit to an EPA supplemental rule that added five

[91] The methodology for developing the budgets to address the 2008 ozone NAAQS is described in more detail in Sections VI and VII in this preamble. Section VI also includes an evaluation, as instructed by the court in *EME Homer City II*, to affirm that the budgets do not over-control with respect to downwind air quality problems identified in this rule. 795 F.3d at 127–28.

[92] One other state from the original CSAPR rulemaking, Georgia, was also not linked to any identified downwind nonattainment or maintenance receptors with respect to the 2008 ozone standard. However, when EPA promulgated the original CSAPR rulemaking, Georgia remained linked to an ongoing air quality problem with respect to the 1997 standard even after implementation of the emissions budget quantified in that rulemaking. Therefore, unlike Florida, North Carolina, and South Carolina, Georgia's budget was not subject to the same record issues identified by the D.C. Circuit related to the EPA's 2014 modeling and was not subject to remand for reconsideration. As Georgia remained linked to a continued air quality problem with respect to the 1997 ozone NAAQS in the original CSAPR analysis, the EPA retained this budget as a constraint in its analysis for this rule. Assuming compliance with that budget, the EPA determined that Georgia does not significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS downwind. The EPA has also concluded, as discussed in section IV.D, that compliance with that budget is sufficient to fully address Georgia's interstate transport obligation with respect to the 1997 NAAQS.

states to the CSAPR ozone season trading program, 76 FR 80760 (Dec. 27, 2011). *See Public Service Company of Oklahoma* v. *EPA,* No. 12–1023 (D.C. Cir., filed Jan. 13, 2012). The case was held in abeyance during the pendency of the litigation in *EME Homer City.* The case remains pending in the D.C. Circuit as of the date of signature of this rule.[93] The EPA notes that this rulemaking also promulgates FIPs for all five states added to CSAPR in the supplemental rule: Iowa, Michigan, Missouri, Oklahoma, and Wisconsin. These FIPs incorporate revised emission budgets that replace the budgets promulgated in the supplemental CSAPR rule to address the 1997 ozone NAAQS for these five states and will be effective for the 2017 ozone season. In light of the court's decision in *EME Homer City II,* the EPA examined the record supporting the CSAPR rulemaking and determined that, like the 10 states discussed earlier, the EPA's 2014 modeling conducted to support the RIA for CSAPR demonstrated that air quality problems at the downwind locations to which four of the states added to CSAPR in the supplemental rule, Iowa, Michigan, Oklahoma, and Wisconsin, were linked would resolve by phase 2 of the CSAPR program without further transport regulation (either CAIR or CSAPR). Accordingly, sources in these states will no longer be subject to the phase 2 NO_X ozone season budgets calculated to address the 1997 standard; however, because these states are linked to downwind air quality problems with respect to the 2008 ozone NAAQS, the EPA is promulgating new ozone season NO_X emission budgets at 40 CFR 97.810(a). *See* also 40 CFR 52.38(b)(2)(ii) (relieving sources in these four states of the obligation to comply with the original phase 2 NO_X ozone season emission budgets after 2016).

The D.C. Circuit also remanded without vacatur the CSAPR phase 2 SO_2 annual emission budgets for four states (Alabama, Georgia, South Carolina, and Texas) for reconsideration. 795 F.3d at 129, 138. This final rule does not address the remand of these CSAPR phase 2 SO_2 annual emission budgets. On June 27, 2016, the EPA released a memorandum outlining the agency's approach for responding to the D.C. Circuit's July 2015 remand of the CSAPR phase 2 SO_2 annual emission budgets for Alabama, Georgia, South Carolina, and Texas. The memorandum can be found at *https://www3.epa.gov/airtransport/CSAPR/pdfs/CSAPR_SO2_Remand_Memo.pdf.*

D. Addressing Outstanding Transport Obligations for the 1997 Ozone NAAQS

In the original CSAPR, the EPA noted that the reductions for 11 states may not be sufficient to fully eliminate all significant contribution to nonattainment or interference with maintenance for certain downwind areas with respect to the 1997 ozone NAAQS.[94] The 11 states are: Alabama, Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, Tennessee, and Texas. In the original CSAPR, the EPA did not require EGU NO_X reductions represented by costs that exceeded $500 per ton because it noted that, at cost thresholds higher than $500 per ton, non-EGU reductions should also be considered. Additionally, the EPA's analysis projected continued nonattainment and maintenance problems at downwind receptors to which these upwind states were linked after implementation of the CSAPR trading programs. Specifically, persistent ozone problems were expected in Baton Rouge, Louisiana; Houston, Texas; and Allegan, Michigan according to the remedy case modeling conducted for the final rule. At that time the EPA did not quantify further ozone season EGU or non-EGU NO_X reductions that would be needed in these states to fully resolve the good neighbor obligation under the CAA with respect to the 1997 ozone NAAQS.

To evaluate whether additional emission reductions would be needed in these 11 states to address the states' full good neighbor obligation for the 1997 ozone NAAQS, the EPA reviewed the 2017 air quality modeling conducted for this rule, which includes emission reductions associated with the CSAPR phase 2 ozone season budgets that were not remanded. The modeling included the phase 2 ozone season budgets for 10 of the states listed above—all but Texas. For each of these states, the updated 2017 air quality modeling shows that the predicted average DVs and maximum DVs for 2017 are below the level of the 1997 ozone NAAQS for the downwind receptors of concern to which the 11 states were linked in the original CSAPR rulemaking with respect the 1997 ozone NAAQS, meaning that these receptors no longer qualify as either nonattainment or maintenance receptors for that NAAQS. The 2017 air quality modeling also shows that there are no other nonattainment or maintenance receptors to which these states would be linked with respect to the 1997 ozone NAAQS. Thus, the EPA finds that, with implementation of the original CSAPR NO_X ozone season emission budgets in the states not subject to the remand, emissions within these ten states no longer significantly contribute to downwind nonattainment or interference with maintenance for the 1997 ozone NAAQS. Thus, the promulgation of the CSAPR NO_X ozone season budgets in those states satisfied the EPA's FIP obligation pertaining to the good neighbor provision for the 1997 ozone NAAQS. The EPA further finds that, with implementation of the CSAPR Update NO_X ozone season emission budgets, emissions from these ten states also no longer significantly contribute to downwind nonattainment or interference with maintenance for the 1997 ozone NAAQS.

Despite the EPA's conclusion in CSAPR that the 1997 ozone transport problems to which Texas was linked were not fully resolved, the court concluded in *EME Homer City II* that the ozone season emission budget finalized for Texas resulted in over-control as to the ozone air quality problems to which the state was linked. 795 F.3d at 129–30. As described earlier, in response to this determination, the EPA removed Texas's phase 2 ozone season budget as a constraint in the 2017 air quality modeling. Even in the absence of this constraint, the updated 2017 air quality modeling shows that the predicted average DVs and maximum DVs are below the level of the 1997 ozone NAAQS for the downwind receptors of concern to which Texas was linked in the original CSAPR rulemaking with respect the 1997 ozone NAAQS. Accordingly, the EPA has concluded that it need not require additional emission reductions from sources in Texas in order to address the states' interstate transport obligation with respect to the 1997 standard, and that the EPA has therefore fully addressed its FIP obligation with respect to Texas. Texas remains subject to the CSAPR Update in this final rulemaking with respect to the 2008 ozone NAAQS.

No Texas emissions were linked to expected ozone problems in Baton Rouge, Louisiana, and Allegan, Michigan. As noted previously receptors for these areas are no longer a concern for the 1997 ozone NAAQS. The EPA finds that Texas emissions no longer contribute significantly to

[93] In 2012, the EPA also finalized two rules making certain revisions to CSAPR. 77 FR 10324 (Feb. 21, 2012); 77 FR 34830 (June 12, 2012). Various petitioners filed legal challenges to these rules in the D.C. Circuit, and the cases were also held in abeyance pending the litigation in *EME Homer City. See Wisconsin Public Service Corp.* v. *EPA,* No. 12–1163 (D.C. Cir., filed Apr. 6, 2012); *Utility Air Regulatory Group* v. *EPA,* No. 12–1346 (D.C. Cir., filed Aug. 9, 2012). The cases currently remain pending in the D.C. Circuit.

[94] *See* CSAPR Final Rule, 76 FR at 48220, and the CSAPR Supplemental Rule, 76 FR at 80760, December 27, 2011.

nonattainment in, or interfere with maintenance by, any other state with respect to the 1997 ozone NAAQS. Thus, the EPA no longer has a FIP obligation pertaining to Texas emissions and the good neighbor provision for the 1997 ozone NAAQS.

V. Analyzing Downwind Air Quality and Upwind State Contributions

In this section, the agency describes the air quality modeling performed consistent with steps 1 and 2 of the CSAPR framework described earlier in order to (1) identify locations where it expects nonattainment or maintenance problems with respect to the 2008 ozone NAAQS for the 2017 analytic year chosen for this final rule, and (2) quantify the contributions from anthropogenic emissions from upwind states to downwind ozone concentrations at monitoring sites projected to be in nonattainment or have maintenance problems for the 2008 ozone NAAQS in 2017.

This section includes information on the air quality modeling platform used in support of the final rule with a focus on the base year and future base case emission inventories. The EPA also provides the projection of 2017 ozone concentrations and the interstate contributions for 8-hour ozone. The Final Rule AQM TSD in the docket for this rule contains more detailed information on the air quality modeling aspects of this rulemaking.

The EPA provided two separate opportunities to comment on the air quality modeling platform and air quality modeling results that were used for the proposed CSAPR Update. On August 4, 2015, the EPA published a Notice of Data Availability (80 FR 46271) requesting comment on these data. Specifically, in the NODA, the EPA requested comment on the data and methodologies related to the 2011 and 2017 emissions and the air quality modeling to project 2017 concentrations and contributions. In addition to the comments received via the NODA, the EPA also received comments on emissions inventories and air quality modeling in response to the proposed CSAPR Update. Comments on both the NODA and proposed rule were considered for this final rule.

A. Overview of Air Quality Modeling Platform

For the proposed rule, the EPA performed air quality modeling for three emissions scenarios: A 2011 base year, a 2017 baseline, and a 2017 control case that reflects the emission reductions expected from the rule.[95]

The EPA selected 2011 as the base year to reflect the most recent National Emissions Inventory (NEI). In addition, the meteorological conditions during the summer of 2011 were generally conducive for ozone formation across much of the U.S., particularly the eastern U.S. As described in the AQM TSD, the EPA's guidance for ozone attainment demonstration modeling, hereafter referred to as the modeling guidance, recommends modeling a time period with meteorology conducive to ozone formation for purposes of projecting future year design values [96]. The EPA therefore believes that meteorological conditions and emissions during the summer of 2011 provide an appropriate basis for projecting 2017 ozone concentrations in contributions.

As noted in section IV, the EPA selected 2017 as the projected analysis year to coincide with the attainment deadline for Moderate areas under the 2008 ozone NAAQS. The agency used the 2017 baseline emissions in its air quality modeling to identify future nonattainment and maintenance locations and to quantify the contributions of emissions from upwind states to 8-hour ozone concentrations at downwind locations. The air quality modeling of the 2017 baseline and 2017 illustrative control case emissions are used to inform the agency's assessment of the air quality impacts resulting from this rule.

For the final rule modeling, the EPA used the Comprehensive Air Quality Model with Extensions (CAMx) version 6.20 [97] to simulate pollutant concentrations for the 2011 base year and the 2017 future year scenarios. This version of CAMx was the most recent, publicly available version of this model at the time that the EPA performed air quality modeling for this rule. CAMx is a grid cell-based, multi-pollutant photochemical model that simulates the formation and fate of ozone and fine particles in the atmosphere. The CAMx model applications were performed for a modeling region (*i.e.*, modeling domain) that covers the contiguous 48 United States, the District of Columbia, and adjacent portions of Canada and Mexico using a horizontal resolution of 12 x 12 km. A map of the air quality modeling domain is provided in the AQM TSD.

The 2011-based air quality modeling platform includes 2011 base year emissions, 2017 future year projections of these emissions, and 2011 meteorology for air quality modeling with CAMx. In the remainder of this section, the EPA provides an overview of (1) the 2011 and 2017 emissions inventories, (2) the methods for identifying nonattainment and maintenance receptors along with a list of 2017 baseline nonattainment and maintenance receptors in the eastern U.S., (3) the approach to developing metrics to measure interstate contributions to 8-hour ozone, and (4) the predicted interstate contributions of upwind states to downwind nonattainment and maintenance in the eastern U.S. The EPA also identifies which predicted interstate contributions are at or above the screening threshold described in section IV, which the agency applies in step 2 of the CSAPR framework for purposes of identifying those upwind states that are linked to downwind air quality problems and which merit further analysis with respect to regulation of interstate transport of ozone for purposes of the 2008 ozone standard.

The EPA conducted an operational model performance evaluation of the 2011 modeling platform by comparing the 8-hour daily maximum ozone concentrations predicted during the May through September "ozone season" to the corresponding measured concentrations. This evaluation generally followed the approach described in the modeling guidance. Details of the model performance evaluation are described in the AQM TSD. The model performance results indicate that the 8-hour daily maximum ozone concentrations predicted by the 2011 CAMx modeling platform reflect the corresponding 8-hour observed ozone concentrations in the 12-km U.S. modeling domain. As recommended in the modeling guidance, the acceptability of model performance was judged by considering the 2011 CAMx performance results in light of the range of performance found in recent regional ozone model applications. These other modeling studies represent a wide range of modeling analyses that cover various models, model configurations, domains, years and/or episodes, and chemical mechanisms. Overall, the ozone model

[95] The 2017 control case is relevant to the EPA's policy analysis discussed in section VI and to the benefits and costs assessment discussed in section VIII of this preamble. It is not used to identify nonattainment or maintenance receptors or quantify the contributions from upwind states to these receptors.

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

[97] Comprehensive Air Quality Model with Extensions Version 6.20 User's Guide. ENVIRON International Corporation, Novato, CA, March 2015.

performance results for the 2011 CAMx simulations are within the range found in other recent peer-reviewed and regulatory applications. The model performance results, as described in the AQM TSD, demonstrate that the predictions from the 2011 modeling platform correspond to measured data in terms of the magnitude, temporal fluctuations, and spatial differences for 8-hour daily maximum ozone. These results provide confidence in the ability of the modeling platform to provide a reasonable projection of expected future year ozone concentrations and contributions.

Comment: The EPA received comments that model performance should be evaluated for the individual days that were used in calculating projected 2017 ozone design values and projected 2017 ozone contributions. Commenters said that, in cases where model performance on these individual days is poor, the impact of the poor performance on projected concentrations and contributions must be investigated and considered in the final results by removing or adjusting these days to account for model bias.

Response: The EPA is using air quality modeling to provide data for a set of representative days with meteorological conditions conducive for ozone formation and transport for use in projecting ozone design values and for calculating the average contribution metric. As described in sections V.D and V.E of this preamble, EPA is using air quality model predictions in a relative sense for estimating 2017 ozone design values and contributions. In this regard, the approach for projecting future design values is "anchored" by measured concentrations. As stated in the modeling guidance, it is reasoned that factors causing bias (either under or over-predictions) in the base year will also affect the future case. While good model performance remains a prerequisite for use of a model, problems posed by imperfect model performance on individual days are expected to be reduced when using the relative approach. Moreover, there are no universally accepted, generally applicable numerical bright-line criteria for determining which days might be candidates to exclude or adjust based on model performance for specific days at individual sites, as in the approach suggested by the commenter. Thus, the EPA disagrees that such an approach is necessary or appropriate for determining the sets of days used to provide data for projecting 2017 design values and for calculating the average contribution metric.

The results of the model performance evaluation, as described previously and in the AQM TSD, indicate that ozone predictions from the modeling platform correspond to measured data in terms of the magnitude, temporal fluctuations, and spatial differences for 8-hour daily maximum ozone. Prior court rulings are deferential to modeling choices in this regard. The D.C. Circuit has declined to "invalidate EPA's predictions solely because there might be discrepancies between those predictions and the real world." [98] The fact that a "model does not fit every application perfectly is not criticism; a model is meant to simplify reality in order to make it tractable." [99] The court has held that "it is only when the model bears no rational relationship to the characteristics of the data to which it is applied that we will hold that the use of the model was arbitrary and capricious." [100] As demonstrated by the EPA's model performance evaluation, the modeling platform used in this rulemaking provides reasonable projections of expected future year ozone concentrations and contributions, and is thus an appropriate basis on which to base the findings made in this action.

B. Emission Inventories

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

To prepare the emission inventories for air quality modeling, the EPA processed the emission inventories using the Sparse Matrix Operator Kernel Emissions (SMOKE) Modeling System version 3.7 to produce the gridded, hourly, speciated, model-ready emissions for input to the CAMx air quality model. Additional information on the development of the emission inventories and on data sets used during the emissions modeling process for the final rule are provided in the TSD "Preparation of Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform," hereafter known as the "Final Rule Emissions Modeling TSD." This TSD is available in the docket for this rule and at *www.epa.gov/air-emissions-modeling/2011-version-6-air-emissions-modeling-platforms.*

The emission inventories, methodologies, and data used for the proposal air quality modeling were provided for public comment in the August 4, 2015 NODA. Comments received on this NODA and on the proposal were considered for the final rule and the resulting data and procedures are documented in the Final Rule Emissions Modeling TSD.

1. Foundation Emission Inventory Data Sets

The EPA developed emission data representing the year 2011 to support air quality modeling of a base year from which future air quality could be forecasted. The primary basis for the 2011 inventories used in air quality modeling was the 2011 National Emission Inventory (NEI) version 2 (2011NEIv2), released in March 2015. Documentation on the 2011NEIv2 is available in the 2011 National Emissions Inventory, version 2 TSD available in the docket for this rule and at *www.epa.gov/air-emissions-inventories/2011-national-emissions-inventory-nei-documentation.* Updates to the 2011NEIv2 were incorporated between the proposed and the final rule in response to comments received on the NODA and on the proposal. The future base case scenario modeled for 2017 includes a representation of changes in activity data and of predicted emission reductions from on-the-books actions, including planned emission control installations and promulgated federal measures that affect anthropogenic emissions.[101] The emission inventories for air quality modeling include sources that are held constant between the base and future years, such as biogenic emissions and emissions from agricultural, wild and prescribed fires. The land use data used for the computation of the biogenic emissions were updated from those used in the proposal modeling to use the 2011 National Land Cover Database (NLCD) along with other updated data sets related to forest species, elevation, and cropland data in response to comments received on the NODA. The

[98] *EME Homer City II,* 795 F.3d at 135–36.

[99] *Chemical Manufacturers Association* v. *EPA,* 28 F.3d 1259, 1264 (D.C. Cir. 1994).

[100] *Appalachian Power Co.* v. *EPA,* 135 F.3d 791, 802 (D.C. Cir. 1998).

[101] Biogenic emissions and emissions from wild fires and prescribed fires were held constant between 2011 and 2017 since (1) these emissions are tied to the 2011 meteorological conditions and (2) the focus of this rule is on the contribution from anthropogenic emissions to projected ozone nonattainment and maintenance.

base and future year emissions for Canada used for the proposed rule were held constant at 2010 levels. For the final rule, the 2010 inventories were updated to reflect closures of EGUs and reductions to onroad and nonroad mobile source emissions in 2017. Emissions for Mexico represent the year 2018 and were unchanged from the proposed rule inventories.

2. Development of Emission Inventories for EGUs

Annual NO_X and SO_2 emissions for EGUs in the 2011NEIv2 are based primarily on data from continuous emission monitoring systems (CEMS), with other EGU pollutants estimated using emission factors and annual heat input data reported to the EPA. For EGUs without CEMS, the EPA used data submitted to the NEI by the states. The final rule inventories include some updates to 2011 EGU stack parameters and emissions made in response to comments on the NODA and proposal. Between proposal and final, additional point sources in the inventory were identified as small EGUs. This resulted in increases to EGU NO_X emissions that were offset by equivalent reductions in non-EGU point source NO_X emissions in Arkansas, California, Florida, Idaho, Louisiana, Mississippi, New Hampshire, Oregon, and Texas. For more information on the details of how the 2011 EGU emissions were developed and prepared for air quality modeling, see the Final Rule Emissions Modeling TSD.

The EPA projected future 2017 baseline EGU emissions using version 5.15 of the Integrated Planning Model (IPM) (*www.epa.gov/airmarkets/power-sector-modeling*). IPM, developed by ICF Consulting, is a state-of-the-art, peer-reviewed, multi-regional, dynamic, deterministic linear programming model of the contiguous U.S. electric power sector. It provides forecasts of least cost capacity expansion, electricity dispatch, and emission control strategies while meeting energy demand and environmental, transmission, dispatch, and reliability constraints. The EPA has used IPM for over two decades to better understand power sector behavior under future business-as-usual conditions and to evaluate the economic and emission impacts of prospective environmental policies. The model is designed to reflect electricity markets as accurately as possible. The EPA uses the best available information from utilities, industry experts, gas and coal market experts, financial institutions, and government statistics as the basis for the detailed power sector modeling in IPM. The model documentation provides additional information on the assumptions discussed here as well as all other model assumptions and inputs.[102]

To project future 2017 baseline EGU emissions for the CSAPR Update, the EPA adjusted the 2018 IPM version 5.15 base case results to account for three categories of differences between 2017 and 2018.[103] The categories are: (1) Adjusting NO_X emissions for units with SCRs in 2018 but that are assumed not to operate or be installed in 2017; (2) adding NO_X emissions for units that are retiring in 2018 but are projected to operate in 2017; and (3) adjusting NO_X emissions for coal-fired units that are projected to convert to natural gas (*i.e.*, "coal-to-gas") in 2018, but are still projected to burn coal in 2017. These adjustments are discussed in greater detail in the IPM documentation found in the docket for this final rule.

The IPM version 5.15 base case accounts for comments received as a result of the NODAs released in 2013, 2014, and 2015. This base case also accounts for comments received on the proposed CSAPR Update as well as updated environmental regulations. Unlike the modeling for the proposed rule, which was conducted prior to the D.C. Circuit's issuance of *EME Homer City II*,[104] this projected base case accounts for compliance with the original CSAPR by including as constraints all original CSAPR emission budgets with the exception of remanded phase 2 NO_X ozone season emission budgets for 11 states and phase 2 NO_X ozone season emission budgets for four additional states that were finalized in the original CSAPR supplemental rule.[105] [106] Specifically, to reflect original CSAPR ozone season NO_X requirements, the modeling includes as constraints the original CSAPR NO_X ozone season emission budgets for 10 states—Alabama, Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee.

The IPM projected base case also accounts for the effects of the finalized and effective MATS,[107] New Source Review settlements, and on-the-books state rules through February 1, 2016 [108] impacting SO_2, NO_X, directly emitted particulate matter, and CO_2, and final actions the EPA has taken to implement the Regional Haze Rule.[109] The EPA's IPM base case also includes two federal non-air rules affecting EGUs: The Cooling Water Intake Structure (Clean Water Act section 316(b)) rule and the Coal Combustion Residuals (CCR) rule. The IPM modeling performed for the final CSAPR Update does not include the final Clean Power Plan (CPP). Documentation of IPM version 5.15 is in the docket and available online at *www.epa.gov/airmarkets/power-sector-modeling.*

Comment: Many comments requested that the agency not include the CPP in the 2017 projections informing policy decisions in this rule. This was in response to our discussion of this topic and request for comment in the proposal preamble and a memorandum to the docket (hereinafter referred to as the "Harvey Memo").[110] Commenters cited discrete CPP-related outputs in the 2017 modeling results, such as the retirement of model plants, for the proposed CSAPR Update and provided

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

[103] The EPA uses this approach to project 2017 data because 2017 is not a direct IPM run year.

[104] *EME Homer City Generation, L.P.*, v. *EPA*, No. 795 F.3d 118 (D.C. Cir. 2015).

[105] In *EME Homer City II*, the D.C. Circuit declared invalid the CSAPR phase 2 NO_X ozone season emission budgets of 11 states: Florida, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia. *Id.* 795 F.3d at 129–30, 138. The court remanded those budgets to the EPA for reconsideration. *Id.* at 138. As a result, the EPA removed the original CSAPR phase 2 NO_X ozone season emission budgets as constraints for these 11 states in the 2017 IPM modeling.

[106] The EPA acknowledges that the CSAPR NO_X ozone season emission budgets for Iowa, Michigan, Oklahoma, and Wisconsin—which were finalized in the original CSAPR Supplemental Rule (76 FR 80760, December 27, 2011)—were linked to the same receptors that lead to the remand of other states' NO_X ozone season emission budgets in *EME Homer City II.*

[107] In *Michigan* v. *EPA*, the Supreme Court reversed on narrow grounds a portion of the D.C. Circuit decision upholding the MATS rule, finding that the EPA erred by not considering cost when determining that regulation of EGUs was "appropriate" pursuant to CAA section 112(n)(1). 135 S. Ct. 192 (2015). On remand, the D.C. Circuit left the MATS rule in place pending the EPA's completion of its cost consideration in accordance with the Supreme Court's decision. *White Stallion Energy Ctr.* v. *EPA*, No. 12–1100 (Dec. 15, 2015) (order remanding MATS rule without vacatur). The EPA finalized its supplemental action responding to the Supreme Court's Michigan decision on April 14, 2016. 81 FR 24420 (April 25, 2016). The MATS rule is currently in place.

[108] For any specific version of IPM there is a cutoff date after which it is no longer possible to incorporate updates into the input databases.

[109] The EPA did not include the federal Regional Haze Plans for Texas and Oklahoma, published January 5, 2016, in IPM for this rule. These Regional Haze Plans do not require significant emission reductions for three to five years from the effective date of the rule, *see* 81 FR 296, 305. Also, the Fifth Circuit has since stayed those requirements pending judicial review, *Texas* v. *EPA*, 2016 U.S. App. LEXIS 13058 (5th Cir. July 15, 2016).

[110] Reid Harvey, Dir., Clean Air Markets Div., Memorandum to the Docket, Inclusion of the Clean Power Plan in the baseline for the proposed Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS (Dec. 2, 2015) (hereinafter "Harvey Memo").

information indicating that retirements of the actual plants represented in the model were not expected to occur by 2017. Commenters specifically requested that EPA should not include the CPP in the base case modeling.

Response: We agree that the CPP should not be included in the base case modeling for this rule.

The EPA recognizes that, in general, including the illustrative modeling of the CPP, as a promulgated rule, in the baseline of the CSAPR Update would accord with typical practice. This typical practice is one common approach for ensuring that all power sector and air quality impacts evaluated in the CSAPR Update analysis are fully incremental to and independent of the impacts of preceding rules. However, the CSAPR requirements will be implemented at least five years before any requirements are applied to sources under the CPP, and there should be no meaningful impact of the CPP on power sector dispatch decisions in the timeframe of the CSAPR requirements, as analyzed here.[111]

In the Harvey Memo prepared for the CSAPR Update proposal, we identified several key factors and uncertainties associated with measuring the effects of the CPP in 2017. We identified simplifying assumptions in the CPP modeling regarding the types of plans states may develop, and noted that the CPP does not have any pre-2022 requirements for sources and provides states and utilities with ample options to minimize near-term impacts. Harvey Memo, at 11–13. Therefore, we observed that in the context of the CPP, the model projected impacts in 2016–2018 are likely overstated due to the modeling structure's perfect foresight of future prices and market conditions that don't reflect real-world uncertainty. Id. at 6. We also noted the likelihood that states would choose implementation pathways that would completely avoid the actions that were forecast in the model to occur by 2018. For these reasons, the modeling results prior to 2020 were not relied upon for the CPP RIA. Id. at 13.

Commenters, particularly the regulated utilities, by and large agreed that these considerations were significant and atypical and urged the agency to exclude the CPP from the CSAPR Update modeling. Thus, while the EPA continues to believe that the modeling analysis for the CPP in the final CPP RIA was useful and reliable with respect to the model years analyzed for that rule (*i.e.*, 2020, 2025, and 2030), we are excluding the CPP from the base case in this action.

For further discussion of the CPP, see discussion below at Section VII.H.2; see also Harvey Memo, at 5–11.

3. Development of Emission Inventories for Non-EGU Point Sources

The 2011 non-EGU point sources in the 2011 base case inventory match those in the proposal modeling, except for those sources that were updated as a result of comments including sources in Georgia, Illinois, North Carolina, and Oklahoma. Most changes were a result of the reclassification of sources as EGUs and amount to less than 2 percent of the non-EGU point NO_X emissions in each state. The largest change in terms of overall tonnage was 2,800 tons of reduction in Texas, 1,300 of which were offset by increases to the EGU sector and 1,500 tons of which were reductions of railroad equipment emissions based on a comment from the Texas Commission on Environmental Quality. In addition to comments related to emissions, some comments on stack parameters were received and incorporated. Details on the development of the 2011 emission inventories can be found in the Final Rule Emissions Modeling TSD and the 2011NEIv2 TSD.

Prior to air quality modeling, the emission inventories must be processed into a format that is appropriate for the air quality model to use. Details on the processing of the emissions for 2011 and on the development of the 2017 non-EGU emission inventories are available in the Final Rule Emissions Modeling TSD.

Projection factors and percent reductions in this rule reflect comments received as a result of the August 4, 2015 NODA and the proposed CSAPR Update. Non-EGU emissions for 2017 also changed from the proposal due to a correction to the order of precedence for the application of control programs. The largest tonnage change from the projected 2017 NO_X emissions in the proposal was a 2,200 ton increase in Wisconsin, an 8 percent increase. The largest percentage change to 2017 non-EGU point emissions was a 1,300 ton reduction in Oregon equivalent to 9 percent of non-EGU point emissions in the state and offset by an increase in EGU emissions. The 2017 non-EGU point emissions reflect emission reductions due to national and local rules, control programs, plant closures, consent decrees and settlements. Reductions from several Maximum Achievable Control Technology (MACT) and National Emission Standards for Hazardous Air Pollutants (NESHAP) standards are included. Projection approaches for corn ethanol and biodiesel plants, refineries and upstream impacts represent requirements pursuant to the Energy Independence and Security Act of 2007 (EISA).

For aircraft emissions at airports, the EPA developed projection factors based on activity growth projected by the Federal Aviation Administration Terminal Area Forecast (TAF) system, published in March 2013.

Point source and nonpoint oil and gas emissions are projected to 2018[112] using regional projection factors by product type using Annual Energy Outlook (AEO) 2014 projections to year 2018, the year for which all data sources needed to develop the projections were available. NO_X and VOC reductions that are co-benefits to the NESHAP and New Source Performance Standards (NSPS) for Stationary Reciprocating Internal Combustion Engines (RICE) are reflected for select source categories. In addition, Natural Gas Turbines and Process Heaters NSPS NO_X controls and NSPS Oil and Gas VOC controls are reflected for select source categories. The projection approach for oil and gas emissions was unchanged from that used for the proposal inventories, with the exception of changes incorporated in response to comments in Colorado, Oklahoma, Texas and Utah and due the correction of an error in the projection factors that had been applied at proposal to oil and gas emissions in Kansas. There were modest changes to NO_X emissions in New Mexico and North Dakota as a result of the correction to the order of precedence in the application of control programs. Details on the development of the projected point and nonpoint oil and gas emission inventories are available in the Final Rule Emissions Modeling TSD.

[111] On February 9, 2016, after the close of the public comment period for the CSAPR Update rule, the Supreme Court granted applications to stay the Clean Power Plan, pending judicial review of the rule in the D.C. Circuit, including any subsequent review by the Supreme Court. *West Virginia et al.* v. *EPA*, No. 15A773 (U.S. Feb. 9, 2016). The concerns discussed here predated and are unrelated to the stay. It is currently unclear what adjustments, if any, will need to be made to implementation timing in light of the stay. The Supreme Court's orders granting the stay did not discuss the parties' differing views of whether and how the stay would affect the CPP's compliance deadlines, and they did not expressly resolve that issue. In this context, the question of whether and to what extent tolling is appropriate will need to be resolved once the validity of the CPP is finally adjudicated.

[112] Developing oil and gas sector projections was a very complex process that combined data from many different sources. Not all of the same data was available for 2017, so the projected emissions were retained at 2018 levels as they had been prepared for proposal, but were adjusted based on comments.

4. Development of Emission Inventories for Onroad Mobile Sources

The EPA developed the onroad mobile source emissions for states other than California using the EPA's Motor Vehicle Emissions Simulator, version 2014a (MOVES2014a), a newer version of MOVES than was used in the proposal modeling. The agency computed the emissions within SMOKE by multiplying the MOVES-based emission factors with the appropriate activity data. The agency also used MOVES emission factors to estimate emissions from refueling. Both 2011 and 2017 onroad mobile source activity data and model databases were updated for Ohio, New Jersey, North Carolina, and Texas in response to comments received on the NODA and on the proposed rule. Additional information on the approach for generating the onroad mobile source emissions is available in the Final Rule Emissions Modeling TSD. Onroad mobile source emissions for California were updated from the proposal using emissions submitted by the state in response to comments on the NODA.

In the future-year modeling for mobile sources, the EPA included all national measures known at the time of modeling. The future scenarios for mobile sources reflect projected changes to fuel usage and onroad mobile control programs finalized as of the date of the model run. In response to comments on the NODA, the EPA developed future year onroad mobile source emission factors and activity data for the final rule modeling that directly represented the year 2017, whereas in the proposal modeling the 2017 emissions were based on adjustments to 2018 emissions. Finalized rules that are incorporated into the mobile source emissions include: Tier 3 Standards (March 2014), the Light-Duty Greenhouse Gas Rule (March 2013), Heavy (and Medium)-Duty Greenhouse Gas Rule (August 2011), the Renewable Fuel Standard (February 2010), the Light Duty Greenhouse Gas Rule (April 2010), the Corporate-Average Fuel Economy standards for 2008–2011 (April 2010), the 2007 Onroad Heavy-Duty Rule (February 2009), and the Final Mobile Source Air Toxics Rule (MSAT2) (February 2007). Impacts of rules that were in effect in 2011 are reflected in the 2011 base year emissions at a level that corresponds to the extent to which each rule had penetrated into the fleet and fuel supply by the year 2011. Local control programs such as the California LEV III program are included in the onroad mobile source emissions. Activity data for onroad mobile sources was projected using AEO 2014. Updated onroad mobile source emissions in California for the final rule modeling of the year 2017 were provided by the California Air Resources Board.

5. Development of Emission Inventories for Commercial Marine Category 3 (Vessel)

The commercial marine category 3 vessel ("C3 marine") emissions in the 2011 base case emission inventory for this rule are consistent with those in the proposal modeling and are equivalent to those in the 2011NEIv2. These emissions reflect reductions associated with the Emissions Control Area proposal to the International Maritime Organization control strategy (EPA–420–F–10–041, August 2010); reductions of NO_X, VOC, and CO emissions for new C3 engines that went into effect in 2011; and fuel sulfur limits that went into effect as early as 2010. The cumulative impacts of these rules through 2017 are incorporated in the 2017 projected emissions for C3 marine sources.

6. Development of Emission Inventories for Other Nonroad Mobile Sources

To develop the nonroad mobile source emission inventories other than C3 marine for the modeling platform, the EPA used monthly, county, and process level emissions output from the National Mobile Inventory Model (NMIM) (*http://www.epa.gov/otaq/nmim.htm*). State-submitted emissions data for nonroad sources were used for Texas and California. For Texas, these emissions are consistent with those in the 2011NEIv2, while the California emissions were consistent with those used in the proposal modeling. Locomotive emissions in Texas and North Carolina in the final rule modeling incorporated updates in response to comments received on the NODA.

In response to comments received on the NODA and the proposal, the EPA used NMIM to project nonroad mobile emissions directly to 2017, as opposed to adjusting 2018 emissions back to 2017 as was done for the proposal modeling. The nonroad mobile emission control programs include reductions to locomotives, diesel engines and marine engines, along with standards for fuel sulfur content and evaporative emissions. A comprehensive list of control programs included for mobile sources is available in the Final Rule Emissions Modeling TSD.

7. Development of Emission Inventories for Nonpoint Sources

The emissions for stationary nonpoint sources in the 2011 base case emission inventory are largely consistent with those in the proposal modeling and in the 2011NEIv2, although some updates to Connecticut, Massachusetts, North Carolina, Texas and also to portable fuel container emissions were made in response to comments on the NODA and the proposal. For more information on the nonpoint sources in the 2011 base case inventory, see the Final Rule Emissions Modeling TSD and the 2011NEIv2 TSD.

Where states provided the EPA with information about projected control measures or changes in nonpoint source emissions, the EPA incorporated those inputs in its projections. Updates to nonpoint emissions in North Carolina, Connecticut, Massachusetts, and Texas were incorporated in response to comments received on the NODA. The EPA included adjustments for state fuel sulfur content rules for fuel oil in the Northeast. Projected emissions for portable fuel containers reflect the impact of projection factors required by the final Mobile Source Air Toxics (MSAT2) rule and the EISA, including updates to cellulosic ethanol plants, ethanol transport working losses, and ethanol distribution vapor losses.

For the final rule, emissions for nonpoint oil and gas sources were updated in Colorado, Texas, and Oklahoma in response to comments received on the 2015 NODA, and an error was corrected in the projections for Kansas. The EPA developed regional projection factors for nonpoint oil and gas sources by product type based on Annual Energy Outlook (AEO) 2014 projections to year 2018. The agency reflected criteria air pollutant (CAP) co-benefit reductions resulting from the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) and NSPS rules and Oil and Gas NSPS VOC controls for select source categories. Additional details on the projections are available in the Final Rule Emissions Modeling TSD.

C. Definition of Nonattainment and Maintenance Receptors

In this section, the EPA describes how it determines locations where nonattainment or maintenance problems are expected for the 2008 8-hour ozone NAAQS in the 2017 analytic future year chosen for this rule. The EPA then describes how it factored current monitored data into the identification of sites as having either nonattainment or maintenance concerns for the purposes of this rulemaking. These sites are used as the "receptors" for quantifying the contributions of emissions in upwind states to nonattainment and

maintenance concerns in downwind locations.

In this rule, the EPA is relying on the CSAPR approach (as described below) to identify separate nonattainment and maintenance receptors in order to give independent effect to both the "contribute significantly to nonattainment" and the "interfere with maintenance" prongs of section 110(a)(2)(D)(i)(I), consistent with the D.C. Circuit's direction in *North Carolina*.[113] In its decision on remand from the Supreme Court, the D.C. Circuit confirmed that the EPA's approach to identifying maintenance receptors in CSAPR comported with the court's prior instruction to give independent meaning to the "interfere with maintenance" prong in the good neighbor provision. *EME Homer City II*, 795 F.3d at 136.

In CSAPR, the EPA identified nonattainment receptors as those monitoring sites that are projected to have average design values that exceed the NAAQS. The EPA separately identified maintenance receptors as those receptors that would have difficulty maintaining the relevant NAAQS in a scenario that takes into account historical variability in air quality at that receptor. The original CSAPR approach for identifying nonattainment and maintenance receptors relied only upon air quality model projections of measured design values. In the original CSAPR, if the average design value in the analysis year was projected to exceed the NAAQS, then the monitoring site was identified as a nonattainment receptor without consideration of whether the monitoring site is currently measuring "clean data" (*i.e.*, design values below the NAAQS based on the most recent three years of measured data). In prior transport rulemakings, such as the NO_X SIP Call and CAIR, the EPA defined nonattainment receptors as those areas that both currently monitor nonattainment and that the EPA projects will be in nonattainment in the future compliance year.[114] The EPA explained that it had the most confidence in its projections of nonattainment for those counties that also measure nonattainment for the most recent period of available ambient data. In the original CSAPR, the EPA was compelled to deviate from this practice of incorporating monitored data into its evaluation of projected nonattainment receptors because the most recent monitoring data then available reflected large emission reductions from CAIR, which the original CSAPR was designed to replace. As recently affirmed by the D.C. Circuit, it was therefore reasonable for the EPA to decide not to compare monitored data reflecting CAIR emissions reductions to its modeling projections that instead excluded CAIR from its baseline.[115]

As the EPA is not replacing an existing transport program in this CSAPR Update, the agency proposed to once again consider current monitored data as part of the process for identifying projected nonattainment receptors for this rulemaking. The agency received comments supporting the consideration of current monitored data for identifying projected nonattainment receptors. Thus, for the final CSAPR Update the EPA is identifying as nonattainment receptors those monitors that both currently measure nonattainment and that the EPA projects will be in nonattainment in 2017.

As noted previously, in the original CSAPR, the EPA identified maintenance receptors as those receptors that would have difficulty maintaining the relevant NAAQS in a scenario that takes into account historical variability in air quality at that receptor. The variability in air quality was determined by evaluating the "maximum" future design value at each receptor based on a projection of the maximum measured design value over the relevant base year period.

The EPA interprets the projected maximum future design value to be a potential future air quality outcome consistent with the meteorology that yielded maximum measured concentrations in the ambient data set analyzed for that receptor. The EPA also recognizes that previously experienced meteorological conditions (*e.g.*, dominant wind direction, temperatures, air mass patterns) promoting ozone formation that led to maximum concentrations in the measured data may reoccur in the future. Therefore, the maximum design value gives a reasonable projection of future air quality at the receptor under a scenario in which such conditions do, in fact, reoccur. The projected maximum design value is used to identify upwind states whose emissions, under those circumstances, could interfere with the downwind area's ability to maintain the NAAQS.

For the final CSAPR Update, the EPA assesses the magnitude of the maximum projected design value for 2017 at each receptor in relation to the 2008 ozone NAAQS and, where such a value exceeds the NAAQS, the EPA determines that receptor to be a "maintenance" receptor for purposes of defining interference with maintenance, consistent with the method used in CSAPR and upheld by the D.C. Circuit in *EME Homer City II*.[116] That is, monitoring sites with a maximum projected design value that exceeds the NAAQS are projected to have a maintenance problem in 2017.

In addition, those sites that are currently measuring clean data, but are projected to be nonattainment based on the average design value (and that, by definition, are projected to have a maximum design value above the standard) are also identified as maintenance-only receptors. Unlike nonattainment receptors, current clean monitored data does not disqualify a receptor from being identified as a maintenance receptor because the possibility of failing to maintain the NAAQS in the future, even in the face of current attainment of the NAAQS, is exactly what the maintenance prong of the good neighbor provision is designed to guard against.

Comment: The agency received comments that the EPA should not include as a downwind receptor any site that is currently measuring clean data. Commenters also raise concerns with the EPA's reliance on the projected maximum design value to determine whether an area should be identified as a maintenance receptor, particularly where the projected average design value is below the NAAQS. The commenters contend that this approach does not take into account the nationwide trend toward decreasing ozone design values and improving ozone air quality.

Response: The EPA disagrees with this comment based on several factors. First, current (*i.e.*, 2013–2015) ozone design values in many portions of the eastern U.S. may be lower than what might otherwise have been expected due to cooler than normal temperatures during the summers of 2013, 2014, and 2015 which led to meteorological conditions which were generally unfavorable for the formation of high ozone concentrations. An examination of historical inter-annual variability in summer meteorological conditions in the East indicates that in spite of the

[113] 531 F.3d at 910–911 (holding that the EPA must give "independent significance" to each prong of CAA section 110(a)(2)(D)(i)(I)).

[114] 63 FR at 57375, 57377 (Oct. 27, 1998); 70 FR at 25241 (May 12, 2005). *See also North Carolina*, 531 F.3d at 913–914 (affirming as reasonable the EPA's approach to defining nonattainment in CAIR).

[115] *EME Homer City II*, 795 F.3d at 135–36; *see also* 76 FR 48208 at 48230–31 (August 8, 2011).

[116] *See* 795 F.3d at 136.

relatively non-conducive meteorological conditions seen in the last 3 years, conditions more favorable to ozone formation have often occurred in the past and are likely to reoccur in the future, therefore leading to the risk of a violation of the NAAQS. *See* the AQM TSD for more details.

Second, ambient monitoring data for maintenance sites that are currently measuring attainment suggest that these sites are at risk of violating the NAAQS. Table V.D–3 provides the 2013–2015 design values and the 4th highest annual 8-hour daily maximum ozone concentrations used to calculate these design values for each of the maintenance receptors that are currently measuring attainment. The data in Table V.D–3 indicate (1) seven of the nine sites had measured 4th high values [117] which exceed the level of the NAAQS in at least one of the years during this 3-year time period and (2) 4th high ozone concentration increased from 2014 to 2015 at all but one of these sites. There were increases in measured 4th high values between 2013 and 2015 at all but one of these sites (with the highest increase of 22 ppb occurring in Harris County TX), despite the fact that ozone precursor emissions are continuing to trend downward.[118] In addition, preliminary monitoring for 2016 also indicates that ozone has increased, based on 4th high values, in 2016 compared to the concentrations that were measured in 2014 at most of the receptor sites.[119] This shows that the influence of meteorology on measured ozone values can overwhelm the general downward trend in emissions. Thus, given the variability of meteorological conditions, there is every reason to believe that these maintenance sites that are currently measuring attainment are at risk of violating the NAAQS in 2017, as projected by the EPA's modeling.

The EPA believes it is therefore appropriate and reasonable to use the maximum design value to identify receptors that may have maintenance problems in the future. This approach uses measured data in order to establish potential air quality outcomes at each receptor that take into account the variable meteorological conditions present across the entire period of measured data (2009 to 2013). The EPA interprets the maximum future design value to be a potential future air quality outcome consistent with the meteorology that yielded maximum measured concentrations in the ambient data set analyzed for that receptor. The EPA construes the average design value at a receptor to be a reasonable projection of future air quality in that area under "average" conditions. However, the EPA also recognizes that previously experienced meteorological conditions (*e.g.,* dominant wind direction, temperatures, air mass patterns) that promote ozone formation, may recur in the future. The maximum design value gives a reasonable projection of future air quality at the receptor under a scenario in which such conditions do, in fact, recur. It also identifies upwind emissions that under those circumstances could interfere with the downwind area's ability to maintain the NAAQS.

D. Air Quality Modeling To Identify Nonattainment and Maintenance Receptors

The following is a brief summary of the procedures for projecting future-year 8-hour ozone average and maximum design values to 2017 to determine nonattainment and maintenance receptors. Consistent with the EPA's modeling guidance the agency uses the air quality modeling results in a "relative" sense to project future concentrations. That is, the ratios of future year model predictions to base year model predictions are used to adjust ambient ozone design values [120] up or down depending on the relative (percent) change in model predictions for each location. The modeling guidance recommends using measured ozone concentrations for the 5-year period centered on the base year as the air quality data starting point for future year projections. This average design value is used to dampen the effects of inter-annual variability in meteorology on ozone concentrations and to provide a reasonable projection of future air quality at the receptor under "average" conditions. Because the base year for this rule is 2011, the EPA is using the base period 2009–2013 ambient ozone design value data in order to project 2017 average design values in a manner consistent with the modeling guidance.

The approach for projecting future ozone design values involved the projection of an average of up to 3 design value periods, which include the years 2009–2013 (design values for 2009–2011, 2010–2012, and 2011–2013). The 2009–2011, 2010–2012, and 2011–2013 design values are accessible at *www.epa.gov/airtrends/values.html.* The average of the 3 design values creates a "5-year weighted average" value. The 5-year weighted average values were then projected to 2017. To project 8-hour ozone design values, the agency used the 2011 base year and 2017 future base-case model-predicted ozone concentrations to calculate relative response factors (RRFs) for the location of each monitoring site. The RRFs were applied to the 2009–2013 average ozone design values and the individual design values for 2009–2011, 2010–2012, and 2011–2013. Details of this approach are provided in the AQM TSD.

Projected design values that are greater than or equal to 76.0 ppb are considered to be violating the NAAQS in 2017. As noted previously, nonattainment receptors are those sites that are violating the NAAQS based on the most recent measured air quality data and also have projected average design values of 76.0 ppb or greater. Therefore, as an additional step, for those sites that are projected to be violating the NAAQS based on the average design values in 2017, the EPA examined the most recent measured design value data to determine if the site was currently violating the NAAQS. For the final rule, the agency examined ambient data for the 2013–2015 period, which is the most recent available measured design values at the time of this rule.

Maintenance-only receptors therefore include both (1) those sites with projected average design values above the NAAQS that are currently measuring clean data, and (2) those sites with projected average design values below the level of the NAAQS, but with projected maximum design values of 76.0 ppb or greater. The EPA notes that the 2017 ozone nonattainment receptors are inclusive of areas that, in addition to having projected nonattainment, may have maintenance issues in the future, since the maximum design values for each of these sites is always greater than or equal to the average design value.

Table V.D–1 contains the ambient 2009–2013 base period average and maximum 8-hour ozone design values, the 2017 projected baseline average and maximum design values, and the ambient 2013–2015 design values for the 6 sites in the eastern U.S. projected to be 2017 nonattainment receptors. Table V.D–2 contains this same information for the 13 maintenance-only sites in the eastern U.S. The design

[117] Ozone season measured daily 4th high 8-hour average ozone concentrations are used to calculate design values. The design value is a 3 year average of the 4th high values. See 40 CFR part 50, Appendix P to Part 50.

[118] *See* the AQM TSD.

[119] This is based on preliminary 2016 data available from the Air Quality System (AQS) and AirNow as of August 23, 2016, which represents only a portion of the ozone season. This data has not been certified by state agencies.

[120] The ozone design value at a particular monitoring site is the 3-year average of the annual 4th highest daily maximum 8-hour ozone concentration at that site. See 40 CFR part 50, Appendix P to Part 50.

values for all monitoring sites in the U.S. are provided in docket.

TABLE V.D–1—AVERAGE AND MAXIMUM 2009–2013 AND 2017 BASELINE 8-HOUR OZONE DESIGN VALUES AND 2013–2015 DESIGN VALUES (ppb) AT PROJECTED NONATTAINMENT SITES IN THE EASTERN U.S.

[Nonattainment receptors]

Monitor ID	State	County	Average design value 2009–2013	Maximum design value 2009–2013	Average design value 2017	Maximum design value 2017	2013–2015 design value
090019003	Connecticut	Fairfield	83.7	87	76.5	79.5	84
090099002	Connecticut	New Haven	85.7	89	76.2	79.2	78
480391004	Texas	Brazoria	88.0	89	79.9	80.8	80
484392003	Texas	Tarrant	87.3	90	77.3	79.7	76
484393009	Texas	Tarrant	86.0	86	76.4	76.4	78
551170006	Wisconsin	Sheboygan	84.3	87	76.2	78.7	77

TABLE V.D–2—AVERAGE AND MAXIMUM 2009–2013 AND 2017 BASELINE 8-HOUR OZONE DESIGN VALUES AND 2013–2015 DESIGN VALUES (ppb) AT SITES IN THE EASTERN U.S. THAT ARE PROJECTED MAINTENANCE-ONLY RECEPTORS

Monitor ID	State	County	Average design value 2009–2013	Maximum design value 2009–2013	Average design value 2017	Maximum design value 2017	2013–2015 design value
090010017	Connecticut	Fairfield	80.3	83	74.1	76.6	81
090013007	Connecticut	Fairfield	84.3	89	75.5	79.7	83
211110067	Kentucky	Jefferson	85.0	85	76.9	76.9	[121] N/A
240251001	Maryland	Harford	90.0	93	78.8	81.4	71
260050003	Michigan	Allegan	82.7	86	74.7	77.7	75
360850067	New York	Richmond	81.3	83	75.8	77.4	74
361030002	New York	Suffolk	83.3	85	76.8	78.4	72
390610006	Ohio	Hamilton	82.0	85	74.6	77.4	70
421010024	Pennsylvania	Philadelphia	83.3	87	73.6	76.9	73
481210034	Texas	Denton	84.3	87	75.0	77.4	83
482010024	Texas	Harris	80.3	83	75.4	77.9	79
482011034	Texas	Harris	81.0	82	75.7	76.6	74
482011039	Texas	Harris	82.0	84	76.9	78.8	69

TABLE V.D–3—AMBIENT OZONE DESIGN VALUES FOR 2013–2015 AND THE 4TH HIGHEST 8-HOUR DAILY MAXIMUM OZONE CONCENTRATIONS (ppb) FOR EACH MAINTENANCE-ONLY RECEPTOR THAT IS CURRENTLY MEASURING ATTAINMENT

Monitor ID	State	County	2013–2015 design value	2013 4th highest value	2014 4th highest value	2015 4th highest value
211110067	Kentucky	Jefferson	N/A	N/A	70	*76
240251001	Maryland	Harford	71	72	67	74
260050003	Michigan	Allegan	75	*78	*77	72
360850067	New York	Richmond	74	69	68	*77
361030002	New York	Suffolk	72	72	66	*78
390610006	Ohio	Hamilton	70	69	70	72
421010024	Pennsylvania	Philadelphia	73	68	72	*79
482011034	Texas	Harris	74	69	66	*88
482011039	Texas	Harris	69	69	63	*77

*Indicates 4th highest values that exceed the NAAQS.

Comment: The EPA received comments on the approach for projecting future year design values for monitoring sites located in certain coastal areas (*i.e.,* monitoring sites located in southern Connecticut along Long Island Sound, in Wisconsin and Michigan along Lake Michigan and in Maryland along the Chesapeake Bay).

[121] The 2013–2015 design value at this site is not valid due to incomplete data for 2013. There are valid 4th high measured concentrations for 2014 and 2015 and therefore the site may have valid design value data when the 2014–2016 data is complete. The 2014 4th high value at this site was 70 ppb and the 2015 4th high value at this site was 76 ppb. In addition, there is one other monitoring site in Jefferson County KY which has a valid 2013–2015 design value of 66 ppb. There is one other site in the Louisville CBSA which has a slightly higher 2013–2015 design value of 68 ppb (site 211850004 in Oldham County KY). Since there is no valid design value data that indicates that the Jefferson County receptor or any other monitoring site in Jefferson County or the Louisville metropolitan area is currently exceeding the 2008 NAAQS, for the purposes of this final rule, the Jefferson County KY receptor will be considered a maintenance receptor."

Some commenters said that the relative response factors for coastal sites should be based on modeled ozone in the grid cell containing the monitoring site or "land" cells only, rather than the grid cell with the highest 2011 base case modeled value from among the 3 by 3 matrix of grid cells surrounding the monitoring site (*i.e.,* the 3 x 3 matrix approach). Some commenters said that using the 3 x 3 approach for coastal sites can result in the use of modeled data from grid cells over water, which the commenters claim are not representative of the location of the monitor. These commenters contend that modeled values from "over water" cells are biased high and will overstate projected 2017 design values at coastal sites. In this regard, the commenters said EPA should consider using the modeled data in the grid cell containing the monitoring site or use the highest value in "over land" grid cells adjacent to the monitoring site.

Commenters examined model performance in the grid cell that contained the monitor and also compared these measured values to the "highest" modeled value in the 3 x 3 grid cell matrix surrounding the monitoring site. They contend that higher modeled ozone concentrations from the 3 x 3 matrix overstate concentrations measured at the monitoring site and, as a result, commenters claim that using the 3 x 3 modeled values will lead to inaccurate future model projections.

Response: EPA first notes that the modeling guidance recommends calculating relative response factors based on the highest values in the vicinity of the monitoring site (*i.e.,* the 3 x 3 matrix approach) in part because limitations in the inputs and model physics can affect model precision at the grid cell level. Allowing some leeway in the precision of the predicted location of daily maximum ozone concentrations can help assure that possibly artificial, fine scale variations do not inadvertently impact an assessment of modeled ozone response. In addition, monitors are sometimes located very close to the border of two or more grid cells. For both of these reasons, choosing to calculate the model response from the nearby grid cell with the highest modeled ozone value is likely to be most representative of model response during high measured ozone conditions. In addition, coastal sites by the nature of their location near large water bodies often measure ozone concentrations in air from over the water when winds are blowing from the water to the land. Such wind flows can occur as part of a broader "synoptic scale" wind pattern and/or during more local scale onshore wind flows associated with a "sea breeze", "sound breeze", "lake breeze", or "bay breeze" depending on the nature of the adjacent body of water. Thus, it is appropriate to consider modeled values from both "over water" and "over land" grid cells to represent ozone concentrations which may impact monitoring sites in coastal areas.

The commenters also compared measured ozone values at monitoring locations to the highest modeled concentrations in the 3 x 3 grid cells surrounding the monitor and found that modeled ozone in grid cells over the water (where there are no monitoring sites) often "over predicted" the measured values at the monitors. The commenters claim that this will lead to an overstatement of future year design values and inaccurate future year values. The EPA finds no basis for this conclusion. First, the components of the modeling system used for this final rule, (*i.e.,* the photochemical grid model, the meteorological model, emissions models, and input data) are based on state-of-the-science methods and data that are designed to represent the physical and chemical processes associated with the formation, transport, and fate of ozone and precursor pollutants. The intent of the model evaluation is to use available measurements to gain confidence in the use of the modeling system not only to predict concentrations for times and locations where there are measurements, but also to provide credible estimates of base year concentrations in other locations which can be used to project future year concentrations. Second, the EPA is not using the absolute modeled concentrations to determine future year (2017) design values. As described in the preamble and the AQM TSD, the EPA projects future year design values based on the percent change (*i.e.,* relative response) in ozone using predictions from a model simulation for 2011 and predictions from a corresponding model simulation for 2017. The relative response factors based on the modeled data from the 3 x 3 matrix approach are applied to measured ozone design value.

For the final rule, the EPA performed an analysis that compared the 2017 projected design values based on applying the 3 x 3 matrix approach recommended in EPA's modeling guidance to an approach that relies exclusively on modeled values in the grid cell containing the monitoring (*i.e.,* monitor-cell approach). This analysis was performed for ozone monitoring sites nationwide including the coastal sites of concern to commenters. A data file with the projected 2017 design values using the 3 x 3 matrix approach and the monitor-cell approach at individual monitoring sites can be found in the docket.

In our analysis we examined the data separately for each of four groupings of monitoring sites: (1) All sites nationwide, (2) all sites in the East, (3) all nonattainment and maintenance receptors identified in this rule, and (4) the set of coastal sites of particular concern to the commenters together with a coastal site in Harford Co., MD that is also receptor for this final rule. The specific set of 8 coastal sites analyzed as a separate group include Fairfield Co., CT sites 090010017, 090013007, and 090019003, New Haven Co., CT 090093002, Baltimore Co., MD 240053001, Harford Co., MD 240251001, Allegan Co., MI, 260050003, and Sheboygan Co, WI 551170006. Note that all of these sites, except for the site in Baltimore Co., MD are receptors for this final rule. The results indicate that the 3 x 3 approach results in lower or equivalent projected 2017 design values compared to the monitor-cell approach at 76 percent of the monitoring sites nationwide. That is, at a majority of the monitoring sites, the 3 x 3 approach which relies on the highest base year concentrations in the vicinity of the monitoring site tends to be more responsive to emissions reductions than only using data from the grid cell containing the monitor. For the Eastern U.S., 75 percent of the monitoring sites had lower projected 2017 design values with the 3 x 3 approach, compared to the monitor-cell approach. At 14 of the 19 nonattainment and maintenance receptors for this rule, the 3 x 3 approach design value is either lower or within 0.5 ppb [122] of the corresponding value from the monitor-cell approach. Finally, for the 8 coastal sites, the 3 x 3 approach on balance does not result in an overall notable bias compared to the monitor-cell approach. Specifically, at half of these sites the 3 x 3 approach design value is lower or within 0.5 ppb of the corresponding value from the monitor-cell approach. EPA does not believe that it would be appropriate to use the 3 x 3 approach for some coastal receptors and the single monitor-cell approach for other coastal receptors, depending solely on the outcome as to which approach yields lower future design value at an individual receptor site. Based on the results of this analysis

[122] "In this analysis "within 0.5 ppb" includes values that greater than or equal to -0.5 ppb and also less than or equal to 0.5 ppb.

the EPA continues to believe that the 3 x 3 approach is appropriate for projecting design values for this rule and provides for regional consistency in the projection methodology across all sites.

Comment: Commenters contend that the EPA is not appropriately considering international emissions in the process of identifying downwind nonattainment and maintenance receptors. The commenters cite CAA section 179B and contend that it requires the Administrator to approve plans that would be sufficient to attain or maintain the NAAQS but for emissions emanating from outside of the U.S. They therefore contend that, where a receptor in the EPA's modeling would attain or maintain the standard when international emissions are accounted for, the EPA has no authority to require emissions from upwind states pursuant to section 110(a)(2)(D)(i)(I). Commenters state that such reduction requirements would constitute the over-control of emissions from upwind states.

The commenters explicitly recommend that the EPA exclude the projected contributions from Canada and Mexico from the projected design values before comparing the projections to the NAAQS for purposes of identifying receptors. Commenters further recommend that the EPA exclude a "conservatively calculated" 5 percent of EPA-estimated contributions attributable to the anthropogenic fraction of boundary concentrations. The commenters propose that this approach would result in fewer receptors and relieve upwind states of the obligation to make emission reductions associated with these receptors.

Response: The EPA disagrees with commenters that section 179B of the Clean Air Act obviates the good neighbor obligations imposed upon states by section 110(a)(2)(D)(i)(I) of the Act.

First, commenters misunderstand the provisions of section 179B. Section 179B permits the EPA to approve an attainment plan or plan revision for areas that could attain the relevant NAAQS by the statutory attainment date "but for" emissions emanating from outside the U.S. When applicable, this CAA provision relieves states from imposing control measures on emissions sources in the state's jurisdiction beyond those necessary to address reasonably controllable emissions from within the U.S. Specifically, CAA section 179B(a) provides that the EPA shall approve a plan for such an area if: (i) The plan meets all other applicable requirements of the CAA, and (ii) the submitting state can satisfactorily demonstrate that "but for emissions emanating from outside the United States," the area would attain and maintain the relevant NAAQS. In addition, CAA section 179B(b) applies specifically to the ozone NAAQS and provides that if a state demonstrates that an ozone nonattainment area would have timely attained the NAAQS by the applicable attainment date "but for emissions emanating from outside of the United States," then the area can avoid extension of the ozone attainment dates pursuant to CAA section 181(a)(5), the application of fee provisions of CAA section 185, and the mandatory reclassification provisions under CAA section 181(b)(2) for areas that fail to attain the ozone NAAQS by the applicable attainment date.

Commenters fail to acknowledge that, even if an area is impacted by emissions from outside the U.S., CAA section 179B does not affect the designations process. The designations process is meant to protect public health and welfare. Designating an area nonattainment for a particular NAAQS ensures that the public is informed that the air quality in a specific area exceeds the standard. Congress determined that in nonattainment areas, there should be adequate safeguards to protect public health and welfare. For example Congress required such areas to have nonattainment new source review permitting programs, to ensure that air quality is not further degraded. Accordingly, areas with design values above the NAAQS are designated nonattainment and classified with a classification as indicated by actual ambient air quality. As a result of designation and classification, the state is subject to the applicable requirements, including nonattainment new source review, conformity, and other measures prescribed for nonattainment areas by the CAA. Section 179B of the CAA does not provide for any relaxation of mandatory emissions control measures (including contingency measures) or the prescribed emissions reductions; it only eliminates the obligation for an attainment demonstration that demonstrates attainment and maintenance of the NAAQS, which is conditioned upon the state meeting all other attainment plan requirements, and voids certain consequences of an area's failure to attain, including mandatory reclassifications.

CAA section 179B also does not alter the CAA's general construct expressed in subpart 1 of part D that states with nonattainment areas are expected to adopt reasonable emissions controls to lessen emissions of criteria pollutants to promote citizen health protection. The construct ensures that states will take reasonable actions to mitigate the public health impacts of exposure to ambient levels of pollution that violate the NAAQS by imposing reasonable control measures on the sources that are within the jurisdiction of the state regardless of impacts from interstate or international emissions. The primary purpose of part D of Title I of the CAA is to achieve emission reductions so that people living in a nonattainment area receive the public health protection intended by the NAAQS.

In sum, section 179B provides an important tool that provides states relief from the requirement to demonstrate attainment—and from the more stringent planning requirements that would result from failure to attain—in areas where, even though the air agency has taken appropriate measures to address air quality in the influenced area, emissions from outside of the U.S. prevent attainment. The provision does not absolve states of the obligation to impose reasonable emission controls even where states can demonstrate that the area would attain "but for" the impact of international emissions. The commenters do not explain why, given the obligation of downwind states with designated nonattainment areas to impose reasonable controls on emissions, upwind states should not also be subject to a similar obligation to take certain reasonable steps to reduce emissions impacting those downwind areas.

The commenters have not explained why the terms of section 179B require its application to EPA's evaluation of upwind state's interstate transport obligations. Section 179B is located in subpart D of title I, which addresses plan requirements for designated nonattainment areas. As just described, the specific terms of section 179B outline which nonattainment area requirements will and will not apply upon approval of a section 179B demonstration, none of which apply directly to upwind states via section 110(a)(2)(D)(i)(I). In particular, the good neighbor provision does not require upwind areas to "demonstrate attainment and maintenance" of the NAAQS. Rather, the statute requires upwind states to prohibit emissions which will "contribute significantly to nonattainment" or "interfere with maintenance" of a NAAQS. As discussed further in section IV.B.1, while upwind states must address their fair share of downwind air quality problems, the EPA has not interpreted this provision to hold upwind areas

responsible for bringing downwind areas into attainment. Therefore, the relief provided by section 179B(a) and (b) from the obligation to demonstrate attainment, extension of the attainment date, and mandatory reclassifications, is simply not applicable to downwind states.

Even if section 179B were in some manner applicable to upwind states' transport obligations, the EPA does not believe that the contribution of international emissions should impact EPA's identification of downwind nonattainment and maintenance receptors affected by the interstate transport of emissions. These receptors represent areas that the EPA projects will have difficulty attaining and maintaining the NAAQS, and which therefore require adequate safeguards to protect public health and welfare. The EPA therefore does not agree that, when identifying downwind air quality problems for purposes of interstate transport, section 179B requires that we subtract the contributions of international emissions from the projected design values. This would be inconsistent with EPA's approach to area designations and is simply not required by the plain language of the statute. Moreover, such an interpretation would allow downwind and upwind areas to make no efforts to address clear violations of the NAAQS, leaving the area's citizens to suffer the health and environmental consequences of such inaction.

Moreover, just as any state with a nonattainment area—including downwind states—must take reasonable steps to control emissions even where an area is impacted by international emissions, the EPA believes that it is appropriate for upwind states to also adopt reasonable emissions controls to lessen the impact of emissions generated in their state and subsequently transported to downwind areas. As noted in Section IV of the preamble, the EPA does not view the obligation under the good neighbor provision as a requirement for upwind states to bear all of the burden for resolving downwind air quality problems. Rather, it is an obligation that upwind and downwind states share responsibility for addressing air quality problems. If, after implementation of reasonable emissions reductions by an upwind state, a downwind air quality problem persists, whether due to international emissions or emissions originating within the downwind state, the EPA can relieve the upwind state of the obligation to make additional reductions to address that air quality problem. But the statute does not absolve the upwind state of the obligation to make reasonable reductions in the first instance.

The EPA took just such an approach in the original CSAPR rulemaking when calculating annual SO_2 emissions budgets for states linked to downwind $PM_{2.5}$ air quality problems. There, the EPA imposed budgets based on a level of control stringency equivalent to $2,300 per ton of SO_2 emissions. Despite the persistence of downwind air quality problems to which certain upwind states were linked, the EPA concluded that this level of control stringency represented the upwind states' full transport obligation with respect to the $PM_{2.5}$ standards and additional controls were not reasonable because significant reductions could not be achieved at higher costs. 76 FR 48208, 48257–259.

Accordingly, the EPA also does not agree that imposing emission reductions on upwind states linked to areas affected by international emissions based on the implementation of reasonable control measures would result in over-control. As discussed in section VII.D of the preamble, the emissions reductions required by this rulemaking are based on relatively modest investments in turning on and optimizing already existing SCRS and installing a limited amount of combustion controls, which is feasibly and reasonably achieved by the 2017 ozone season. Moreover, the emissions reductions required by this rulemaking do not fully resolve most of the air quality problems identified in this rule. As discussed further in section VI.D, the D.C. Circuit has identified those circumstances that would constitute over-control pursuant to CAA section 110(a)(2)(D)(i)(I), and those circumstances are not present here.

E. Pollutant Transport From Upwind States

1. Air Quality Modeling To Quantify Upwind State Contributions

This section documents the procedures the EPA used to quantify the impact of emissions from specific upwind states on 2017 8-hour design values for identified downwind nonattainment and maintenance receptors. The EPA used CAMx photochemical source apportionment modeling to quantify the impact of emissions in specific upwind states on downwind nonattainment and maintenance receptors for 8-hour ozone. CAMx employs enhanced source apportionment techniques that track the formation and transport of ozone from specific emissions sources and calculates the contribution of sources and precursors (NO_X and VOC) to ozone for individual receptor locations. The strength of the photochemical model source apportionment technique is that all modeled ozone at a given receptor location in the modeling domain is tracked back to specific sources of emissions and boundary conditions to fully characterize culpable sources.

The EPA performed nationwide, state-level ozone source apportionment modeling using the CAMx Ozone Source Apportionment Technology/Anthropogenic Precursor Culpability Analysis (OSAT/APCA) technique [123] to quantify the contribution of 2017 baseline NO_X and VOC emissions from all sources in each state to projected 2017 ozone concentrations at air quality monitoring sites. The EPA continues to believe that the OSAT/APCA tool is the most appropriate source apportionment technique for quantifying contributions for the purposes of this rule because it is constructed to provide source culpability data to inform the design of emissions control strategies.[124] In the source apportionment model run, the EPA tracked the ozone formed from each of the following contribution categories (*i.e.*, "tags"):

- States—anthropogenic NO_X and VOC emissions from each state tracked individually (emissions from all anthropogenic sectors in a given state were combined);
- Biogenics—biogenic NO_X and VOC emissions domain-wide (*i.e.*, not by state);
- Boundary Concentrations—concentrations transported into the modeling domain;
- Tribes—the emissions from those tribal lands with point source inventory data in the 2011 NEI (contributions from individual tribes were not modeled);
- Canada and Mexico—anthropogenic emissions from sources in the portions of Canada and Mexico included in the modeling domain (contributions from Canada and Mexico were not modeled separately);
- Fires—combined emissions from wild and prescribed fires domain-wide (*i.e.*, not by state); and
- Offshore—combined emissions from offshore marine vessels and offshore drilling platforms (*i.e.*, not by state).

The contribution modeling provided contributions to ozone from anthropogenic NO_X and VOC emissions

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

[124] Comprehensive Air Quality Model with Extensions Version 6.20 User's Guide. ENVIRON International Corporation, Novato, CA, March 2015.

in each state, individually. The contributions to ozone from chemical reactions between biogenic NO_X and VOC emissions were modeled and assigned to the "biogenic" category. The contributions from wild fire and prescribed fire NO_X and VOC emissions were modeled and assigned to the "fires" category. The contributions from the "biogenic", "offshore", and "fires" categories are not assigned to individual states nor are they included in the state contributions.

The CAMx OSAT/APCA model run was performed for the period May 1 through September 30 using the projected 2017 baseline emissions and 2011 meteorology for this time period. The hourly contributions [125] from each tag were processed to obtain the 8-hour average contributions corresponding to the time period of the 8-hour daily maximum concentration on each day in the 2017 model simulation. This step was performed for those model grid cells containing monitoring sites in order to obtain 8-hour average contributions for each day at the location of each site. The model-predicted contributions on the days with high modeled concentrations in 2017 were then applied in a relative sense to quantify the contributions to the 2017 average design value at each site. The resulting 2017 average contributions from each tag to each monitoring site in the eastern and western U.S. along with additional details on the source apportionment modeling and the procedures for calculating contributions can be found in the AQM TSD.

The average contribution metric is intended to provide a reasonable representation of the contribution from individual states to the projected 2017 design value, based on modeled transport patterns and other meteorological conditions generally associated with modeled high ozone concentrations at the receptor. An average contribution metric constructed in this manner is beneficial since the magnitude of the contributions is directly related to the magnitude of the design value at each site.

The largest contribution from each state in the East to any single 8-hour ozone nonattainment receptor in a downwind state is provided in Table V.E–1. The largest contribution from each state in the East to any single 8-hour ozone maintenance-only receptor in a downwind state is also provided in Table V.E–1.

TABLE V.E–1—LARGEST CONTRIBUTION TO DOWNWIND 8-HOUR OZONE NONATTAINMENT AND MAINTENANCE RECEPTORS FOR EACH STATE IN THE EASTERN U.S.

Upwind state	Largest downwind contribution to nonattainment receptors (ppb)	Largest downwind contribution to maintenance receptors (ppb)
AL	0.99	0.73
AR	1.00	2.07
CT	0.00	0.46
DE	0.38	1.32
DC	0.07	0.86
FL	0.71	0.75
GA	0.60	0.62
IL	17.90	23.61
IN	6.49	12.32
IA	0.58	0.81
KS	1.13	1.22
KY	0.68	10.88
LA	3.01	3.20
ME	0.00	0.01
MD	2.12	5.22
MA	0.12	0.06
MI	2.62	1.27
MN	0.40	0.36
MS	0.81	0.79
MO	1.67	3.78
NE	0.35	0.27
NH	0.02	0.02
NJ	9.52	11.90
NY	18.50	18.81
NC	0.51	0.50
ND	0.06	0.22
OH	1.83	3.78
OK	2.24	1.62
PA	9.28	14.61
RI	0.03	0.01
SC	0.15	0.30
SD	0.08	0.12
TN	0.50	1.82
TX	2.18	2.64
VT	0.01	0.01
VA	1.92	5.21
WV	1.04	3.31
WI	0.33	2.52

2. Application of Screening Threshold

Once the EPA has quantified the magnitude of the contributions from each upwind state to downwind nonattainment and maintenance receptors, it then uses an air quality screening threshold to identify upwind states that contribute to downwind ozone concentrations in amounts sufficient to "link" them to the downwind nonattainment and maintenance receptors and justify further analysis of potential emission reductions to address significant contribution to nonattainment and interference with maintenance of the 2008 ozone NAAQS in other states. As discussed previously in section IV, the EPA is establishing an air quality screening threshold calculated as one percent of the 2008 ozone NAAQS. Specifically, the agency has calculated an 8-hour ozone value for this air quality threshold of 0.75 ppb.

States in the East [126] whose contributions to a specific receptor meet or exceed the screening threshold are considered linked to that receptor; those states' ozone contributions and emissions (and available emission reductions) are analyzed further, as described in section VI, to determine whether and what emissions reductions might be required from each state. States in the East whose contributions are below the threshold are not included in the rule and are considered to make insignificant contributions to projected downwind air quality problems. Accordingly, as discussed in section IV, the EPA has determined that sources in these states need not make any further emissions reductions in order to address the good neighbor provision with respect to the 2008 ozone NAAQS.

Based on the maximum downwind contributions identified in Table V.E–1, the following states contribute at or above the 0.75 ppb threshold to downwind nonattainment receptors: Alabama, Arkansas, Illinois, Indiana, Kansas, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, Virginia, and West Virginia. Based on the maximum downwind contributions in Table V.D–1, the following states contribute at or above the 0.75 ppb threshold to downwind maintenance-only receptors: Arkansas, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin. In the proposed rule North Carolina was linked to a maintenance receptor in Baltimore Co., MD (site 240053001). North Carolina was not linked to any other receptor in the proposal. In the final rule modeling, this site is no longer projected to be a receptor because the 2017 average and maximum design values for this site are projected to be below the level of the NAAQS, and North Carolina is not linked to any other

[125] Contributions from anthropogenic emissions under "NO_X-limited" and "VOC-limited" chemical regimes were combined to obtain the net contribution from NO_X and VOC anthropogenic emissions in each state.

[126] As discussed in section IV, the EPA's assessment shows that there are problem receptors in the West where western states contribute amounts greater than or equal to the screening threshold used to evaluate eastern states (*i.e.*, 1 percent of the NAAQS), but for a number of reasons the EPA is not addressing transport in the West in this rulemaking.

nonattainment or maintenance receptor, based on the final rule modeling.

Comment: The EPA received comments that the version of CAMx used for the proposal modeling (CAMx v6.11) did not include the most recent halogen chemistry that would affect ozone concentrations in saltwater marine atmospheres and transport of ozone from Florida to receptors in Texas. The commenter said that the EPA should include this chemistry in modeling for the final rule.

Response: In the EPA's 2017 modeling for the final rule, Florida is modeled to have an average contribution at the 0.75 ppb threshold to the 2017 design values at two receptors in Houston (*i.e.,* Harris County sites 482010024 and 482011034). A report by the CAMx model developer on the impact of modeling with the latest CAMx halogen chemistry indicates that the updated chemistry results in lower modeled ozone in air transported over saltwater marine environments for multiple days. Specifically, the report notes that on days with multi-day transport across the Gulf of Mexico, modeling with the updated chemistry could lower 8-hour daily maximum ozone concentrations by up to 2 to 4 ppb in locations in eastern Texas, including Houston. Air parcel trajectories for individual days used in the EPA's calculation of the contribution from Florida to the Houston receptors confirm that on days with high modeled transport from Florida to the receptors in Houston, air travels for multiple days over the Gulf of Mexico from Florida before reaching the receptors in Houston (see the AQM TSD for more details).

In the final rule modeling, the EPA was not able to explicitly account for the updated chemistry because this chemistry had not yet been included by the model developer in the source apportionment tool in CAMx at the time the modeling was performed for this rule. However, because Florida's maximum contribution to receptors in Houston is exactly at the 0.75 ppb threshold, the agency believes that if it had performed the final rule modeling with the updated halogen chemistry, Florida's contribution would likely be below this threshold. Therefore, the EPA is not including Florida in the final rule because it finds that Florida's contribution to downwind nonattainment and maintenance receptors is insignificant when this updated halogen chemistry is considered. As described in the AQM TSD, the source-receptor transport pattern between Florida and Houston involving multi-day transport over the Gulf of Mexico is unique such that modeling with the updated halogen chemistry would not be expected to affect linkages from other upwind states to receptors in Houston or any other linkages from upwind states to downwind nonattainment and maintenance receptors for this final rule.

Based on the EPA's application of the 0.75 ppb threshold, the linkages between each upwind state and downwind nonattainment receptors and maintenance-only receptors in the eastern U.S. are provided in Table V.E–2 and Table V.E–3, respectively.

TABLE V.E–2—LINKAGES BETWEEN EACH UPWIND STATE AND DOWNWIND NONATTAINMENT RECEPTORS IN THE EASTERN U.S.

Upwind state	Downwind nonattainment receptors
AL	Tarrant Co, TX (484392003); Tarrant Co, TX (484393009).
AR	Brazoria Co, TX (480391004).
IL	Brazoria Co, TX (480391004); Sheboygan Co, WI (551170006).
IN	Fairfield Co, CT (090019003); Sheboygan Co, WI (551170006).
KS	Tarrant Co, TX (484392003); Sheboygan Co, WI (551170006).
LA	Brazoria Co, TX (480391004); Tarrant Co, TX (484392003); Tarrant Co, TX (484393009); Sheboygan Co, WI (551170006).
MD	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
MI	Fairfield Co, CT (090019003); Sheboygan Co, WI (551170006).
MS	Brazoria Co, TX (480391004).
MO	Brazoria Co, TX (480391004); Sheboygan Co, WI (551170006).
NJ	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
NY	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
OH	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
OK	Tarrant Co, TX (484392003); Tarrant Co, TX (484393009); Sheboygan Co, WI (551170006).
PA	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
TX	Sheboygan Co, WI (551170006).
VA	Fairfield Co, CT (090019003); New Haven Co, CT (090099002).
WV	Fairfield Co, CT (090019003).

TABLE V.E–3—LINKAGES BETWEEN EACH UPWIND STATES AND DOWNWIND MAINTENANCE-ONLY RECEPTORS IN THE EASTERN U.S.

Upwind state	Downwind maintenance receptors
AR	Allegan Co, MI (260050003); Harris Co, TX (482011039).
DE	Philadelphia Co, PA (421010024).
DC	Harford Co, MD (240251001).
IL	Jefferson Co, KY (211110067); Harford Co, MD (240251001); Allegan Co, MI (260050003); Suffolk Co, NY (361030002); Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024); Harris Co, TX (482011039).
IN	Fairfield Co, CT (090013007); Jefferson Co, KY (211110067); Harford Co, MD (240251001); Allegan Co, MI (260050003); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024).
IA	Allegan Co, MI (260050003).
KS	Allegan Co, MI (260050003).
KY	Harford Co, MD (240251001); Richmond Co, NY (360850067); Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024).
LA	Denton Co, TX (481210034); Harris Co, TX (482010024); Harris Co, TX (482011034); Harris Co, TX (482011039).

TABLE V.E–3—LINKAGES BETWEEN EACH UPWIND STATES AND DOWNWIND MAINTENANCE-ONLY RECEPTORS—Continued
IN THE EASTERN U.S.

Upwind state	Downwind maintenance receptors
MD	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Philadelphia Co, PA (421010024).
MI	Fairfield Co, CT (090013007); Jefferson Co, KY (211110067); Harford Co, MD (240251001); Suffolk Co, NY (361030002); Hamilton Co, OH (390610006).
MS	Harris Co, TX (482011039).
MO	Allegan Co, MI (260050003); Hamilton Co, OH (390610006); Harris Co, TX (482011034); Harris Co, TX (482011039).
NJ	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Philadelphia Co, PA (421010024).
NY	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007).
OH	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Jefferson Co, KY (211110067); Harford Co, MD (240251001); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Philadelphia Co, PA (421010024).
OK	Allegan Co, MI (260050003); Denton Co, TX (481210034); Harris Co, TX (482011034); Harris Co, TX (482011039).
PA	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Harford Co, MD (240251001); Richmond Co, NY (360850067); Suffolk Co, NY (361030002).
TN	Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024).
TX	Harford Co, MD (240251001); Allegan Co, MI (260050003); Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024).
VA	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Harford Co, MD (240251001); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Philadelphia Co, PA (421010024).
WV	Fairfield Co, CT (090010017); Fairfield Co, CT (090013007); Harford Co, MD (240251001); Richmond Co, NY (360850067); Suffolk Co, NY (361030002); Hamilton Co, OH (390610006); Philadelphia Co, PA (421010024).
WI	Allegan Co, MI (260050003).

The EPA's modeling to quantify upwind state EGU NO_X emission budgets, described in section VI, used a more recent IPM version 5.15 base case projection as compared to the IPM projection used for air quality modeling described here in section V. This more recent IPM base case reflects minor updates to IPM model inputs. Because this more recent IPM base case projection was not used for the air quality modeling for the final rule, the aforementioned results do not account for updates which are subsequently included in the budget-setting analysis. In order to ensure that the budget-setting base case projection would not change any conclusions drawn from the air quality modeling, the EPA performed an assessment of the budget-setting base case using a method that relied on the EPA's air quality modeling contribution data as well as projected ozone concentrations from the EPA's 2017 illustrative policy case developed for the Regulatory Impact Analysis. For more information about these methods, refer to the Ozone Transport Policy Analysis Final Rule TSD. This assessment shows no change in the set of nonattainment or maintenance receptors identified here in section V. In addition to evaluating the status of downwind receptors identified for the rule, the EPA evaluated whether the budget-setting base case would reduce ozone contributions from upwind states to the extent that a previously linked state would have a maximum contribution less than the one percent threshold. This assessment shows that with the budget-setting base case, all previously identified states are expected to remain linked (*i.e.*, contribute greater than or equal to one percent of the NAAQS) to at least one downwind nonattainment or maintenance receptor. Therefore, using the budget-setting base case for the final rule does not impact the scope of states linked to downwind nonattainment or maintenance receptors relative to the modeled base case.

Additionally, after the emissions and air quality modeling for the final rule were already underway, Pennsylvania published a new RACT rule [127] that would require EGU and non-EGU NO_X reductions starting on January 1, 2017. The EPA recognizes that the implementation of this final state rule will precede the first control period for the final CSAPR Update rule. The agency believes it is reasonable to evaluate the potential influence of the Pennsylvania RACT rule on downwind receptors and state linkages identified for this final rule prior to evaluating any further EGU NO_X reductions for the CSAPR Update rule. Therefore, because Pennsylvania's new RACT rule was not represented explicitly in the emission inventory and air quality modeling already underway, the EPA first added an evaluation of emissions and air quality impacts expected to result from Pennsylvania's RACT rule [128] before then evaluating air quality impacts of the further reductions that might be required under the CSAPR Update rule at each uniform control stringency identified. The EPA estimates that, for the adjusted historical emission level including Pennsylvania RACT, no nonattainment or maintenance receptors identified in section V dropped below 76 ppb and Pennsylvania's contribution to downwind ozone problems did not drop below one percent of the NAAQS. Therefore, the identified receptors and linked upwind states in section V remain unchanged.

VI. Quantifying Upwind State EGU NO_X Emission Budgets To Reduce Interstate Ozone Transport for the 2008 NAAQS

A. Introduction

This section describes the EPA's methodology for quantifying emission budgets to reduce interstate emission transport for the 2008 ozone NAAQS. 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. The EPA's assessment of upwind state emission budgets in this rule reflects analysis of uniform NO_X

[127] Published April 23, 2017 (*http://www.pabulletin.com/secure/data/vol46/46-17/694.html*).

[128] For more information about the EPA's assessment of Pennsylvania's RACT rule, see the Pennsylvania RACT memo to the docket for this rulemaking.

emission control stringency. Each level of uniform NO_X control stringency represents an estimated marginal cost per ton of NO_X reduced and is characterized by a set of pollution control measures. The EPA applies a multi-factor test, the same multi-factor test that was used in the original CSAPR,[129] to evaluate increasing levels of uniform NO_X control stringency. The multi-factor test 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. The uniform NO_X emission control stringency, represented by marginal cost, also serves to apportion the reduction responsibility among collectively-contributing upwind states. This approach to quantifying upwind state emission reduction obligations using uniform cost was reviewed by the Supreme Court in *EPA* v. *EME Homer City Generation,* which held that using such an approach to apportion emission reduction responsibilities among upwind states that are collectively responsible for downwind air quality impacts "is an efficient and equitable solution to the allocation problem the Good Neighbor Provision requires the Agency to address." 134 S. Ct. at 1607.

There are four stages in developing the multi-factor test to quantify upwind state emission budgets as to the 2008 ozone NAAQS: (1) Identify levels of uniform NO_X control stringency (represented by an estimated marginal cost of control that is applied across linked upwind states); (2) evaluate NO_X emission reductions and corresponding NO_X emission budgets (*i.e.,* remaining allowable emissions after reductions are made) at each identified level of uniform control stringency; (3) assess air quality improvements resulting at each level of control; and (4) select a level of control stringency by applying the multi-factor test to consider cost, available emission reductions, and downwind air quality impacts, including ensuring that the budgets do not unnecessarily over-control relative to the contribution threshold or downwind air quality.

The multi-factor evaluation informs the EPA's determination of appropriate EGU NO_X ozone season emission budgets necessary to reduce emissions that significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS for the 2017 ozone season and subsequent control periods. For most CSAPR Update states, the emission reductions achieved through implementation of these budgets will partially satisfy the 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).[130] For one state, Tennessee, the emission reductions achieved through implementation of its emission budget will fully satisfy the EPA's good neighbor FIP obligation for the 2008 ozone NAAQS. Section VII describes the EPA's approach to implementing these emission budgets through updates to the CSAPR NO_X ozone season trading program.

B. Levels of Uniform Control Stringency

The following subsections describe the EPA's analysis to establish levels of uniform control stringency for EGU and non-EGU point sources. Each level of uniform NO_X control stringency is characterized by a set of pollution control measures and represents an estimated marginal cost per ton of NO_X reduced. This section summarizes the EPA's findings when assessing NO_X reduction strategies and cost.

As described in section IV of this preamble, the EPA is quantifying near-term ozone season NO_X emission reductions to reduce interstate emission transport for the 2008 ozone NAAQS in order to assist downwind states with meeting the impending July 20, 2018 Moderate area attainment date. Although this final rule does not require or impose any specific technology standards on affected sources, the EPA limited its analysis of potential NO_X reductions in each upwind state to those that could be feasibly implemented for the 2017 ozone season, which is the last full ozone season prior to the July 20, 2018 attainment date. This approach ensures that the emission budgets are achievable for the 2017 ozone season. The EPA did not further analyze potential NO_X reductions from strategies that were deemed infeasible to implement for the 2017 ozone season for purposes of quantifying upwind state emission budgets, but the EPA anticipates considering those controls in any future action that may be necessary to address upwind states' full emission reduction obligations with respect to the 2008 ozone standard. For more details on these assessments, refer to the EGU NO_X Mitigation Strategies Final Rule TSD and the Assessment of Non-EGU NO_X Emission Controls, Cost of Controls, and Time for Compliance Final Rule TSD in the docket for this rule.

1. EGU NO_X Mitigation Strategies

In developing levels of uniform control stringency, the EPA considered all NO_X control strategies that are widely in use by EGUs: Fully operating existing Selective Catalytic Reduction (SCR), including both optimizing NO_X removal by existing, operational SCRs and turning on and optimizing existing idled SCRs; turning on existing idled SNCRs; installing state-of-the-art NO_X combustion controls; shifting generation to existing units with lower-NO_X emission rates within the same state; and installing new SCRs and SNCRs. For the reasons explained in the EGU NO_X Mitigation Strategies Final Rule TSD, the EPA determined that these EGU NO_X mitigation strategies are feasible for the 2017 ozone season, with the exception of installing new SCRs or SNCRs.

The following subsections describe the EPA's identification of uniform levels of NO_X emission control stringency. Each level of uniform NO_X control stringency represents an estimated marginal cost per ton of NO_X reduced and is characterized by a set of pollution control measures. The levels of NO_X control stringency identified are used in the EPA's multi-factor test described later on.

a. *$800 per ton, representing optimizing existing and operating SCRs.* Optimizing NO_X removal for existing and operating SCRs can significantly reduce EGU NO_X emissions quickly, using investments in pollution control technologies that have already been made. SCRs can achieve up to 90 percent reduction in EGU NO_X with sufficient reagent and installed catalyst. These controls are in widespread use across the U.S. power sector. In the 22 state CSAPR Update region, approximately 53 percent of coal-fired EGU capacity and 76 percent of natural gas combined cycle (NGCC) EGU capacity is equipped with SCR. Recent power sector data reveal that some SCR controls are being underused. In some cases, SCR controls are not fully operating (*i.e.,* the controls could be operated at a greater NO_X removal rate).[131] As described later on in this preamble, the EPA finds that optimizing existing and operating SCRs is a readily

[129] *See* CSAPR, Final Rule, 76 FR 48208 (August 8, 2011).

[130] See section IV.B.4 for further discussion of this partial remedy.

[131] This assessment is available in the EGU NO_X Mitigation Strategies Final Rule TSD.

available approach for EGUs to reduce NO_X emissions.

The EPA identifies $800 per ton as a level of uniform control stringency that represents optimizing existing SCR controls that are already operating to some extent. The EPA's final analysis for the CSAPR Update rule is informed by comment on the proposal.[132] This cost level is premised on variable costs, specifically additional reagent (*i.e.,* ammonia or urea) and additional catalyst, being the primary costs incurred for optimizing an existing SCR unit that is already operating to some extent. More information about this analysis is available in the EGU NO_X Mitigation Strategies Final Rule TSD.

b. *$1,400 per ton, representing turning on idled existing SCRs and installing state-of-the-art NO_X combustion controls.*

Turning on idled, existing SCRs also can significantly reduce EGU NO_X emissions quickly, using investments in pollution control technologies that have already been made. Recent power sector data reveal that, in some cases, SCR controls have been idled for several seasons or years. The EPA finds that turning on idled SCRs is a readily available approach for EGUs to reduce NO_X emissions.

The EPA identifies $1,400 per ton as a level of uniform control stringency that represents turning on idled SCR controls. The EPA's analysis of this level of uniform control stringency for the final CSAPR Update is informed by comment on the proposal.[133] While the costs of optimizing existing, operational SCRs include only variable costs (as described earlier), the cost of bringing existing SCR units that are currently idled back into service considers both variable and fixed costs. Variable and fixed costs include labor, maintenance and repair, reagent, parasitic load, and ammonia or urea. The EPA performed an in-depth cost assessment for all coal-fired units with SCRs. More information about this analysis is available in the EGU NO_X Mitigation Strategies Final Rule TSD, which is found in the docket for this rule.

The EPA also includes installing state-of-the-art combustion controls in the level of uniform control stringency represented by $1,400 per ton. State-of-the-art combustion controls such as low-NO_X burners (LNB) and over-fire air (OFA) can be installed quickly, and can significantly reduce EGU NO_X emissions. In the 22 state CSAPR Update Region, approximately 99 percent of coal-fired EGU capacity in the East is equipped with some form of combustion control. Combustion controls alone can achieve NO_X emission rates of 0.15 to 0.50 lbs/mmBtu.[134] Once installed, combustion controls reduce NO_X emissions at all times of EGU operation. The EPA finds that the installation of state-of-the-art combustion controls is a readily available approach for EGUs to reduce NO_X emissions.

The cost of installing state-of-the-art combustion controls per ton of NO_X reduced is dependent on the combustion control type and unit type. The EPA estimates the cost per ton of state-of-the-art combustion controls to be $500 per ton to $1,200 per ton of NO_X removed. In specifying a representative marginal cost at which state-of-the-art combustion controls are widely available, the EPA uses the conservatively high end of this identified range of costs, $1,200 per ton. Because $1,200 per ton is similar in terms of EGU NO_X control stringency to $1,400 per ton, for purposes of the analysis that follows, the EPA includes installing state-of-the-art NO_X combustion controls in the uniform control stringency level represented by $1,400 per ton of NO_X removed.[135]

c. *$3,400 per ton, representing turning on idled existing SNCRs.* Turning on idled existing SNCRs can also significantly reduce EGU NO_X emissions quickly, using investments in pollution control technologies that have already been made. SNCRs can achieve up to 25 percent reduction in EGU NO_X emissions (with sufficient reagent). These controls are in widespread use across the U.S. power sector. In the 22 state CSAPR Update region, approximately 10 percent of coal-fired EGU capacity is equipped with SNCR. Recent power sector data reveal that, in some cases, SNCR controls have been idled for several seasons or years. The EPA finds that turning on idled SNCRs is a readily available approach for EGUs to reduce NO_X emissions

The EPA identifies $3,400 per ton as a level of uniform control stringency that represents turning on and fully operating idled SNCRs. For existing SNCRs that have been idled, unit operators may need to restart payment of some fixed and variable costs associated with these controls. Fixed and variable costs include labor, maintenance and repair, reagent, parasitic load, and ammonia or urea. The majority of the total fixed and variable operating costs for SNCR is related to the cost of the reagent used (*e.g.,* ammonia or urea) and the resulting cost per ton of NO_X reduction is sensitive to the NO_X rate of the unit prior to SNCR operation. For more details on this assessment, refer to the EGU NO_X Mitigation Strategies Final Rule TSD in the docket for this rule.

d. *$5,000 per ton, representing installing new SCRs.* The amount of time to retrofit with new SCR exceeds the implementation timeframes considered in this final rule. It would therefore not be feasible to retrofit new SCR to achieve EGU NO_X reductions for the 2017, or even 2018, ozone season. Exclusion of new SCR installation from this analysis reflects a determination only that these strategies are infeasible for implementation of this rule, not a determination that they are infeasible or inappropriate for consideration of NO_X reduction potential to address interstate emission transport over a longer timeframe. *See* EGU NO_X Mitigation Strategies Final Rule TSD for discussion of feasibility of EGU NO_X controls for the 2017 ozone season.

The EPA identifies $5,000 per ton as a level of uniform control stringency that represents retrofitting a unit with new SCR technology. The EPA evaluated this level of uniform NO_X emission control stringency, with the limitation that no new SCR systems were installed as a result of the EPA's analysis for the 2017 ozone season. The agency examined the cost for retrofitting a unit with new SCR technology, which typically attains controlled NO_X rates of 0.07 lbs/mmBtu, or less. Because this EGU NO_X reduction strategy is prospective and the EPA does not know the exact specifications of EGUs that may find this NO_X reduction strategy feasible and cost-effective beyond 2017, it performed a cost analysis using a representative electric generating unit.

[132] The EPA proposed that $500 per ton was a level of uniform control stringency that represented optimizing existing SCR controls that are already operating to some extent. The EPA received comments suggesting that its cost estimates should be revised. Details of the EPA's final cost analysis can be found in the EGU NO_X Mitigation Strategies Final Rule TSD.

[133] The EPA proposed that $1,300 per ton was a level of uniform control stringency that represented turning on idled SCR controls. The EPA received comments suggesting that its cost estimates should be revised. Details of the EPA's final cost analysis can be found in the EGU NO_X Mitigation Strategies Final Rule TSD.

[134] Details of the EPA's assessment of state-of-the-art NO_X combustion controls are provided in the EGU NO_X Mitigation Strategies Final Rule TSD.

[135] As described in section VI, the EPA's assessment of emission budgets reflecting uniform NO_X control stringency represented by $1,400 per ton does not over-control as to any upwind state. Only one state, Tennessee, fully resolves its obligation at this level of control stringency and Tennessee's emission budget is exactly the same at $800 per ton and $1,400 per ton, indicating that it was not necessary for the agency to evaluate a distinct level of uniform NO_X control stringency linked solely installing state-of-the-art NO_X combustion controls.

A coal-fired EGU with an uncontrolled NO_X rate of 0.35 lbs/mmBtu, retrofitted with an SCR to a lower emission rate of 0.07 lbs/mmBtu, results in a cost of approximately $5,000 per ton of NO_X removed. For more details on this assessment, refer to the EGU NO_X Mitigation Strategies Final Rule TSD in the docket for this rule.

e. *$6,400 per ton, representing installing new SNCRs.* The amount of time to retrofit with new SNCR exceeds the implementation timeframes considered in this final rule. It would therefore not be feasible to retrofit new SNCR to achieve EGU NO_X reductions for the 2017, or even 2018, ozone season. Exclusion of new SNCR installation from this analysis reflects a determination only that these strategies are infeasible for implementation of this rule, not a determination that they are infeasible or inappropriate for consideration of NO_X reduction potential to address interstate emission transport over a longer timeframe. *See* EGU NO_X Mitigation Strategies Final Rule TSD for discussion of feasibility of EGU NO_X controls for the 2017 ozone season.

The EPA identifies $6,400 per ton as a level of uniform control stringency that represents retrofitting a unit with new SNCR technology. The EPA evaluated this level of uniform NO_X emission control stringency, with the limitation that no new SNCR systems were installed as a result of the EPA's analysis for the 2017 ozone season. SNCR technology provides owners a low capital cost option for reducing NO_X emissions, albeit at the expense of higher operating costs. The higher cost per ton of NO_X removed reflects this technology's lower removal efficiency, which results in greater reagent consumption and escalates the cost of operating the SNCR relative to tons of NO_X removed. Owners may favor this technology to meet certain NO_X performance requirements for certain units. Because this EGU NO_X reduction strategy is prospective and the EPA does not know the exact specifications of EGUs that may find this NO_X reduction strategy feasible and cost-effective beyond 2017, the EPA performed a cost analysis using a representative electric generating unit. For a unit with a 40 percent capacity factor and using a NO_X emission reduction assumption of 25 percent, the cost is $6,500 per ton of NO_X removed. For more details on this assessment, refer to the EGU NO_X Mitigation Strategies Final Rule TSD in the docket for this rule.

2. Non-EGU NO_X Mitigation Strategies and Feasibility for the 2017 Ozone Season

The EPA is not at this time addressing non-EGU emission reductions in its efforts to reduce interstate emission transport for the 2017 ozone season with respect to the 2008 ozone NAAQS. As compared to EGUs, there is greater uncertainty in the EPA's current assessment of non-EGU point-source NO_X mitigation potential and the EPA believes more time is required for states and the EPA to improve non-EGU point source data and pollution control assumptions before including related reduction potential in this regulation. Further, the 2017 ozone season implementation timeframe for this rulemaking would limit the number of non-EGU source categories that could potentially implement NO_X emission reductions within that timeframe. Finally, using the best information available to the EPA, which was submitted for public comment with the proposed CSAPR Update, the EPA finds that there are more non-EGU point sources than EGU sources and that these sources on average emit less relative to EGUs. The implication of these fleet characteristics is that there are more individual sources to control and there are relatively fewer emission reductions available from each source. Considering these factors, the EPA finds substantial uncertainty regarding whether significant aggregate NO_X mitigation is achievable from non-EGU point sources for the 2017 ozone season.

In assessing the potentially available 2017 ozone season NO_X emission reductions from non-EGU sources, the EPA identified potential controls, the reduction potential of each control, the associated cost of each control using a nationwide average, and the timing for the installation of control. The EPA then evaluated the cost-effective controls that could be implemented by the 2017 ozone season. While there may be a few categories where cost-effective installation of non-EGU NO_X controls on a limited number of sources would be feasible by the 2017 ozone season, the EPA does not observe that significant, certain, and meaningful non-EGU NO_X reduction is in fact feasible for the 2017 ozone season. For example, one factor influencing uncertainty is that the EPA lacks sufficient information on the capacity and experience of suppliers and major engineering firms' supply chains to conclude that they would be able to execute the project work for non-EGU sources in the limited timeframe of this rule.

The EPA has evaluated the potential for ozone season NO_X reductions from non-EGU sources. A detailed discussion of this assessment was provided in the draft Non-EGU NO_X Mitigation Potential TSD, which was located in the docket for the proposed rule and was available for comment. The EPA did not receive any comments that changed its conclusions in the draft Non-EGU NO_X Mitigation Potential TSD. As commenters generally agreed with the EPA's assessment with respect to the regulation of non-EGUs in this rule, the TSD will be finalized with no substantive change from the proposal TSD. This TSD contains information shared at the proposal on non-EGU source category emissions, the EPA's tools for estimating emission reductions from non-EGU categories, brief discussions of available controls, costs, potential emission reductions for specific source categories and efforts, to date, to review and refine its estimates for certain states. There were no significant comments on the TSD, and the minor comments that were received will be addressed in the response to comments document. The EPA views this non-EGU assessment as a step toward future efforts to evaluate non-EGU categories that may be necessary to fully quantify upwind states' significant contribution to nonattainment or interference with maintenance.

Although the EPA is not analyzing non-EGU reductions for purposes of quantifying emission budgets in this final action, future EPA rulemakings or guidance could revisit the potential for reductions from non-EGU sources.

3. Summary of EGU Uniform Control Stringency Represented by Marginal Cost of Reduction (Dollar per Ton)

Table VI.B–1 lists the final EGU uniform NO_X emission control stringencies, represented by marginal cost per ton of NO_X reduced, that the EPA evaluated and the NO_X reduction strategy or policy that identified each uniform cost level.

TABLE VI.B–1—LEVELS OF EGU UNIFORM NO_X EMISSION CONTROL STRINGENCY AND REPRESENTATIVE MARGINAL COST

Levels of EGU uniform control stringency	Representative EGU NO_X controls
$800 per ton	Widespread availability of optimizing existing and operating SCRs.
$1,400 per ton	Widespread availability of turning on idled existing SCRs and installing state-of-the-art combustion controls.
$3,400 per ton[136]	Widespread availability of turning on idled existing SNCRs.
$5,000 per ton	Widespread availability of installing new SCRs.[137]
$6,400 per ton	Widespread availability of installing new SNCRs.[138]

The EPA finds that $800 per ton is the lowest marginal cost at which any specific EGU pollution control technology (*i.e.,* optimizing existing and operating SCRs) is available and feasible in the timeframe for implementing this rule. The EPA's final analysis shows that no specific EGU NO_X reduction technologies are available at a lower cost than $800 per ton. The implication of this finding is that evaluating $500 per ton, which was assessed at proposal, for the final rule would not yield any EGU NO_X reduction potential attributable to specific pollution control technologies. As such, $800 per ton is the lowest uniform cost evaluated for the final CSAPR Update.

In the CSAPR Update proposal, the EPA also evaluated $10,000 per ton as a uniform level of control stringency. The EPA identified this level of control stringency as an upper bound for the analysis conducted for the proposed rule. However, the proposal's analysis showed that no specific EGU NO_X reduction technologies were available at a higher cost than $6,400 per ton. The EPA did not receive comment on the proposal indicating that there are additional EGU NO_X reduction technologies available between $6,400 per ton and $10,000 per ton. As a result, the EPA did not evaluate $10,000 per ton as a uniform level of control stringency for the final CSAPR Update.

The EPA finds that the selection of uniform cost thresholds presented in Table VI.B–1 is appropriate to evaluate potential EGU NO_X reductions and corresponding emission budgets to address interstate emission transport for the 2008 ozone NAAQS. The EPA has identified cost thresholds where control technologies are widely available and therefore where the most significant incremental emission reduction potential is expected. The EPA did not evaluate additional cost thresholds in between those selected because this analysis would not yield meaningful insights as to NO_X reduction potential as the EPA did not identify any control technologies that become available at such cost thresholds. Because these cost thresholds are linked to costs at which EGU NO_X mitigation strategies become widely available in each state, the cost thresholds represent the break points at which the most significant step-changes in EGU NO_X mitigation are expected.

C. EGU NO_X Reductions and Corresponding Emission Budgets

The EPA evaluated the EGU NO_X reduction potential for each identified uniform level of NO_X control stringency represented by marginal cost. This analysis applied the uniform control stringency to EGUs in each upwind state NO_X using IPM version 5.15. The EPA then used the modeled EGU NO_X reduction potential in combination with monitored EGU data to quantify emission budgets for each uniform level of NO_X control stringency. The next step of the process (described in the next subsection) evaluated air quality impacts of each set of emission budgets.

1. Evaluating EGU NO_X Reduction Potential

The EPA evaluates emission reductions from all EGU NO_X mitigation strategies available at each level of uniform NO_X control stringency. However, two components of this assessment are key to the level of reductions available and/or received significant comment at proposal. These components are the achievable NO_X rate for units with SCR and shifting generation to lower NO_X-emitting or zero-emitting EGUs.

One key input to the EPA's analysis of EGU NO_X reduction potential is the NO_X emission rate that can be achieved for EGUs with SCRs that are not optimized or are idled. This input influences the EPA's estimate of EGU NO_X reduction potential and corresponding NO_X ozone season emission budgets. To estimate EGU NO_X reduction potential from optimizing or turning-on idled SCRs, the EPA considers the delta between the non-optimized or idled NO_X emission rates and an achievable operating and optimized SCR NO_X emission rate. Assuming a higher achievable EGU NO_X emission rate for SCRs yields a higher emission budget and assuming a lower achievable EGU NO_X emission rate for SCRs yields a lower emission budget. For the final rule analysis, the EPA finds that an achievable 2017 EGU NO_X ozone season emission rate for units with SCR is 0.10 lbs/mmBtu. To determine this rate, the EPA evaluated coal-fired EGU NO_X ozone season emission data from 2009 through 2015 and calculated an average NO_X ozone season emission rate across the fleet of coal-fired EGUs with SCR for each of these seven years. The EPA finds it prudent to not consider the lowest or second lowest ozone season NO_X rates, which may reflect new SCR systems that have all new components (*e.g.,* new layers of catalyst). Data from these new systems are not representative of ongoing achievable NO_X rates considering broken-in components and routine maintenance schedules. The EPA believes that the third lowest fleet-wide average coal-fired EGU NO_X rate for EGUs with SCR is representative of ongoing achievable emission rates. The EPA observes that the third lowest fleet-wide average coal-fired EGU NO_X rate for EGUs with SCR is 0.10 lbs/mmBtu. The EPA has implemented 0.10 lbs/mmBtu as an EGU NO_X rate ceiling in IPM. For more information about how this rate is implemented in IPM, see the EPA's IPM documentation, which can be found in the docket for this rulemaking or at *www.epa.gov/powersectormodeling.*

The EPA's analysis of SCR NO_X rates for the final rule differs from the proposal in two ways. First, the evaluation focuses on a more recent timeframe for analysis—2009 through 2015 compared to 2003 through 2014. The EPA believes this change is reasonable because there have been

[136] The EPA notes that this cost is similar to the NO_X SIP Call ozone season NO_X cost threshold, adjusted to 2014$.

[137] The cost assessment for new SCR is available in the EGU NO_X Mitigation Strategies Final Rule TSD. While chosen to define a cost-threshold, new SCRs were not considered a feasible control on the compliance timeframe for this rule.

[138] The cost assessment for new SNCR is available in the EGU NO_X Mitigation Strategies Final Rule TSD. While chosen to define a cost-threshold, new SNCRs were not considered a feasible control on the compliance timeframe for this rule.

significant shifts in the power sector since 2003, particularly with respect to power sector economics (*e.g.,* lower natural gas prices in response to shale gas development) and environmental regulations (*e.g.,* CAIR and CSAPR). Because of these changes, the EPA considers it reasonable to evaluate SCR performance focusing on more recent historical data that better represent the current landscape of considerations affecting the power sector. The EPA chose 2009 because that is the first year of CAIR NO_X annual compliance. Second, the analysis focuses on the third best ozone season average rate as compared to the second best rate at proposal. The EPA believes that the second best rate, as discussed previously, could continue to capture disproportionately new SCR components and does not necessarily reflect achievable ongoing NO_X emission rates. Therefore, the EPA is finalizing analysis using the third best rate.

The proposed CSAPR Update put forward 0.075 lbs/mmBtu as a widely achievable EGU NO_X ozone season emission rate for coal-fired EGUs with SCR. As noted in the previous paragraph, the EPA has reassessed this assumption, partly in response to comment received on the proposal. Some of the key comments are summarized later and additional detail can be found in the Assessment of Non-EGU NO_X Emission Controls, Cost of Controls, and Time for Compliance Final TSD and the Response to Comments Document.

Comment: Some commenters suggested that the EPA's proposed coal-fired EGU NO_X ozone season emission rate of 0.075 lbs/mmBtu for units with SCR was too low and did not represent an achievable NO_X rate for the 2017 ozone season. These commenters provided several examples of changes in power sector economics that have significantly changed EGU dispatch in recent years and also changes in compliance planning for environmental regulations. These commenters suggested that the EPA should consider a shorter time-frame for evaluating SCR operation.

Response: The EPA acknowledges that various factors, both economic and regulatory, have influenced the power sector in recent years. The EPA believes that the achievable SCR NO_X rate and underlying assumptions that it is finalizing in this action are generally responsive to these comments. As discussed previously, for the purposes of evaluating EGU NO_X reduction potential, the EPA uses an EGU NO_X emission rate for units with SCR of 0.10 lbs/mmBtu as a ceiling in the IPM model. This rate reflects a generally achievable NO_X emission rate that is appropriate for the EPA's budget-setting purposes. The use of this rate to establish emission budgets was supported in comments by many power sector companies and their representative groups.

Comment: Other commenters noted that many coal-fired EGUs with SCR have demonstrated the ability to achieve NO_X emission rates of 0.06 lbs/mmBtu or lower. These commenters suggested that the EPA should use SCR NO_X ozone season emission rates that are lower than 0.075 lbs/mmBtu in quantifying emission budgets.

Response: The EPA acknowledges that many individual coal-fired EGUs with SCR have achieved rates lower than 0.075 lbs/mmBtu. However, in evaluating a regional environmental challenge (*i.e.,* interstate transport of ozone pollution) and designing an analysis of EGU NO_X reduction potential in the many states in that region, the EPA believes it is prudent to consider a range of demonstrated NO_X emission rates and believes that an ozone season average is a more reasonable approach for identifying NO_X reduction potential using a uniform standard.

Another key input to the EPA's analysis of EGU NO_X reduction potential is shifting generation to existing, lower NO_X-emitting or zero-emitting EGUs within the same state. Shifting generation to existing lower NO_X-emitting or zero-emitting EGUs within the same state would be a readily available approach for EGUs to reduce NO_X emissions, and the EPA included this NO_X mitigation strategy in quantifying EGU NO_X reduction potential in the analyses informing this rule.

Regarding feasibility of shifting generation to existing lower-NO_X emitting or zero-emitting units within the same state for the 2017 ozone season, the EPA finds that this EGU NO_X reduction strategy is consistent with demonstrated EGU dispatch behavior. Power generators produce a relatively fungible product, electricity, and they operate within an interconnected electricity grid in which electricity generally cannot be stored in large volumes, so generation and use must be balanced in real time. *See FERC* v. *Elec. Power Supply Ass'n,* 136 S. Ct. 760, 768 (2016). Because of their uniquely interconnected and interdependent operations—so much so that the utility sector has been likened to a "complex machine" [139]—power plants shift generation in the normal course of business. Every time a power plant either increases or decreases operations, that has implications for the overall amount of pollution emitted by other plants within the interconnected electricity grid, because those other plants must commensurately decrease or increase their operations to balance supply with demand. As a result, by shifting some generation from higher-emitting to lower-emitting plants, sources can achieve an effective degree of emission limitation that might otherwise have required them to make much more expensive investments in end-of-stack technologies at their particular plants. As a result, sources would likely use shifting generation measures to comply with standards whenever doing so is less expensive than end-of-stack controls, even if EPA considered only end-of-stack controls in determining those standards. Further, the flexibility that power plants have to shift generation in establishing dispatch patterns is synergistic with the flexibility afforded by implementation through an allowance trading program, as the EPA is finalizing in this CSAPR Update. Allowance prices can be seamlessly factored into dispatch decisions, which provides for an efficient approach to administering shifting generation for compliance with the CSAPR Update requirements, if EGUs so choose. For these reasons, it is therefore reasonable for the EPA to consider that sources may cost-effectively address their emissions through arrangements that incorporate cleaner forms of power generation.

For establishing emission budgets for the CSAPR Update, the EPA finds that shifting specified, small amounts of generation to existing lower NO_X-emitting or zero-emitting units could occur consistent with the near-term 2017 implementation timing for this rule.[140] As a proxy for limiting the amount of generation shifting that is feasible for the 2017 ozone season, the EPA limited its assessment to shifting generation to other EGUs within the same state. The EPA believes that limiting its evaluation of shifting generation (which we sometimes refer to as re-dispatch) to the amount that could

[139] Phillip F. Schewe, The Grid: A Journey Through the Heart of Our Electrified World 1 (2007). The integrated nature of the utility power sector is well-recognized. *See, e.g.,* CAA section 404(f)(2)(B)(iii)(I); *New York* v. *Federal Energy Regulatory Commission,* 535 U.S. 1, at 7 (2002).

[140] The EGU NO_X Mitigation Strategies Final Rule TSD provides data indicating the extent to which electricity generation shifted from one ozone season to another in recent years.

occur within the state transfer represents a conservatively small amount of generation-shifting because it does not capture further potential emission reductions that would occur if generation was shifted more broadly among units in different states within the interconnected electricity grid, which the EPA believes is feasible over time. However, this broader, interstate generation-shifting may involve greater complexity—due to, for example, the greater amount of demand, larger number of sources, and greater amount of infrastructure involved—and therefore may be more challenging to implement in the near term. Limiting our consideration of such generation-shifting potential to a small percentage of total generation-shifting potential is consistent with the limited amount of time that states and sources have to achieve the required reductions. EPA relied on the in-state limitation as a reasonable indication of the amount of EGU NO_X reduction potential from shifting generation to existing lower NO_X-emitting or zero-emitting units that states and sources can readily implement by the 2017 summer ozone season. Of course, sources are not limited to generation-shifting within state, and instead are free to shift generation across state lines to comply with the CSAPR Update requirements.

Regarding the cost of the amount of generation-shifting that would result from shifting generation to existing lower-NO_X emitting or zero-emitting units within the same state, the EPA finds that this NO_X reduction strategy occurs on a cost continuum rather than at a discrete marginal cost per ton of NO_X. In tracking power sector development over time, the EPA observes that shifting generation to existing lower-NO_X emitting or zero-emitting EGUs occurs in response to economic factors such as fuel costs. Similar to this response to economic factors, the EGU NO_X reduction potential analysis conducted for the CSAPR Update rule shows shifting generation occurring on a continuum in response to environmental policy, represented by marginal cost of NO_X reductions. In other words, unlike the retrofit pollution control technologies that are evaluated in this CSAPR Update, there is no discrete cost at which this EGU NO_X mitigation strategy is singularly widely available. Rather, relatively lower marginal NO_X costs incentivize some EGU NO_X reductions from shifting generation, while relatively higher marginal NO_X costs incentivize more EGU NO_X reductions from shifting generation. The EPA quantified NO_X reduction potential from this EGU NO_X reduction strategy at each uniform NO_X control stringency level analyzed. As described in the EGU NO_X Mitigation Strategies Final Rule TSD, the amount of generation shifting seen in the CSAPR Update is modest in comparison to ozone season-to-ozone season generation shifting seen in recent years.

Comment: Commenters raised concerns regarding the EPA's authority pursuant to CAA section 110(a)(2)(D)(i)(I) to analyze generation shifting as a NO_X reduction strategy for purposes of calculating budgets for the final rule. The commenters cite the statutory language requiring states to prohibit "any source . . . from emitting" pollutants that contribute to downwind nonattainment and maintenance as constraining the EPA's authority to require reductions only from existing sources. The commenters claim that this language prohibits the EPA's authority to require sources to re-dispatch to new or alternative existing emission sources as this does not constitute a control on a "source." Commenters add that the proposed budgets make it impossible for states to comply without taking this measure. Some commenters claim that, while the EPA may not set budgets assuming generation shifting, re-dispatch can serve as a compliance option for EGUs to meet budgets quantified in this rule.

Some commenters cite to the EPA's reliance on generation shifting in developing the best system of emissions reductions (BSER) pursuant to CAA section 111(d) in the CPP. These commenters claim that the EPA cannot rely on the same justification used to consider generation shifting in the CPP because, unlike CO_2, NO_X is not a global, well-mixed pollutant with limited control options. These commenters also note that the EPA's assertion that section 111(d) permits consideration of generation shifting is subject to current litigation.

Response: The good neighbor provision requires state and federal plans implementing its requirements to "prohibit[ ] . . . *any source or other type of emissions activity within the State* from emitting any air pollutant in *amounts* which will" significantly contribute to nonattainment or interfere with maintenance of the NAAQS in any other state. CAA section 110(a)(2)(D)(i)(I) (emphasis added). The EPA's consideration of the potential for generation shifting in developing state budgets is consistent with this statutory requirement.

First, contrary to the commenters' contention, the statute does not limit the EPA's authority under the good neighbor provision to basing regulation only to control strategies for individual sources. The statute authorizes the state or EPA in promulgating a plan to prohibit emissions from "any source or other type of emissions activity within the State" that contributes (as determined by EPA) to the interstate transport problem with respect to a particular NAAQS. This broad statutory language shows that Congress was directing the states and the EPA to address a wide range of entities and activities that may be responsible for downwind emissions. However, this provision is silent as to the type of emission reduction measures that the states and the EPA may consider in establishing emission reduction requirements, and it does not limit those measures to individual source controls. The EPA reasonably interprets this provision to authorize consideration of a wide range of measures to reduce emissions from sources, which is consistent with the broad scope of this provision, as noted immediately above.[141] In the case of power plants, those measures can include on-site technology-based control measures, but they can also include measures through which power plants reduce emissions by shifting generation from higher-emitting EGUs to lower-emitting EGUs. It should be noted that because of the integrated nature of the power sector, higher-emitting EGUs have a variety of methods for implementing generation-shifting.[142] In addition, states can take action, such as imposing permit limits, that would result in generation shifting.

Moreover, the statute instructs the plan to prohibit emissions activity in "amounts" that significantly contribute to nonattainment or interfere with maintenance of downwind air quality. In identifying those amounts, the EPA has not mandated generation shifting, but rather has factored each state's capacity for re-dispatch into the calculation of the amounts of emission reductions that are achievable to address downwind air quality. The

[141] Interpreting the Good Neighbor Provision to be sufficiently broad to authorize reliance on generation shifting is also consistent with the legislative history for the 1970 CAA Amendments. The Senate Report stated that to achieve the NAAQS, "[g]reater use of natural gas for electric power generation may be required," S. Rep. No. 91–1196 at 2, which can best be achieved by shifting generation from coal-fired to natural-gas-fired generators.

[142] *See* Legal Memorandum Accompanying Clean Power Plan for Certain Issues, 137–48, *EPA–HQ–OAR–2013–0602–36872; West Virginia* v. *EPA, D.C. Cir. No. 15–1363, Brief of Amici Curia* Grid Experts Benjamin F. Hobbs, Brendan Kirby, Kenneth J. Lutz, James D. McCalley, and Brian Parsons in Support of Respondents, at 1–4, 12–14.

emission reductions are captured in state budgets, which are then implemented through the flexible CSAPR NO_X ozone season allowance trading program that allows each source to determine its own strategy for compliance, whether that be through implementation of on-site controls, re-dispatch, or the purchase of allowances. Indeed, no state would violate the provisions of the rule if sources within the state decided not to employ re-dispatch as a means of compliance. As discussed in Section VII, the EPA performed a feasibility analysis which demonstrates that regionally and for each CSAPR Update state, the trading program requirements promulgated by this rule can be met through cost-effective measures, even without re-dispatch.

Further, we note that while commenters urged EPA to allow sources to use generation shifting as a means of compliance with statewide emissions budgets, they do not explain why they believe that re-dispatch may be used by sources for compliance but that the EPA may not consider this anticipated and widely-used means of reducing emissions when quantifying the amount of reductions achievable from sources within the state. In fact, because these comments acknowledge that sources are able to implement generation-shifting for the purpose of reducing emissions, they support EPA's reliance on generation-shifting to quantify the amount of reductions required under the good neighbor provision. Moreover, these comments support the view that even if the EPA did not base the amount of required emission reductions on generation-shifting, sources would rely on generation-shifting to meet their requirements as long as it is less expensive than other emission controls.

Although the commenters contend that the consideration of shifting generation as a source of emission reductions is unprecedented, shifting generation is a well-established technique for reducing power plant emissions, which has already been incorporated into many other CAA programs. For example, when promulgating the original CSAPR rulemaking, the EPA considered shifting generation when establishing state budgets in the same manner in which the EPA has incorporated generation shifting into the analysis for this rule.[143]

Finally, the commenters have not identified a clear conflict with the EPA's justification for considering generation shifting in the context of the CPP. The CPP was designed pursuant to the authority in CAA section 111(d), while the CSAPR Update is promulgated consistent with the requirements of the good neighbor provision at CAA section 110(a)(2)(D)(i)(I). As explained earlier, the good neighbor provision is permissibly interpreted to allow the EPA to consider generation shifting when defining the "amounts" of emission reductions that may be required to address each states' significant contribution to nonattainment and interference with maintenance of downwind air quality. Thus, while EPA is confident that its interpretation of section 111(d) to authorize generation-shifting will be upheld, the fact that litigants have challenged the EPA's authority pursuant to section 111(d) does not affect the EPA's authority pursuant to the good neighbor provision.

Moreover, the fact that there are factual differences between the nature of CO_2 and NO_X as air pollutants, does not constrain the EPA's authority to consider shifting generation when regulating NO_X emissions pursuant to the good neighbor provision. Rather, as described earlier, both rules regulate sources in the power sector that commonly engage in generation shifting as a means of achieving emission reductions of either CO_2 or NO_X. It is thus reasonable for the EPA to consider such practices in quantifying achievable emission reductions to address downwind air quality concerns. Furthermore, the rulemakings appropriately reflect the factual differences to the extent they are relevant (*e.g.*, this rule includes assurance provisions constraining emissions in each state and CPP does not, which reflects the regional nature of NO_X and the global nature of CO_2).

Comment: Commenters contend that the EPA cannot consider generation shifting for purposes of developing state emission budgets because the Federal Energy Regulatory Commission (FERC) has exclusive authority over dispatch requirements under the Federal Power Act. These commenters claim that scheduling and dispatch are controlled by regional transmission organizations and independent system operators, pursuant to FERC approval. Additionally, the commenters note that EGUs already may have committed their capacity under long term power purchase agreements (PPAs), which the EPA lacks the authority to alter or abrogate. Other commenters contend that the EPA must at least confer with FERC to confirm that the generation shifting required by this rule do not impact grid reliability.

Response: The CSAPR Update is an air-pollution rule specifically authorized by the CAA. As discussed in response to the previous comment, shifting generation is a well-established technique for reducing power plant emissions, which has already been incorporated into many other CAA programs. This rule limits EGU NO_X emissions that interfere with downwind states' ability to attain and maintain the 2008 ozone NAAQS. The rule does not regulate any other aspect of energy generation, distribution, or sale. For these reasons, the CSAPR Update does not intrude on FERC's power under the Federal Power Act, 16 U.S.C. 791a, *et seq.*, nor does the rule alter or abrogate the PPAs to which EGUs are subject. Like any pollution limits for the power industry (of which there are many under the CAA), the CSAPR Update will indirectly impact energy markets, but those impacts do not mean that the EPA has overstepped its authority.

The CSAPR Update does not require implementation of any specific control technology or compliance strategy. As described in section VII, the emission reductions quantified in this rule are implemented through EGU participation in a flexible allowance trading program. Sources may achieve these emission reductions in any manner they choose, including the purchasing of additional allowances if a particular source is constrained to reduce its emissions. Although sources have demonstrated ability to use re-dispatch as a compliance strategy (and indeed, some commenters concede they intend to do so here), such actions are not mandated

[143] *See* 76 FR at 48280 (EPA's selection of a $500 threshold "reflect[ed] an amount of . . . generation shifting that can be achieved for $500/ton"). For other CAA programs and rules that are based at least in part on generation-shifting, *see* S. Rep. No. 101–228, at 316 (1989) (Congress designed the Title IV acid rain provisions in the 1990 CAA Amendments in part on the ability of power plants to re-dispatch); 77 FR 9304, 9410 (Feb. 16, 2012) (in Mercury Air Toxics Rule, EPA authorized compliance extensions so that power plants could comply by generation-shifting); 70 FR 28606, 28619 (May 18, 2005) (in Clean Air Mercury Rule, EPA based emission requirements in part on the ability of power plants to generation shift); 70 FR 25162, 25256–57, 25277 (May 12, 2005) (several of CAIR's provisions were based on the ability of power plants to re-dispatch); 63 FR 57356, 57401 (Oct. 27, 1998) (NO_X SIP Call included "changes in dispatch" among the highly cost-effective controls that served as the basis for the required amount of reductions). In addition, several states have already adopted renewable energy measures in their SIPs for attaining and maintaining the NAAQS, and the EPA has provided initial guidance for states to do so. *See, e.g.*, Guidance on SIP Credits for Emission Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures (Aug. 2004), *http://www.epa.gov/ttn/oarpg/t1/memoranda/ereseerem_gd.pdf.* For example, in 2005, EPA approved inclusion of county government commitments to purchase 5 percent of their annual electricity consumption from wind power in Maryland's SIP. 70 FR 24988 (May 12, 2005).

by this rule. As discussed in Section VII, the EPA performed a feasibility analysis which demonstrates that regionally and for each CSAPR Update state, the trading program requirements promulgated by this rule can be met, even without re-dispatch.

Moreover, the EPA has evaluated the impact on electric reliability of the emission reductions required by this rule and found that compliance with the CSAPR Update requirements is consistent with maintaining electric reliability. For more information regarding this assessment, see the EGU NO_X Mitigation Strategies Final Rule TSD in the docket for this rule. The EPA also met with FERC during the development of the CSAPR Update to discuss compliance with the entirety of the rule, not only in relation to shifting generation. This meeting is documented in the docket for the CSAPR Update.

2. Quantifying Emission Budgets

In the proposed CSAPR Update, the EPA proposed setting emission budgets by considering monitored heat input (mmBtu) and modeled emission rates (lbs/mmBtu) from IPM. Specifically, the proposed CSAPR Update put forward a methodology to set emission budgets by multiplying monitored historical state-level heat input by model-projected 2017 state-level emission rates. The monitored historical data were based on 2014, which was the most recent complete ozone season dataset at the time of the proposal. The model-projected state-level emission rates were used to reflect EGU NO_X reduction potential. The proposed emission budgets were the lower of the calculated emission budget or the 2014 historical state-level emissions. The EPA took comment on all aspects of quantifying state emission budgets reflecting upwind EGU NO_X reduction potential.

The proposed CSAPR Update budget-setting approach differed from the finalized methodology in the original CSAPR, which used model-projected state-level emission data as emission budgets. The EPA received feedback on the finalized original CSAPR budget-setting approach through model input data submitted after the final rule that led to two revisions rules [144] and in litigation on the original CSAPR. Considering this feedback, the EPA believed that it was reasonable to update the budget-setting methodology for the proposed CSAPR Update. The proposed approach is similar to the proposed approach used to quantify emission budgets for the original CSAPR.[145]

The final rule methodology for setting emission budgets reflects the CSAPR Update proposal in that it retains the approach of multiplying historical state-level heat input by state-level emission rates that reflect EGU NO_X reduction potential. For the final CSAPR Update rule, the EPA is refining its methodology for establishing emission budgets that reflect EGU NO_X reduction potential by using historical state-level NO_X emission rates [146] adjusted by modeled NO_X reduction potential. Specifically, the final rule's approach applies the change in modeled 2017 state-level emission rates (the budget-setting base case 2017 projected rates minus the cost threshold modeling 2017 projected rates) to historical 2015 state-level NO_X emission rates,[147] such that the emission budgets assume the potential of each state to improve its historical NO_X rate by the same degree that it is projected to improve its NO_X rate when moving between the budget-setting base case 2014 projection and cost threshold projection.

This approach uses the EPA's IPM EGU NO_X reduction potential modeling in a relative sense by applying the projected 2017 change in state-level EGU NO_X emission rates to 2015 historical data. This approach is similar to the EPA's method for projecting ambient air quality concentrations described in section V. The EPA is finalizing this refinement to the proposed approach in response to comment received on the proposal. The primary improvement of this approach relevant to comment received is that it circumvents quantifying in emission budgets any modeled EGU NO_X reduction potential (*e.g.,* modeled retirements) that occurs in the budget-setting base case projection.

However, this approach also circumvents quantifying in emission budgets any known EGU NO_X reduction activities (*e.g.,* announced new SCR at existing EGUs, announced coal-to-gas conversions, or announced retirements) occurring between the historical 2015 data and the modeled projection 2017 data.

To account for known changes in the final rule budget-setting methodology, the EPA developed an adjusted historical dataset. This adjusted historical data starts with 2015 state-level monitored and reported EGU NO_X emissions and heat input. The dataset is then adjusted for three categories of known changes in the power sector occurring between 2015 and 2017: Announced new SCR at existing EGUs; announced coal-to-gas conversions; and announced retirements. These important adjustments ensure that the emission budgets established by this rule reflect EGU NO_X reductions both from already announced power sector changes and further EGU NO_X reductions quantified in the EPA's EGU NO_X reduction potential analysis. Accounting for known EGU NO_X reduction activities in establishing emission budgets ensures that the emission budgets reflect the best available information in terms of achievable EGU NO_X reductions and remaining emission levels. To account for announced new SCR at existing EGUs, the EPA adjusts the 2015 emissions at the relevant units as though the new SCR had been operating at that time (assuming no change in heat input [148] at those units). Similarly, to account for announced coal-to-gas conversions, the EPA adjusts the 2015 emissions at the relevant units as though the conversion had already taken place (assuming no change in heat input at those units). To account for announced retirements, the EPA subtracts the 2015 emissions from these units and replaces them by adding assumed emissions for an equivalent amount of generation using state-wide average emission rates after accounting for the retirement. Preserving some emissions associated with the generation from retired units, assuming that generation will be replaced by other EGUs in the state, ensures that the budget-setting approach accounts for known retirements but estimates the emission impact using generation replacement assumptions with conservatively high NO_X emission rates. In other words, the EPA assumes that the retired generation is replaced by the average remaining EGU composition within the state rather than by newer lower-emitting generation.

Comment: Commenters supported the EPA's consideration of historical monitored data to quantify emission budgets and advocated that the EPA

[144] 77 FR 34830 (June 12, 2012) and 77 FR 10324 (February 21, 2012).

[145] The original CSAPR proposal set proposed emission budgets by using an approach that considered monitored state-level heat input and modeled state-level emission rates. (75 FR 45291).

[146] The EPA notes that historical state-level ozone season EGU NO_X emission rates are publicly available and quality assured data. They are monitored using continuous emissions monitors (CEMs) data and are reported to the EPA directly by power sector sources.

[147] The EPA used 2014 historical data at proposal because that was the latest available at that time. Since then, 2015 historical data is available and the EPA is using 2015 data in the final rule because it best reflects the current state of the power sector.

[148] In this analysis the EPA used heat input as a proxy for electricity generation.

further utilize historical data in its budget-setting methodology. For example, some commenters proposed an alternative budget-setting methodology that was grounded entirely in historical data, with NO_X control assumptions applied. Commenters also suggested that the budget-setting base case projection emission rates were unduly influenced by model-projected changes for the 2017 analysis year and that this created emission budgets that did not reflect achievable NO_X emission levels.

Response: In response to these comments, the agency considered approaches to isolate model-projected changes in the power sector occurring in the budget-setting base case projection and model-projected changes that result from the application of uniform cost threshold analysis. As discussed previously, for the final rule, the EPA is refining its method for calculating emission budgets in response to these comments. In doing so, the EPA is also finalizing a budget-setting methodology that further relies on historical data, which is further aligned with comment received on the proposal.

The approach for applying this budget-setting methodology to the EPA's EGU NO_X reduction potential analysis uses a three step process, applied to each control stringency level. First, the EPA uses the state-level modeled EGU NO_X emission rate from the 2017 budget-setting base case projection and subtracts the state-level modeled EGU NO_X emission rate from the 2017 cost threshold projection (*e.g.,* $1,400 per ton).[149] This yields the EPA's assessment of policy-related EGU NO_X reduction potential in the form of a reduction in state-level NO_X emission rate. Second, the EPA subtracts this modeled change in state-level NO_X emission rate from the adjusted historical state-level EGU NO_X emission rate. This yields a cleaner state-level EGU NO_X emission rate that is grounded in historical data and reflects policy-related EGU NO_X reduction potential. Third, the EPA multiplies the resulting EGU NO_X emission rate by 2015 historical heat input. This multiplication yields state-specific ozone season EGU NO_X emission budgets for 2017 that are grounded in historical data and reflect EGU NO_X reduction potential modeled in IPM. Similar to the proposal, the final CSAPR Update establishes emission budgets as the lower of the calculated emission budget or the 2015 historical (unadjusted) state-level emissions.

In conducting the IPM modeling of each cost threshold, the EPA limited IPM's evaluation of NO_X mitigation strategies to those that can be implemented for the 2017 ozone season, which is the compliance timeframe for this rulemaking. The agency analyzed levels of uniform EGU NO_X control using IPM, where each level is represented by marginal NO_X costs listed in Table VI.C–1 in this preamble. The analysis applied these uniform levels of control to EGUs in the 48 contiguous United States and the District of Columbia, starting with 2017. The analysis included EGUs with a capacity (electrical output) greater than 25 MW, which reflects the CSAPR Update rule applicability criteria. The Ozone Transport Policy Analysis Final Rule TSD, which is in the docket for this rule, provides further details of the EPA's analysis of ozone season NO_X emission reductions occurring at each level of uniform control stringency for the 2017 ozone season.

As described in in Section V, air quality data for the CSAPR Update indicates that the District of Columbia contributes at or above the 1 percent threshold to a downwind maintenance receptor in Harford County, Maryland. Moreover, in Step 3 of the CSAPR framework, the EPA's analysis finds that there are no EGUs in the District of Columbia that meet the CSAPR Update applicability criteria (*i.e.,* EGUs with a capacity greater than 25 MW). Therefore, the EPA does not calculate or finalize an EGU NO_X ozone season emission budget for the District.

The 2015 historical data, adjusted historical data, and EGU NO_X ozone season emission budgets calculated using each cost threshold identified in the final emission budget-setting approach can be found in Tables VI.C–1 and VI.C.2.

TABLE VI.C–1—EVALUATED EGU NO_X OZONE SEASON EMISSION BUDGETS, REFLECTING EGU NO_X REDUCTIONS

[Ozone season NO_X tons]

State	2015 emissions	Adjusted historical emissions	$800 per ton emission budgets	$1,400 per ton emission budgets	$3,400 per ton emission budgets
Alabama	20,369	15,179	14,332	13,211	12,620
Arkansas	12,560	12,560	12,048	9,210	9,048
Illinois	15,976	14,850	14,682	14,601	14,515
Indiana	36,353	31,382	28,960	23,303	21,634
Iowa	12,178	11,478	11,477	11,272	11,065
Kansas	8,136	8,031	8,030	8,027	7,975
Kentucky	27,731	26,318	24,052	21,115	21,007
Louisiana	19,257	19,101	19,096	18,639	18,452
Maryland	3,900	3,871	3,870	3,828	3,308
Michigan	21,530	19,811	19,558	17,023	15,782
Mississippi	6,438	6,438	6,438	6,315	6,243
Missouri	18,855	18,443	17,250	15,780	15,299
New Jersey	2,114	2,114	2,100	2,062	2,008
New York	5,593	5,531	5,220	5,135	5,006
Ohio	27,382	27,382	23,659	19,522	19,165
Oklahoma	13,922	13,747	13,746	11,641	9,174
Pennsylvania	36,033	35,607	20,014	17,952	17,928
Tennessee	9,201	7,779	7,736	7,736	7,735
Texas	55,409	54,839	54,521	52,301	50,011
Virginia	9,651	9,367	9,365	9,223	8,754
West Virginia	26,937	26,874	25,984	17,815	17,380
Wisconsin	9,072	7,939	7,924	7,915	7,790

[149] Each state-level emission rate is calculated as the total emissions from affected sources within the state divided by the total heat input from these sources.

TABLE VI.C–1—EVALUATED EGU NO_X OZONE SEASON EMISSION BUDGETS, REFLECTING EGU NO_X REDUCTIONS—Continued

[Ozone season NO_X tons]

State	2015 emissions	Adjusted historical emissions	$800 per ton emission budgets	$1,400 per ton emission budgets	$3,400 per ton emission budgets
22 State Region	398,596	378,641	350,062	313,626	301,899

TABLE VI.C–2—EVALUATED EGU NO_X OZONE SEASON EMISSION BUDGETS, REFLECTING EGU NO_X REDUCTIONS

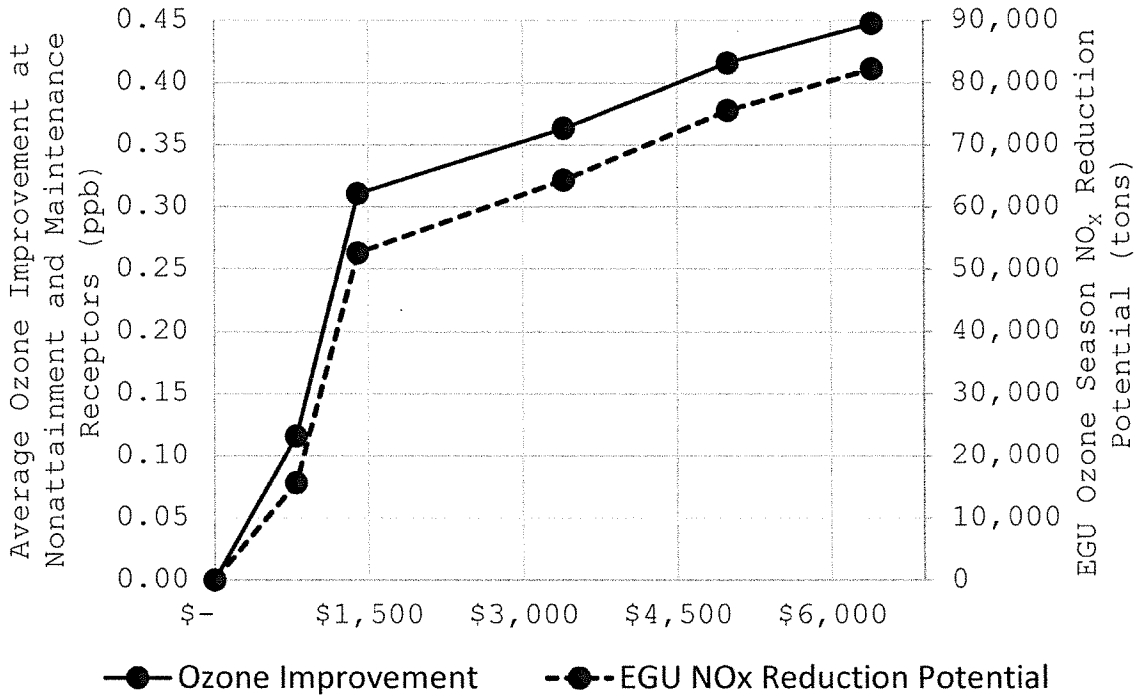
[Ozone season NO_X tons]

State	2015 emissions	Adjusted historical emissions	$5,000 per ton emission budgets	$6,400 per ton emission budgets
Alabama	20,369	15,179	11,928	11,573
Arkansas	12,560	12,560	8,518	8,050
Illinois	15,976	14,850	14,248	14,054
Indiana	36,353	31,382	19,990	18,720
Iowa	12,178	11,478	10,891	10,491
Kansas	8,136	8,031	7,962	7,767
Kentucky	27,731	26,318	20,273	19,496
Louisiana	19,257	19,101	18,442	18,426
Maryland	3,900	3,871	2,938	2,926
Michigan	21,530	19,811	13,110	12,612
Mississippi	6,438	6,438	6,203	6,205
Missouri	18,855	18,443	14,673	14,555
New Jersey	2,114	2,114	1,867	1,879
New York	5,593	5,531	4,746	4,594
Ohio	27,382	27,382	18,561	18,348
Oklahoma	13,922	13,747	8,790	8,439
Pennsylvania	36,033	35,607	17,621	17,374
Tennessee	9,201	7,779	7,724	7,729
Texas	55,409	54,839	48,795	47,994
Virginia	9,651	9,367	8,619	8,416
West Virginia	26,937	26,874	17,388	17,373
Wisconsin	9,072	7,939	7,435	7,023
22 State Region	398,596	378,641	290,722	284,044

D. Multi-Factor Test Considering Costs, EGU NO_X Reductions, and Downwind Air Quality Impacts

Next, the EPA applied the multi-factor test to consider cost, available emission reductions, and downwind air quality impacts to determine the appropriate level of uniform NO_X control stringency, feasible for 2017, 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.

Figure VI.1. EGU Ozone Season NO_X Reduction Potential in 22 Linked States and Corresponding Total Reduction in Downwind Ozone Concentrations at Nonattainment and Maintenance Receptors for each Emission Budget Level Evaluated



Combining costs, EGU NO_X reductions, and corresponding improvements in downwind ozone concentrations results in a "knee in the curve" at a point where emission budgets reflect a control stringency with an estimated marginal cost of $1,400 per ton. This level of stringency in emission budgets represents the level at which incremental EGU NO_X reduction potential and corresponding downwind ozone air quality improvements are maximized with respect to marginal cost. That is, the ratio of emission reductions to marginal cost and the ratio of ozone improvements to marginal cost are maximized relative to the other emission budget levels evaluated. Further, more stringent emission budget levels (*e.g.*, emission budgets reflecting $3,400 per ton or greater) yield fewer additional emission reductions and fewer air quality improvements relative to the increase in control costs. This evaluation shows that significant EGU NO_X reductions are available at reasonable cost and that these reductions can provide improvements in downwind ozone concentrations at the identified nonattainment and maintenance receptors for the final rule.

To assess downwind air quality impacts for each nonattainment or maintenance receptor identified in this rulemaking, the EPA evaluated the air quality change at that receptor expected from the progressively more stringent upwind EGU NO_X emission budgets quantified for each uniform NO_X control stringency level. This assessment provides the downwind ozone improvements for consideration and provides air quality data that is used to evaluate over-control.

In order to assess the air quality impacts of the various control stringencies, the EPA evaluated changes resulting from the application of the emission budgets to states that are linked to each receptor as well as the state containing the receptor. By applying each budget level to the state containing the receptor, the EPA ensures that it is accounting for the downwind state's fair share. For states that were not linked to that receptor, the air quality change at that receptor was evaluated assuming emissions equal to the adjusted historic emission level, including Pennsylvania RACT. This method holds each upwind state responsible for its fair share of the downwind problems to which it is linked. Reductions made by other states in order to address air quality problems at other receptors do not increase or decrease this fair share. This approach removes state equity considerations from this component of the multi-factor test and preserves the apportionment of upwind responsibility to the assessment of uniform control stringency represented by cost, which the Supreme Court found to be "an efficient and equitable solution to the allocation problem the Good Neighbor Provision requires the Agency to address." 134 S. Ct. at 1607.

For this assessment, the EPA used an ozone air quality assessment tool (ozone AQAT) to estimate downwind changes in ozone concentrations related to upwind changes in emission levels. This tool is similar to the AQAT tool used in the original CSAPR to evaluate changes in $PM_{2.5}$ concentrations. The ozone AQAT uses simplifying assumptions regarding the relationship between each state's change in EGU NO_X emissions and the corresponding change in ozone concentrations at nonattainment and maintenance receptors to which that state is linked. This method is calibrated using two CAMx air quality modeling scenarios that fully account for the non-linear relationship between emissions and air quality associated with atmospheric chemistry. *See* the Ozone Transport Policy Analysis Final Rule TSD for additional details.

For each emission budget level and for each receptor, the EPA evaluated the magnitude of the change in concentration and determined whether the estimated concentration would resolve the receptor's nonattainment or maintenance concern by lowering the average or maximum design values below 76 ppb, respectively.

As an example, the EPA evaluated the Harford County, Maryland receptor with all linked states and Maryland meeting emission budgets reflecting controls available at $800 per ton of NO_X emissions reduced. Adding up the state-by-state changes in air quality contributions resulting from the changes in emissions, this assessment showed a 0.1 ppb reduction in expected ozone design values. After subtracting this air quality improvement from the design values quantified in section V of this preamble, the residual design values at this site are still expected to exceed the 2008 ozone NAAQS with an average design value of 79.0 ppb and a maximum design value of 81.6 ppb. Next, the EPA evaluated this receptor with all linked states and Maryland meeting emission budgets reflecting controls available at $1,400 per ton. This assessment showed a 0.4 ppb reduction in expected ozone design values. At emission budgets reflecting $1,400 per ton, the residual design values at this site are expected to continue to exceed the 2008 ozone NAAQS with an average design value of 78.7 ppb and a maximum design value of 81.3 ppb. Next, the EPA evaluated this receptor with all linked states and Maryland meeting emission budgets reflecting controls available at $3,400 per ton. This assessment showed a 0.6 ppb reduction in expected ozone design values. At emission budgets reflecting $3,400 per ton, the residual design values at this site are expected to continue to exceed the 2008 ozone NAAQS with an average design value of 78.5 ppb and a maximum design value of 81.2 ppb. Next, the EPA evaluated this receptor with all linked states and Maryland meeting emission budgets reflecting controls available at $5,000 per ton. This assessment showed a 0.7 ppb reduction in expected ozone design values. At emission budgets reflecting $5,000 per ton, the residual design values at this site are expected to continue to exceed the 2008 ozone NAAQS with an average design value of 78.4 ppb and a maximum design value of 81.1 ppb. Next, the EPA evaluated this receptor with all linked states and Maryland meeting emission budgets reflecting controls available at $6,400 per ton. This assessment showed a 0.7 ppb reduction in expected ozone design values. At emission budgets reflecting $6,400 per ton, the residual design values at this site are expected to continue to exceed the 2008 ozone NAAQS with an average design value of 78.4 ppb and a maximum design value of 81.0 ppb.

Generally, the EPA evaluated the air quality improvements at each monitoring site for the emission budgets associated with each progressively more stringent emission budget. For more information about how this assessment was performed and the results of the analysis for each receptor, refer to the Ozone Transport Policy Analysis Final Rule TSD.

As part of this analysis, the EPA evaluates potential 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).

In *EME Homer City,* the Supreme Court held that the EPA cannot "require[] an upwind State to reduce emissions by more than the amount necessary to achieve attainment in *every* downwind State to which it is linked." 134 S. Ct. at 1608. On remand from the Supreme Court, the D.C. Circuit held that this means that the 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. The D.C. Circuit qualified this statement by noting that this "does not mean that every such upwind State would then be entitled to less stringent emission limits. Some of those upwind States may still be subject to the more stringent emissions limits so as not to cause *other* downwind locations to which those States are linked to fall into nonattainment." *Id.* at 14–15. As the Supreme Court explained, "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." 134 S. Ct. at 1609. The Court noted that "a degree if imprecision is inevitable in tackling the problem of interstate air pollution." *Id.* "Required to balance the possibilities of under-control and over-control, EPA must have leeway in fulfilling its statutory mandate." *Id.*

Consistent with these instructions from the Supreme Court and the D.C. Circuit, the EPA first evaluated whether reductions resulting from the $800 per ton emission budgets can be anticipated to resolve any downwind nonattainment or maintenance problems (as defined in section V) and by how much. This assessment shows that the emission budgets reflecting $800 per ton would resolve maintenance problems at one downwind maintenance receptors—Philadelphia, Pennsylvania (maximum design value of 75.8 ppb). The EPA's assessment shows that no state included in the CSAPR Update is linked solely to the Philadelphia receptor that is resolved at the $800 per ton level of control stringency.

Next, the EPA evaluated whether reductions resulting from the $1,400 per ton emission budgets can be anticipated to resolve any further downwind nonattainment or maintenance problems. For the 22 CSAPR Update states, the EPA assessed further EGU NO_X reductions of emission budgets reflecting $1,400 per ton and found that the emission budgets reflecting $1,400 per ton would resolve nonattainment and maintenance problems at one downwind nonattainment receptors—Jefferson County, Kentucky (maximum design value of 75.7 ppb)—and would resolve maintenance problems at one additional downwind maintenance receptor—Hamilton County, Ohio (maximum design value of 75.1 ppb). The EPA's assessment shows that this control level does resolve the only identified nonattainment or maintenance problems to which Tennessee is linked—the Hamilton County, Ohio and Philadelphia, Pennsylvania receptors. However, no other no state included in the CSAPR Update is linked solely to these receptors that are resolved at the $1,400 per ton level of control stringency.

In light of the improvements at the maintenance receptors to which Tennessee is linked, the EPA evaluated the magnitude of those improvements and whether the air quality problems could have been resolved at a lower level of control stringency. At the emission budgets reflecting $1,400 per ton, the EPA's assessment demonstrates that the receptors to which Tennessee is linked would just be maintaining the standard, with maximum design values of 75.5 (Philadelphia) and 75.1 ppb (Hamilton County), which the EPA truncates to compare against the 2008 ozone standard. Consistent with the manner in which the EPA truncates design values to evaluate NAAQS attainment, these concentrations are equal to the level of the 2008 ozone

NAAQS at 75 ppb. Therefore, the emission reductions that would be achieved by emission budgets reflecting $1,400 per ton would not result in air quality improvements at these receptors significantly better than the standard such that emission reductions might constitute over-control as to the receptors. On the contrary, the emission reductions achieved in upwind states by emission budgets reflecting $1,400 per ton are necessary to bring the maximum design value at the receptors into alignment with the standard. The EPA finds that, based on the information supporting this final rule, the $1,400 per ton emission budget level would not constitute over-control for Tennessee or for any other state included in the CSAPR Update.

In *EME Homer City,* the Supreme Court also held that "EPA cannot require a State to reduce its output of pollution . . . at odds with the one percent threshold the Agency has set." 134 S. Ct. at 1608. The Court explained that "EPA cannot demand reductions that would drive an upwind State's contribution to every downwind State to which it is linked below one percent of the relevant NAAQS." *Id.* Accordingly, the EPA evaluated the potential for over-control with respect to the one percent threshold applied in this rulemaking at each relevant emission budget level. Specifically, the EPA evaluated whether the emission budget levels would reduce upwind EGU emissions to a level where the contribution from any upwind state would be below the one percent threshold that linked the upwind state to the downwind receptors. If the EPA found that any state's emission budget would decrease its contribution below the one percent threshold to every downwind receptor to which it is linked, then it would adjust the state's reduction obligation accordingly. The EPA's assessment reveals that there is not over-control with respect to the one percent threshold at any of the evaluated uniform cost emission budget levels in any upwind state. Most relevant, the EPA finds that under the $800 per ton and $1,400 per ton emission budgets, all 22 eastern states that contributed greater than or equal to the one percent threshold in the base case continued to contribute greater than or equal to one percent of the NAAQS to at least one downwind nonattainment or maintenance receptor. For more information about this assessment, refer to the Ozone Transport Policy Analysis Final Rule TSD.

Considering the EPA's findings with respect to application of the multi-factor test and over-control, the EPA is finalizing ozone season EGU NO_X emission budgets reflecting $1,400 per ton of EGU NO_X control for all CSAPR Update states. The EPA finds that the finalized Tennessee emission budget fully addresses Tennessee's good neighbor obligation with respect to the 2008 ozone NAAQS. For the remaining CSAPR Update states, final emission budgets reflecting $1,400 per ton of EGU NO_X control represent a partial solution for these states' good neighbor obligation with respect to the 2008 ozone NAAQS.

In establishing emission budgets reflecting $1,400 per ton of EGU NO_X control, the EPA notes that combustion controls are the only EGU NO_X reduction strategy that the EPA generally considers feasible for the 2017 ozone season in quantifying emission budgets for the final CSAPR Update and that also requires new construction. For this unique reason, in developing each state emission budget, the EPA specifically considered the number of EGUs with NO_X reduction potential from installing state-of-the-art combustion controls, 2015 reliance on these EGUs for electricity generation in the state, and the magnitude of reductions relative to the resulting emission budgets.

These data indicate that nearly all of the EGU NO_X reduction potential for one state, Arkansas, comes from installing state-of-the-art combustion controls. The EPA's analysis for the final rule finds that two units at White Bluff and two units at Independence power plants in Arkansas have significant EGU NO_X reduction potential from the installation of state-of-the-art combustion controls. The NO_X reduction potential from these units is uniquely significant relative to Arkansas' resulting emission budget. The agency's analysis finds approximately 3,000 tons of ozone season NO_X reduction potential from these 4 units in Arkansas. If the EPA were to calculate a 2017 emission budget for Arkansas that includes reductions attributable to combustion controls, these reductions would be equivalent to 33 percent of Arkansas' resulting emission budget. The NO_X reduction potential from installing combustion controls has an outsized effect on Arkansas' resulting emission budget relative to other states. Arkansas is unique with respect to emission reduction potential achievable from combustion controls relative to its corresponding emission budget. In all other states covered by this rule, reduction potential from combustion controls relative to the CSAPR Update rule emission budgets is 11 percent or less. While the EPA does not anticipate that sources in any other state would have difficulty installing upgraded combustion controls for the 2017 ozone season, for the reasons described earlier, the relatively low number of expected emissions reductions from those controls means that failure of any of these sources to install such controls would not lead the state to exceed the assurance levels and incur CSAPR assurance penalties.

Further, these units at White Bluff and Independence power plants in Arkansas, combined, accounted for nearly 40 percent of the state's 2015 heat input. Compared to other CSAPR Update states, Arkansas is also uniquely situated in this regard. In all other states covered by this rule, the percentage of state-level heat input from units with reduction potential from installation of combustion controls is 20 percent or less. The CSAPR allowance trading program allows Arkansas' utilities the option to choose alternative compliance paths. However, the EPA considers that if their compliance path included combustion controls for these units, then it may be difficult to schedule outage time to upgrade all four of the Arkansas units to state-of-the-art combustion controls for the 2017 ozone season and supply adequate electricity to meet demand in the state.

If, due to the unique feasibility concerns discussed earlier, the Arkansas units could not install upgraded controls for the 2017 ozone season, Arkansas utilities could exceed the CSAPR assurance level in 2017.[150] In such circumstances, Arkansas utilities would not only need to purchase allowances for compliance, but they would also face the CSAPR assurance provision penalty, meaning that for emissions exceeding the assurance level, utilities would need to surrender three allowances for each ton of emissions.

In light of these unique circumstances, the EPA believes that it is prudent and appropriate to finalize for Arkansas a 2017 ozone season emission budget for Arkansas that does not account for EGU NO_X reduction potential from combustion controls and a 2018 ozone season emission budget for Arkansas that does account for EGU NO_X reduction potential from combustion controls. This approach provides utilities an extra year to upgrade combustion controls in the event that this is their chosen CSAPR Update compliance path. This extra year

[150] More information about CSAPR Update Rule assurance levels can be found in section VII of this document.

allows for upgrades to be made across four shoulder seasons (fall 2016, spring 2017, fall 2017, and spring 2018).

The emission budgets that the EPA is finalizing in FIPs for the CSAPR Update rule are summarized in table VI.E–2.

TABLE VI.E–2—FINAL 2017 EGU NO_X OZONE SEASON EMISSION BUDGETS FOR THE CSAPR UPDATE RULE

[Ozone season NO_X tons]

State	2015 emissions	Adjusted historical emissions	CSAPR update rule 2017* emission budgets
Alabama	20,369	15,179	13,211
Arkansas	12,560	12,560	12,048/9,210
Illinois	15,976	14,850	14,601
Indiana	36,353	31,382	23,303
Iowa	12,178	11,478	11,272
Kansas	8,136	8,031	8,027
Kentucky	27,731	26,318	21,115
Louisiana	19,257	19,101	18,639
Maryland	3,900	3,871	3,828
Michigan	21,530	19,811	17,023
Mississippi	6,438	6,438	6,315
Missouri	18,855	18,443	15,780
New Jersey	2,114	2,114	2,062
New York	5,593	5,531	5,135
Ohio	27,382	27,382	19,522
Oklahoma	13,922	13,747	11,641
Pennsylvania	36,033	35,607	17,952
Tennessee	9,201	7,779	7,736
Texas	55,409	54,839	52,301
Virginia	9,651	9,367	9,223
West Virginia	26,937	26,874	17,815
Wisconsin	9,072	7,939	7,915
22 State Region	398,596	378,641	316,464/313,626

*The EPA is finalizing CSAPR EGU NO_X ozone season emission budgets for Arkansas of 12,048 tons for 2017 and 9,210 tons for 2018 and subsequent control periods.

The EPA's selection of emission budgets for this rule is specific to, and appropriate for, defining near-term achievable upwind obligations with respect to the 2008 ozone NAAQS in states where a FIP is necessary. The EPA does not intend—nor does it believe it would be justified in doing so in any event—that the cost-level-based determinations in this rule impose a constraint for selection of cost levels in addressing transported pollution with respect to future NAAQS and/or any revisions to these FIPs for any other future transport rules that the EPA may develop to address any potential remaining obligation as to the current NAAQS, for which different cost levels may be appropriate.

In addition to 22 states identified previously, the EPA also assessed the potential for EGU NO_X reductions in Delaware and the District of Columbia. This assessment finds that the District of Columbia does not have any affected EGUs. As a result, despite the District of Columbia's linkage to the Harford County, Maryland receptor, the District does not have any EGU NO_X reduction potential. The EPA also has not taken action to approve or disapprove a pending good neighbor SIP addressing the 2008 ozone NAAQS. Given that the District of Columbia does not have any affected sources and the District's SIP is still before the agency, the EPA is not finalizing a FIP for the District in this action. Also, the EPA's assessment of EGU NO_X reduction potential shows zero reductions available in Delaware in 2017 at any evaluated cost threshold because they are already equivalently controlled. Given this information and the fact that Delaware's SIP is also still pending before the agency, we are not promulgating a FIP for Delaware in this rule. The EPA will consider the information developed for this rule, as appropriate, in evaluating the good neighbor SIPs for these areas,[151] and if the EPA ultimately disapproves those SIPs, the EPA will address any resulting FIP obligation separately.

The proposed CSAPR Update sought comment on whether or not to include Wisconsin in the final CSAPR Update considering that the modeling data for the proposal showed zero NO_X reduction potential for Wisconsin under the proposed EGU NO_X control stringency. Unlike our analysis at proposal, the EGU NO_X emission reduction potential analysis for the final rule shows that EGUs in Wisconsin and all 22 CSAPR Update states have EGU emission reductions available using the uniform control stringency represented by $1,400 per ton. Further, ozone season emission budgets that the EPA is finalizing in the CSAPR Update represent reductions from 2015 emission levels for Wisconsin and all 22 CSAPR Update states. The EPA is therefore including each of the 22 CSAPR Update states in the final CSAPR Update to ensure that each state achieves NO_X emission reductions to address significant contribution to nonattainment or interference with maintenance of downwind pollution with respect to the 2008 ozone NAAQS.

[151] As noted earlier, the EPA has not taken final action to approve or disapprove Delaware's good neighbor SIP addressing the 2008 ozone NAAQS.

VII. Implementation Using the Existing CSAPR NO_X Ozone Season Allowance Trading Program and Relationship to Other Rules

A. Introduction

This section addresses step four of the CSAPR framework by describing how the EPA will implement and enforce the EGU emission budgets quantified in section VI, which represent the remaining EGU emissions after reducing

those amounts of each state's emissions that significantly contribute to downwind nonattainment or interfere with maintenance of the 2008 ozone NAAQS in downwind states. *See* Table VI.E–2 for final emission budgets. The EPA is finalizing FIPs with respect to the 2008 ozone NAAQS for each of the 22 states covered by this rule. The FIPs will require affected EGUs to participate in the CSAPR NO_X ozone season trading program subject to the final emission budgets. The EPA is updating the CSAPR NO_X ozone season program requirements in 40 CFR part 97 to reflect these CSAPR NO_X ozone season emission budgets and final CSAPR Update Rule trading program requirements.

The CSAPR NO_X ozone season trading program is a market-based approach that implements emission reductions needed to meet the CAA's good neighbor requirements. The emission budgets establish state-level aggregate emission caps that specify the quantity of emissions authorized from affected EGUs. The EPA creates individual authorizations ("allowances") to emit a specific quantity (*i.e.,* 1 ton) of ozone season NO_X. The total number of allowances equals the level of the emission budgets, which partially address interstate emission transport under the good neighbor provision for the 2008 ozone NAAQS. To be in compliance, each participant must hold allowances equal to its actual emissions for each control period. It may buy or sell (trade) them with other market participants. Each affected EGU can design its own compliance strategy—emission reductions and allowance purchases or sales—to minimize its compliance cost. And it can adjust its compliance strategy in response to changes in technology or market conditions. The compliance flexibility provided by the CSAPR NO_X ozone season trading program does not prescribe unit-specific and technology-specific NO_X mitigation. While the EPA establishes emission budgets that reflect emission reductions that can be achieved by certain near-term and cost effective EGU NO_X mitigation strategies (*e.g.,* turning on idled SCRs), no particular EGU NO_X reduction strategy is required for any specific EGU to demonstrate compliance with the CSAPR Update rule.

In order to ensure that each upwind state addresses its significant contribution to nonattainment or interference with maintenance and to accommodate inherent year-to-year variability in state-level EGU operations, the CSAPR NO_X ozone season trading program includes variability limits and assurance provisions. These provisions are unchanged from those established in the original CSAPR with the exception of each CSAPR Update state having a revised variability limit and assurance level that corresponds with its revised emission budget. The CSAPR assurance provisions require additional allowance surrender penalties (a total of 3 allowances per ton of emissions) [152] on emissions that exceed a state's CSAPR NO_X ozone season assurance level, or 121 percent of the emission budget.

When the EPA finalized the original CSAPR in 2011, the rule established regional trading programs designed to cost-effectively reduce transported emissions of SO_2 and NO_X from power plants in eastern states that affect air quality in downwind states. *See* 76 FR 48272 and 48273 (August 8, 2011). The EPA envisioned that this approach to implementing necessary emission reductions could be used to address transport obligations under other existing NAAQS and future NAAQS revisions. *See* 76 FR 48211 and 48246 (August 8, 2011). The EPA is finalizing implementation of the CSAPR Update emission budgets using the CSAPR NO_X ozone season allowance trading program, with certain updates. Using the familiar CSAPR trading program to implement these near-term EGU reductions for the 2008 ozone standard provides many significant advantages, including certainty in emission reductions achieved by dint of caps on emissions and air quality-assured allowance trading, ease of transition to the new emission budgets, the economic and administrative efficiency of trading approaches, and the flexibility afforded to sources regarding compliance.

The first control period for the requirements finalized in these FIPs is the 2017 ozone season (May 1, 2017–September 30, 2017). Affected EGUs within each covered state must demonstrate compliance with FIP requirements for the 2017 ozone season and each subsequent ozone season unless and until the state submits a SIP that the EPA approves as replacing the FIP, or the EPA promulgates another federal rule replacing or revising the FIP.

In this section of the preamble, the following topics are addressed: New and revised FIPs; updates to CSAPR NO_X ozone season trading requirements, including trading program structure and treatment of banked allowances; feasibility of compliance; key elements of the CSAPR trading programs; replacing the FIP with a SIP; title V permitting; and the relationship of this rule to other emission trading and ozone transport programs (NO_X SIP Call, CSAPR trading programs, CPP).

B. New and Revised FIPs

As explained in section III in this preamble, the EPA is finalizing new or revised FIP requirements only for those states where the EPA has the authority and obligation to promulgate a FIP addressing the state's interstate transport obligation pursuant to CAA section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. That is, the EPA is finalizing new or revised FIP requirements for certain states where the EPA either found that the state failed to submit a complete good neighbor SIP or disapproved a good neighbor SIP for that state. Moreover, the EPA is only finalizing new or revised FIP requirements for those states identified in sections V and VI of this preamble, whose emissions significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS in other eastern states. For those states that contribute below the one percent threshold applied in section V of this preamble, the EPA concludes that the state's emissions do not significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS. There is therefore no need to impose further emission limits on sources within those states through issuance of new or revised FIP requirements.

Of the 22 states required to participate in the CSAPR NO_X ozone season trading program under this CSAPR Update, 21 states [153] already comply with the original CSAPR NO_X ozone season requirements with respect to the 1997 ozone NAAQS. For those 21 states, the EPA is revising their existing FIP requirements to require compliance with updated budgets at the levels in Table VI.E–2. One state, Kansas, has newly added CSAPR NO_X ozone season compliance requirements in this action. For Kansas, the agency is establishing new FIP requirements to require compliance with a budget at the level in Table VI.E–2.

One state, Georgia, has a continued compliance requirement under the original CSAPR NO_X ozone season program with respect to the 1997 ozone NAAQS and is not found to significantly contribute to

[152] Each excess ton above the assurance level must be met with one allowance for normal compliance plus two additional allowances to satisfy the penalty.

[153] Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

nonattainment or interfere with maintenance of the 2008 ozone NAAQS in other states. Therefore, Georgia's CSAPR NO_X ozone season requirements (including its emission budget) continue unchanged pursuant to the state's previously-defined obligation that was quantified to address the 1997 ozone NAAQS, and the EPA is not making any changes to the existing FIP requirements for Georgia contained in 40 CFR part 52.

Three states (Florida, North Carolina, and South Carolina) are currently subject to the CSAPR NO_X ozone season trading program with respect to the 1997 ozone NAAQS under the original CSAPR. However, as described in section IV of this preamble, the phase 2 NO_X ozone season budgets [154] for these three states were remanded to the EPA for reconsideration by the D.C. Circuit in *EME Homer City II,* 795 F.3d at 138. In this final rule, the EPA finds that emissions from Florida, North Carolina, and South Carolina do not significantly contribute to nonattainment or interfere with maintenance of either the 1997 ozone NAAQS or the 2008 ozone NAAQS in other states. Accordingly, starting with the 2017 ozone season, these three states will no longer be subject to CSAPR NO_X ozone season trading program requirements and EGUs in these states will not be allocated further allowances nor obligated to demonstrate compliance with CSAPR NO_X ozone season requirements. The EPA is revising 40 CFR part 52 to remove CSAPR NO_X ozone season program requirements for these three states.

C. Updates to CSAPR NO_X Ozone Season Trading Program Requirements

For the CSAPR Update rule, the EPA is finalizing certain updates to the CSAPR NO_X ozone season trading program to transition the existing original CSAPR NO_X ozone season trading program, designed to address the 1997 ozone NAAQS, to address new requirements as to interstate emission transport for the 2008 ozone NAAQS. These changes will be effective for the 2017 ozone season control period. In this context, the EPA determines the extent to which allowances issued under emission budgets established to address interstate transport with respect to the 1997 ozone NAAQS would or would not be eligible for compliance under this rule for affected EGUs with emission budgets established to address interstate transport for the 2008 ozone NAAQS. In developing approaches to transition the CSAPR trading program, the EPA weighed several factors, including achieving the environmental goal of the CSAPR Update (*i.e.,* achieving necessary emission reductions to address interstate transport with respect to the 2008 ozone NAAQS) and feasibility of implementing the CSAPR Update rule. The EPA proposed and took comment on several approaches regarding this transition of the original CSAPR NO_X ozone season program to address interstate emission transport for the more recent 2008 ozone NAAQS.

The EPA considered whether CSAPR NO_X ozone season allowances issued in 2017 and thereafter to affected EGUs in original CSAPR states without updated CSAPR NO_X ozone season trading program budgets (*i.e.,* Georgia) can be used for compliance in the 22 CSAPR Update states and vice versa. As described later on, this final rule prohibits the use of allowances for compliance between Georgia and the CSAPR Update states because of the differences in air quality goals (*i.e.,* the 1997 ozone NAAQS versus the 2008 ozone NAAQS) and the different NO_X control stringency used to establish emission budgets necessary to achieve those air quality goals. The EPA is implementing this prohibition by establishing two distinct trading groups with distinct allowances within the CSAPR NO_X ozone season allowance trading program. The EPA provides an option for Georgia to voluntarily adopt via SIP a commensurate CSAPR Update emission budget that would obviate this prohibition by including Georgia in the trading group with the CSAPR Update states.

The EPA also considered whether, and to what extent, banked [155] 2015 and 2016 CSAPR NO_X ozone season allowances issued under original CSAPR NO_X ozone season emission budgets should be eligible for compliance in CSAPR Update states in 2017 and beyond. As described later on, this rule establishes a one-time allowance conversion that transitions a limited number of banked 2015 and 2016 allowances (approximately 99,700 allowances) for compliance use in CSAPR Update states. This allowance conversion is designed to limit the potential use of banked allowances to no more than one year of the CSAPR variability limits in order to ensure that implementation of the trading program will result in NO_X emission reductions sufficient to address significant contribution to nonattainment or interference with maintenance of downwind pollution with respect to the 2008 ozone NAAQS. However, the conversion also facilitates compliance with the CSAPR Update by carrying over some allowances that can be used for compliance.

1. Relationship of Allowances and Compliance for CSAPR Update States and States With Ongoing Original CSAPR Requirements

The final rule establishes two trading groups within the CSAPR NO_X ozone season allowance trading program. Group 2 is newly established and is comprised of the 22 CSAPR Update states. Group 1, at this time, consists of Georgia. The CSAPR Update rule ozone season Group 1 and Group 2 trading programs are codified under 40 CFR part 97, subparts BBBBB for Group 1 and EEEEE for Group 2, to enact the EGU NO_X ozone season emission budgets for the 2008 ozone NAAQS. Section 52.38(b) has been amended to update which sources are subject to the requirements of the respective subparts of part 97 for control periods after 2016.

The EPA will issue distinct allowances for these trading groups, CSAPR NO_X ozone season Group 1 allowances and CSAPR NO_X ozone season Group 2 allowances, for the 2017 ozone season control period and subsequent control periods. Covered entities may transfer, trade (buy and sell), and bank (save) these allowances. Pursuant to the CSAPR trading program regulations, compliance is demonstrated by holding and surrendering one allowance for each ton of ozone season NO_X emitted during the control period (*i.e.,* ozone season). The CSAPR Update finalizes provisions governing compliance that prohibit the use of Group 1 allowances for compliance in Group 2 states or the use of Group 2 allowances for compliance in Group 1 states.[156] Aside from revised emission budgets for CSAPR NO_X ozone season Group 2 states and the prohibition of using Group 1 allowances for compliance in Group 2 states, and vice versa, the CSAPR Update rule NO_X ozone season trading programs' implementation requirements (*e.g.,* monitoring, reporting, assurance provisions) are substantively identical to the original CSAPR NO_X ozone season trading program.

[154] CSAPR phase 1 NO_X ozone season emission budgets are effective for 2015 and 2016 while phase 2 NO_X ozone season emission budgets would be effective starting with the 2017 ozone season.

[155] Allowances that were not used for compliance and were saved for use in a later compliance period.

[156] There are limited exceptions for circumstances where a source becomes subject to a requirement to hold additional Group 1 allowances after Group 1 allowances have been converted to Group 2 allowances, as discussed in section IX in this preamble.

In the original CSAPR SO_2 annual allowance trading program, the EPA discussed its concern with permitting the use of allowances for compliance between groups of states linked to air pollution problems that are more easily resolved and groups of states linked to air pollution problems that are more persistent. The EPA was concerned that allowance trading between these groups of states could undermine the capacity of the rule to achieve the emission reductions required by the good neighbor provision of the CAA. Specifically, trading between these groups could lead to greater emission reductions in states linked to more easily resolved air pollution problems and fewer emission reductions in states linked to more persistent air pollution problems. This concern arose, in part, because the EPA identified different levels of significant contribution to nonattainment or interference with maintenance for these groups of states. As a result, these groups' emission budgets were established using different levels of control stringency. Allowing trading between groups of states with emission budgets representing substantially different uniform costs could lead to allowance transfers from EGUs in states with less stringent emission budgets to EGUs in states with more stringent emission budgets.[157] The EPA was concerned that allowing trading between such groups of states could increase the risk of emissions within a state exceeding the CSAPR emission budget or assurance level. For these reasons, the original CSAPR rulemaking prohibited the use of CSAPR SO_2 Group 1 allowances in SO_2 Group 2 states and vice versa.

In similar fashion, in order to ensure that the CSAPR NO_X ozone season trading program implements emission reductions needed to meet the CAA's good neighbor requirements for the CSAPR Update states, the EPA is finalizing a prohibition on allowance usage between Georgia and the CSAPR Update states. Specifically, for the final CSAPR Update rule, the EPA determines that allowances issued in 2017 and thereafter under the original CSAPR will not be eligible for compliance in the 22 CSAPR Update states, and vice versa. The EPA is finalizing this prohibition because states participating in the original CSAPR NO_X ozone season program (*i.e.,* Georgia) are doing so to address interstate emission transport for the 80 ppb 1997 ozone NAAQS, while CSAPR Update States are addressing interstate emission transport for the 75 ppb 2008 ozone NAAQS. The air quality assessment performed for this rule shows that ozone pollution problems with respect to the 75 ppb standard are relatively more robust than ozone problems with respect to the 80 ppb standard. Further, due in part to these differences in ozone pollution risk represented by the two standards, the EPA has identified different levels of significant contribution to nonattainment or interference with maintenance for these groups and the corresponding emission budgets and assurance levels reflect different levels of EGU NO_X control stringency. The original CSAPR NO_X ozone season emission budgets and assurance levels reflect $500 per ton of NO_X emissions reduced while the CSAPR Update emission budgets and assurance levels reflect $1,400 per ton of NO_X emissions reduced. The EPA finds this substantial difference in uniform cost could lead to allowance transfers from EGUs in Georgia to EGUs in CSAPR Update states. Specifically, the EPA notes that the ratio of marginal cost of ozone season NO_X control reflected in these emission budgets is nearly three-to-one, which is similar to the three-to-one assurance provision allowance surrender penalty that is incurred on emissions that exceed any state's assurance level (121 percent of the emission budget). The EPA finds that allowing trading between Georgia and the CSAPR Update states could increase the risk that emissions in CSAPR Update states exceed their emission budget or their assurance level.

The EPA does not expect that the prohibition of using CSAPR Update rule NO_X ozone season Group 2 allowances for compliance in Group 1 states will create significant concern regarding feasibility of compliance for Group 1 states. Georgia's ozone season emissions have been well below its original CSAPR NO_X ozone season emission budget for several years. The EPA anticipates that units within the state will continue to meet compliance obligations even without the ability to use CSAPR Update rule NO_X ozone season Group 2 allowances for compliance. Further, the EPA is quantifying an optional CSAPR Update rule EGU NO_X ozone season emission budget for Georgia, using the same methods and uniform cost as budgets for CSAPR Update states. This emission budget reflects protection of downwind air quality under the 2008 ozone NAAQS. If Georgia chooses to adopt this emission budget via a revised SIP submittal, then the EPA believes that such a SIP submission may be approvable and Georgia may thereby opt into the CSAPR Update rule NO_X ozone season Group 2 trading program and use the CSAPR Update rule NO_X ozone season Group 2 allowances for compliance.

Comment: Commenters suggested that if states subject to the original CSAPR for the 1997 ozone NAAQS are not found to significantly contribute to nonattainment or interfere with maintenance for the 2008 ozone NAAQS, then allowances issued in those states should not be part of the remedy, since there is no physical connection between NO_X allowances issued for those states and the downwind ozone nonattainment or maintenance problem that another state's reductions must address for a different NAAQS.

Response: In light of the specific differences in ozone pollution problems addressed, level of significant contribution to nonattainment or interference with maintenance, and marginal cost of NO_X reduction used to establish emission budgets for the original CSAPR and the CSAPR Update rule, the EPA agrees that it is reasonable to prohibit the use of CSAPR Update rule NO_X ozone season Group 1 allowances for compliance in Group 2 states and vice versa, as described previously.

Comment: Commenters suggested that there should not be a prohibition on using allowances between these groups of states and that the CSAPR assurance provisions are sufficient to ensure that emission reductions are made in upwind states.

Response: The assurance provisions provide limited flexibility around the finalized emission budgets developed using uniform control stringency to accommodate inherent variability in average power sector operations. For example, assurance levels are intended to accommodate specific unusual events, such as sudden and unexpected outages of a unit, or severe weather. The assurance level is intended to function as a not-to-exceed cap that includes both the state budget—established to reduce significant contribution to and interference with maintenance of the 2008 ozone NAAQS in downwind states—and the variability limit. The flexibility provided by the assurance provisions is not designed to address interstate trading in the case of two groups of states that are addressing different ozone pollution problems, levels of significant contribution to nonattainment or interference with maintenance, or levels of EGU NO_X reduction stringency in emission budgets. Further, as described previously, the EPA finds that were it to

[157] 76 FR at 48263–64.

authorize use of allowances issued to EGUs in Georgia for compliance in CSAPR Update states, the risk of emissions in a CSAPR Update state exceeding its emission budget or assurance level would increase.

2. Use of Banked Vintage 2015 and 2016 CSAPR NO_X Ozone Season Trading Program Allowances for Compliance in CSAPR Update States

In this subsection, the EPA describes its approach to transition a limited number of allowances that were banked in 2015 and 2016 under the original CSAPR EGU NO_X ozone season emission budgets into the allowances that can be used for compliance in CSAPR Update states in 2017 and thereafter. As proposed, the EPA is finalizing a limit on the number of banked allowances carried over based on the need to assure that the CAA objective of the CSAPR Update is achieved. This approach transitions some allowances for compliance to further ensure feasibility of implementing the CSAPR Update rule.

Specifically, the EPA is including in this final rule a method for ensuring that emissions in the CSAPR Update region do not exceed a specified level—this is, emissions up to the sum of the states' seasonal emissions budgets and variability limits—as a result of the use of banked allowances. The method is captured in a formula or ratio, the numerator of which is the total number of banked allowances at the end of the 2016 ozone season and the denominator of which is 1.5 times the aggregated variability limits finalized in this rule. The ratio is then applied to the banked vintage 2015 and 2016 allowances in each account to yield the number of banked allowances available to each account holder in 2017.[158]

When proposing this approach, the EPA described how sources in states with new or updated budgets could use all of their banked allowances, but at a turn-in ratio significantly higher than one under which only one allowance would be used to cover each ton of emissions (*e.g.,* a four-for-one or a two-for-one turn-in ratio). The EPA proposed to use turn-in ratios calculated using the proposed formula described above—essentially the same formula that the EPA is including in this final rule. At proposal, the EPA explained that the ratio of the banked vintage 2015 and 2016 allowances to the aggregated ozone season variability limits was designed to limit the magnitude of the emission impact of sources' use of banked allowances to that of the emissions level that would result from all states emitting up to the sum of their budgets and their variability limits for one or two years. (*See* 80 FR 75747.) The formulaic ratio when applied to the actual bank and emissions levels would yield a conversion factor for banked allowances that would be used to implement the proposed emissions limitation.

The final approach described in this section—a one-time conversion of aggregated banked vintage 2015 and 2016 allowances to 2017 vintage allowances equivalent to 1.5 years of the aggregated CSAPR Update variability limits—is virtually identical to the approach we laid out in the NPRM. In particular, it is identical to the proposal in terms of the formula used to assess the number of banked allowances relative to the CSAPR Update variability limits. Further, the value for the principal input to this formula that the EPA is updating in this final rule—the aggregated variability limits—is very similar to the value for this input at proposal.[159] The EPA has refined this approach to converting the banked allowances based on comments we received that urged us to simplify implementation. The final approach limits the influence of banked allowances via a one-time conversion, which has the same impact on the allowance bank as an ongoing turn-in ratio, but provides simplified implementation of the CSAPR Update rule. Further, because the EPA will perform the conversion at one time and each allowance going forward will equate to one ton of emissions, the EPA does not find it necessary to finalize rounding the conversion ratio to the nearest whole number.

The denominator in the conversion formula—1.5 times the states' aggregated variability limits—represents the number of banked allowances that will be available for use toward compliance with the CSAPR Update. Under the CSAPR implementation framework, variability limits are established to allow the units in a state to emit above the state's emission budget in a single control period when necessary because of year-to-year variability in power sector operations. The variability limits operate in conjunction with, but are distinct from, the state emission budgets. The purpose of the state emission budgets is to ensure that each state achieves necessary emission reductions, as required under CAA section 110(a)(2)(D)(i)(I). The purpose of the variability limits, and the assurance provisions that require additional allowances to be surrendered when emissions from covered sources within a state exceed those limits, is to ensure that the requirement for each state to reduce emissions necessary to address its downwind air quality impacts is implemented in a manner consistent with normal year-to-year variability in power sector operations while keeping any emissions above the budget within acceptable limits.

In the proposal, the EPA requested comment on a range of turn-in ratios for banked allowances derived from the formula described previously, including a four-for-one ratio based on the sum of covered states' variability limits for one year and a two-for-one ratio based on the sum of covered states' variability limits for two years. Commenters expressed a wide range of views, from those advocating for no use of banked allowances to those advocating for the use of all banked allowances with no turn-in ratio, as well others advocating for turn-in ratios between these extremes. However, commenters generally did not address the specific topic of whether one, two, or a different number of years of variability limits would represent an appropriate quantity of banked allowances to allow to be used for compliance with the CSAPR Update.

The EPA has determined that it is appropriate to use as the formula denominator the sum of covered states' variability limits for 1.5 years. As noted above, the purpose of the variability limits is to accommodate year-to-year variability in power sector operations at the state level. In theory, a bank based on the sum of all covered states' variability limits would be sufficient to accommodate such variability for all states simultaneously—in other words, the maximum amount of permissible emissions consistent with the purpose and design of the variability limits—for one year. Because it is unlikely that normal year-to-year power sector variability would cause all states to need to exceed their emissions budgets in the same year, the EPA considers the sum of the states' variability limits for one year a reasonable maximum for the number of allowances that would ever need to be used for compliance to address potential variability in power sector operations. However, the EPA's experience with implementing market-based trading programs is that in

[158] As discussed in section IX of the preamble, banked allowances held in compliance accounts for sources in Georgia will not be converted and will be excluded from the conversion ratio calculation.

[159] At proposal, the aggregated variability limits totaled approximately 60,000 tons and in the final rule the aggregated variability limits total approximately 65,000 tons.

historical practice most sources typically do not use every available allowance for compliance, but instead keep some in reserve in order to ensure compliance (*e.g.,* to avoid penalties in the event of unforeseen emissions and/or problems with preliminary data calculations). The EPA believes that using the states' variability limits for 1.5 years instead of one year provides sources with sufficient allowances to accommodate maximum year-to-year variability in power sector operations while also addressing the manner in which allowance holdings are actually managed and used. Thus, the EPA believes that providing allowances equivalent to 1.5 years of covered states' variability limits fulfills the primary purpose we described in our proposal—limiting the use of banked allowances to no more than one year of states' aggregated variability limits—while acknowledging the historical practice in market-based trading programs of sources keeping some allowances in reserve from year to year in order to provide planning and operating flexibility over multi-year periods. The EPA believes that this ratio provides an appropriate balance of these considerations, while providing a bank any larger would be inconsistent with the rule's purpose of achieving emission reductions required by CAA section 110(a)(2)(D)(i)(I).

The numerator in the conversion formula is the number of banked allowances to be converted. At proposal, the EPA anticipated, based on 2014 emissions data, that there would be approximately 210,000 banked allowances following the 2015 and 2016 ozone seasons. As commenters correctly predicted, based on more recent data, the size of the anticipated bank is now larger. Based on 2015 emissions data, the EPA anticipates that there will be approximately 350,000 banked allowances entering the CSAPR NO_X ozone season trading program by the start of the 2017 ozone season control period.[160] As explained in more detail below, this anticipated total of banked allowances reflects the fact that the seasonal NO_X emissions budgets established in CSAPR are to a significant extent not acting to constrain actual NO_X emission levels during the ozone season. Affected units overall are emitting less than their budgeted levels by a substantial margin and therefore do not have to use all of their allowances to comply with the requirements of CSAPR; as a result, the bank is growing substantially, especially relative to the emissions reductions that this rule is designed to achieve.

This amount of anticipated banked allowances is greater than the sum of all the state emission budgets established in this CSAPR Update and is roughly five times the total emission reduction potential that informs the emission budgets imposed by this rule. This number of anticipated banked allowances is also approximately five times larger than the aggregated CSAPR Update variability limits. Without imposing a limit on the transitioned vintage 2015 and 2016 banked allowances, the number of banked allowances would increase the risk of emissions exceeding the CSAPR Update emission budgets or assurance levels and would be large enough to let all affected sources emit up to the CSAPR Update assurance levels for five consecutive ozone seasons.

In prior ozone season emissions trading programs, such as the Ozone Transport Commission's NO_X Budget Program and the NO_X Budget Trading Program implemented in conjunction with the NO_X SIP Call, allowance deduction provisions (in some cases known as "flow control") were included in order to prevent banked allowances from being used in a single ozone season in quantities that would result in excess total emissions. Similarly under the CSAPR Update rule, the conversion ratio together with the assurance provisions will address the large size of the existing CSAPR bank with respect to the 2017 ozone season.

Limiting the influence of the banked allowances is critical to achieving the goal of reducing ozone formation, because reduction in ozone depends on reductions in precursor emissions contemporaneous with the meteorological conditions conducive to the formation of ozone. Hence the rule is designed with ozone season-specific budgets intended to achieve emission reductions by the 2017 ozone season in order to assist downwind states with meeting the July 2018 Moderate area attainment date for the 2008 ozone NAAQS. *See North Carolina,* 531 F.3d at 911–12 (instructing the EPA to coordinate upwind state emission reductions with downwind attainment deadlines). Other Clean Air Act programs designed to address public health and environmental problems that result from cumulative emissions permit sources to comply by over-controlling emissions in earlier years and using the resulting banked reductions to offset emissions in later years. In contrast, states, and when acting to meet its FIP obligations, the EPA, must ensure that the goal of improved air quality will be achieved and can do so only if emissions are reduced to specified levels during each ozone season.

This approach to limiting the influence of banked allowances also serves the goal of ensuring that emission reductions are achieved in each state. A bank of allowances that is five times the CSAPR Update variability limit would increase the risk of EGUs exceeding their states' CSAPR assurance levels, and thereby impede the ability of the assurance provisions to meaningfully limit emissions in each state. These circumstances would undermine compliance with CAA section 110(a)(2)(D)(i)(I), which requires that "[e]ach state must eliminate its own significant contribution to downwind pollution." *North Carolina,* 531 F.3d at 921. The assurance provisions, as finalized in the original CSAPR rulemaking, were designed to address this requirement by imposing a penalty in the event that EGUs exceed the state assurance levels. 76 FR at 48294–98. If EGUs' incentive to constrain emissions is compromised by the availability of a large bank of allowances, the EPA could no longer ensure that appropriate state-level emissions reductions are achieved.

While the bank of allowances reflects actions taken by sources in CSAPR to reduce emissions, it also reflects other factors unique to the regulatory history of CSAPR. In particular, the CSAPR budgets were established based on information available in 2010 and 2011. As promulgated in 2011, CSAPR required the budgets to be implemented in 2012 (Phase 1) and 2014 (Phase 2). As a result of litigation, the emissions budgets did not take effect until 2015. Between 2011 and 2015, the power sector responded to increases in natural gas supply, declines in natural gas prices, and increasing penetration of wind and other low- or zero-emitting renewable energy resources. Consequently, by the time the CSAPR ozone season budgets were implemented in the 2015 ozone season, they were no longer binding on state emission levels, even though they were anticipated to be binding when developed in 2011. The original CSAPR emission budgets for the 2015 ozone season were about 628,000 tons in aggregate, but actual emissions were about 451,000 tons, resulting in a substantial bank of allowances after the 2015 ozone season. In addition, based on emissions data for May and June of 2016 (*i.e.,* the first two months of the

[160] This allowance bank size was quantified as the observed allowance bank at the conclusion of 2015 plus an estimate of allowances likely to be banked in 2016, assuming that 2016 emissions would be unchanged from 2015 levels. These data rely on 40 CFR part 75 emission reporting and are available in the EPA's Air Markets Program Data, available at *http://ampd.epa.gov/ampd/.*

2016 ozone season under the trading program), ozone season NO_X emissions have declined 15 percent compared to the comparable period in 2015, which we anticipate will lead to a yet larger bank of allowances. In this final rule, the 2017 emission budgets plus the 21 percent variability limits total about 381,000 tons in aggregate, compared to 2015 emissions from the relevant states of about 399,000 tons. The bank of CSAPR allowances fostered in part by the unique circumstances of CSAPR's implementation is thus of a size that is so large relative to the budgets under this final CSAPR Update rule that, if all of the banked allowances were used without restriction, all states would exceed their emissions budgets for several successive ozone seasons. In that case, use of the bank would impede the achievement of the reductions needed to reduce ozone levels and assist downwind states with attainment and maintenance of the NAAQS by the 2017 ozone season. For these reasons, the implementation of the conversion ratio derived from the formula that is established in the final rule is necessary to limit the use of banked allowances and assure that reductions will actually occur and contribute to improved air quality in time to assist downwind states with meeting their attainment dates.

Some commenters objected to any limitation on the use of banked allowances, in part noting the additional compliance flexibility that banked allowances provide. But as explained above, without limitation, the number of banked allowances could undermine the capacity of the rule to achieve the emission reductions required by the good neighbor provision of the CAA—timely emission reductions in upwind areas that are necessary to avoid significant contribution to nonattainment or interference with maintenance of the 2008 ozone NAAQS in downwind areas. Specifically, the CSAPR Update establishes emission budgets that represent the remaining EGU emissions after reducing those amounts of each state's emissions that significantly contribute to downwind nonattainment or interfere with maintenance of the 2008 ozone NAAQS in downwind states, as required under CAA section 110(a)(2)(D)(i)(I). In other words, the CSAPR Update establishes an emission budget for each state that is its good neighbor obligation. If made available in its entirety for compliance with the CSAPR Update, then the anticipated 350,000 banked allowances would inherently increase the risk of states exceeding their emission budget by providing a total number of allowances for compliance in 2017 that is more than double the 22 state sum of emission budgets. The CSAPR allowance trading program already provides some flexibility in the form of the CSAPR variability limits and corresponding assurance levels to allow states to meet their good neighbor obligation while respecting inherent variability in electricity generation. However, the anticipated 350,000 banked allowances, if fully available for compliance, would also increase the risk of EGUs exceeding their states' CSAPR assurance level by providing allowances for compliance greater than five times the CSAPR variability limit. These excess allowances could be used for compliance irrespective of the need to achieve the CAA good neighbor obligation while complying with typical year-to-year variability on which the assurance levels are based. The allowance bank would thereby further undermine the capacity of the rule to achieve the emission reductions required by the good neighbor provision of the CAA by increasing the risk that emissions would exceed not only the emission budgets, but also the assurance levels.

The EPA believes that allowing for banking of excess emission reductions is a positive element of a trading-based program such as this one. Banking encourages early reductions, provides certainty, and creates flexibility in order to achieve the public health goal more cost-effectively and reliably. When use of banked allowances can undermine the environmental goal rather than help to achieve it, however, it is reasonable and appropriate to restructure the use of banked allowances. For these reasons, when the EPA finalized the original CSAPR provisions, the agency explicitly reserved its authority to eliminate or revise allowances issued in a given compliance year. The existing regulations for the current NO_X ozone season trading program explain that an allowance is "a limited authorization to emit one ton of NO_X during the control period in one year." 40 CFR 97.506(c)(6). The regulations continue by providing the Administrator the "authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act." *Id.* 97.506(c)(6)(ii). The regulations also clearly state that such allowances do not constitute property rights. *Id.* 97.506(c)(7). The EPA also notes that banked allowances were accrued against 2015 and 2016 implementation of seasonal emission budgets that were established to address interstate emission transport for the 80 ppb 1997 ozone NAAQS. Banked compliance instruments with respect to the 1997 ozone NAAQS in 2015 or 2016 are not inherently interchangeable with emission reductions needed to address interstate emission transport for the 75 ppb 2008 ozone NAAQS starting in 2017.

However, provided that it can do so without jeopardizing the good neighbor objectives of the CSAPR Update rule, the EPA believes that permitting some allowances banked under the original CSAPR to be used to meet compliance with the CSAPR Update can facilitate compliance with the requirements of the latter. As described in section VI, the EPA is establishing emission budgets that it finds to be feasible for the 2017 ozone season. As a result, the EPA believes that it is feasible to implement the final CSAPR Update rule emission budgets that the EPA is promulgating in this action, even without availability of banked allowances for compliance. However, in order to ensure implementation feasibility, the EPA is finalizing an approach that transitions a limited number of banked allowances into the CSAPR NO_X ozone season Group 2 program for compliance starting with the 2017 ozone season. By providing for the use of some banked allowances for compliance with the CSAPR Update rule, the EPA provides immediate but limited compliance flexibility that will support the feasibility of meeting emission budgets for the 2017 ozone season and variation in power sector operations. The CSAPR Update assurance level reflects the upper bound variation in power sector generation that the EPA would expect in any given year. Thus, the carryover of converted banked allowances equal to 1.5 years' worth of variability limits provides the affected fleet with the ability to accommodate potential variation from the mean in its load and emission patterns in the initial year of the program and also maintain a small reserve of allowances, while balancing the need to ensure that emissions are reduced, on average, to the level of the budgets and within the assurance levels in subsequent years. For a further discussion of additional implementation feasibility provided by this approach, see section VII.C.

Considering these factors—especially the EPA's obligation to achieve the NO_X emission reductions needed to address transport with respect to the 2008 NAAQS—the EPA believes it is reasonable—even required—to restrict

the number of banked allowances carried over.

To enable the use of banked 2015 and 2016 vintage allowances for compliance with the CSAPR Update, the EPA is finalizing a one-time conversion that transitions a number of allowances equivalent to 1.5 years of the sum of states' CSAPR NO_X ozone season Group 2 variability limits (the variability limits are 21 percent of the regional total emission budgets), or approximately 99,700 allowances. The one-time conversion of the 2015 and 2016 banked allowances will be made using a calculated ratio, or equation, to be applied in early 2017 once compliance reconciliation (or "true-up") for the 2016 ozone season program is completed. The EPA will use an equation to derive the ratio by dividing the number of all 2015 and 2016 post-true-up banked CSAPR NO_X ozone season allowances being converted by 1.5 times the sum of the 2017 CSAPR Update variability limits quantified in Table VII.C–2 in this preamble. As soon as practicable and not later than March 1, 2018, which is the compliance deadline for the 2017 control period, and pending notification of all allowance holders, the EPA will freeze allowance accounts and convert the original CSAPR NO_X ozone season 2015 and 2016 banked allowances to the 2017 vintage CSAPR Update rule NO_X ozone season Group 2 allowances. These allowances may then be used in 2017 and thereafter on a 1-to-1 (one allowance to one ton of ozone season emissions) basis for compliance in Group 2 states.

Dividing the bank by 1.5 times the collective variability limits results in the ratio that the EPA will apply to convert each source's banked 2015 and 2016 original CSAPR NO_X ozone season allowances to 2017 CSAPR Update rule NO_X ozone season Group 2 allowances. The resulting post-conversion bank will be equivalent to 1.5 times the sum of states' CSAPR NO_X ozone season Group 2 variability limits, or approximately 99,700 allowances. Based on current data, the EPA notes that this conversion ratio would be approximately 3.5 to 1, but the ratio could be lower or higher depending on 2016 emissions. By instituting the one-time conversion of banked 2015 and 2016 allowances, the EPA is limiting the use of such allowances for purposes of assuring that emission reductions necessary to address interstate transport with respect to the 2008 ozone standard are achieved.

As of the conversion date (see 40 CFR 97.526(c)(1)), the EPA will convert all 2015 and 2016 allowances held in any account, other than a Georgia source's compliance account, to Group 2 allowances. This includes banked 2015 and 2016 allowances held in accounts in non-CSAPR Update states (*i.e.*, Florida, North Carolina, and South Carolina). The ratio will be determined by dividing the number of allowances held in all such accounts (*i.e.*, every general account and every compliance account except for a compliance account for a Georgia source) by 1.5 times the sum of the variability limits for all states other than Georgia. Starting with the 2017 ozone season control period, only CSAPR NO_X ozone season Group 2 allowances can be used for compliance with the CSAPR Update rule ozone season program. Any remaining CSAPR NO_X ozone season 2015 and 2016 allowances that are not converted to Group 2 allowances may only be used for compliance by affected sources in states that are subject to the original CSAPR ozone season program to meet obligations for the 1997 ozone NAAQS (the only such state is Georgia).

A source in the state of Georgia that chooses to have some or all of its banked 2015 and 2016 allowances converted to Group 2 allowances may move any of its 2015 and 2016 banked allowances out of a compliance account and into a general account. These allowances in the general account will then be subject to conversion to Group 2 allowances.

The EPA proposed and took comment on a range of options for how to treat the use of banked 2015 and 2016 CSAPR NO_X ozone season allowances by EGUs in the 22 CSAPR Update states. As described previously, the EPA proposed that sources in states with new or updated budgets could use all of their banked allowances, but at a ratio significantly higher than one allowance to cover each ton (*e.g.*, at a four-for-one turn-in ratio). Additionally, the proposed CSAPR Update solicited comment on less and more restrictive approaches to address use of the CSAPR EGU NO_X ozone allowance bank. Specifically, the EPA sought comment on: (1) Allowing banked 2015 and 2016 CSAPR NO_X ozone allowances to be used for compliance with the CSAPR Update for the 2008 ozone NAAQS starting in 2017 at a one-for-one ratio, or (2) completely disallowing the use of banked 2015 and 2016 CSAPR NO_X ozone allowances for compliance with the CSAPR Update for the 2008 ozone NAAQS starting in 2017. The EPA also solicited comment on whether and how the assurance provision penalty might be increased, in conjunction with any of the above approaches, to address the relationship of the allowance bank to emissions occurring under this revised program from 2017 onward. At this time, the EPA is not changing the assurance provision penalty or its application.

Comment: Some commenters suggested that implementation by way of ongoing turn-in ratios would be cumbersome and complicated because it requires affected EGUs to hold allowances for compliance that are equivalent to differing ratios of tons of emissions.

Response: The EPA agrees with the commenters who observed that an allowance trading program in which a CSAPR NO_X ozone season allowance issued in 2017 and thereafter would be worth one ton of emissions while a CSAPR NO_X ozone season allowance issued in 2015 or 2016 would be worth less than one ton of emissions is overly complex. These differing emission equivalents of otherwise similar compliance tools (*i.e.*, allowances) would add a layer of complexity to ongoing compliance demonstrations. Implementing a ratio by way of a one-time conversion, instead, has the same impact on emission reductions as an ongoing turn-in ratio in that the emissions equivalent of the banked allowances will be reduced consistent with the ratio, but the implementation of the ratio through a one-time conversion simplifies implementation of the CSAPR Update rule, which supports efficient and accurate compliance planning.

Comment: Some commenters requested that the EPA not limit the use of banked vintage 2015 and 2016 CSAPR NO_X ozone season allowances in the final CSAPR Update, suggesting that the EPA had not demonstrated that use of these allowances would undermine the goals of the CSAPR Update. These commenters suggested that the assurance levels are adequately protective of the CSAPR Update emission reduction requirements.

Response: The EPA disagrees with these comments. As discussed previously, the EPA anticipates a large number of banked allowances entering the 2017 CSAPR ozone season control period. Allowing unlimited use of this magnitude of vintage 2015 and 2016 CSAPR NO_X ozone season allowances in the 2017 control period and going forward would put the emission reduction requirements of the CSAPR Update rule in jeopardy and undermine the realization of the emission reductions needed under the good neighbor provisions of the CAA to avoid significant contribution to nonattainment and interference with

maintenance of the 2008 ozone NAAQS in downwind areas.

Comment: Some commenters recommended that the EPA completely disallow the use of banked 2015 and 2016 CSAPR NO_X ozone allowances for compliance with the CSAPR Update for the 2008 ozone NAAQS starting in 2017.

Response: A key feature of allowance trading programs is that they provide sources an economically efficient strategy for integrating current and future compliance. Banking of allowances for later use also creates incentives to make early emission reductions, which often result in improved air quality earlier than otherwise required. The EPA has seen early reductions and banking in implementing other trading programs over the past 20 years, such as the Acid Rain Program and the NO_X SIP Call. The EPA believes such an economic incentive, and the associated environmental benefits, is conditioned on the expectation that the resulting banked allowances will have some value in the future of that program. The approach that the EPA is finalizing provides a means for the existing 2015 and 2016 CSAPR NO_X ozone season allowances to retain some value, while appropriately mitigating the potential adverse impact of the allowance bank on the emission-reducing actions needed from affected EGUs in states with obligations to address interstate transport for the 2008 ozone NAAQS.

Comment: Commenters contend that discounting allowances by a turn-in ratio essentially penalizes sources for early action.

Response: Commenters did not provide quantitative analysis that the turn-in ratio would reduce the overall economic value of the allowance holdings nor even address the question of whether or how the diminution of the number of allowances available would affect the value of each individual allowance or that of the overall bank—especially in view of the fact that the NO_X emissions budgets are more constraining. Because the allowance bank value is a product of both allowance quantity and allowance price, the conclusion that any reduction in quantity inherently reduces the bank value is flawed because it ignores the likely increase in price. Similarly, it merits noting the high likelihood that some portion of the banked allowance price reflects larger dynamics in the power markets, such as lower natural gas prices in recent years, as opposed to explicit early actions.

D. Feasibility of Compliance

In practice, the EGU emission budgets that the EPA is finalizing in this action are achievable for each of the 22 states through operating and optimizing existing SCR controls, operating existing SNCR controls, installing state-of-the-art combustion controls, shifting generation to lower NO_X–emitting or non-emitting units, using allowances that the EPA has allocated to EGUs (including banked allowances), or obtaining allowances on the allowance market. The EPA believes that this rule provides sufficient lead time to comply with the 2017 ozone season requirements.[161]

To further examine the compliance feasibility of the state NO_X ozone season budgets, the EPA performed an analysis of state-level achievable NO_X ozone season emissions for 2017 that is independent of the IPM-based assessment used to establish the emission budgets. This analysis relied on the most recent ozone season data for 2015. For the covered states, these data were adjusted to account for announced retirements, announced new SCR at existing units, and announced coal-to-gas conversions at existing units.[162] The EPA then applied certain control assumptions directly to the reported unit-level data. Specifically, this analysis applied EGU NO_X reductions for turning on idled SCR, optimizing all SCR to historically demonstrated NO_X emission rates, installing state-of-the-art combustion controls, and turning on idled SNCR.

The EPA evaluated the feasibility of turning on idled SCRs for the 2017 ozone season. Based on past practice, the EPA finds that idled controls can be restored to operation in no more than a few months. This timeframe is informed by many electric utilities' previous, long-standing practice of utilizing SCRs to reduce EGU NO_X emissions during the ozone season while putting the systems into protective lay-up during non-ozone season months. For example, this was the long-standing practice of many EGUs that used SCR systems for compliance with the NO_X Budget Trading Program. It was quite typical for SCRs to be turned off following the September 30 end of the ozone season control period. These controls would then be put in protective lay-up for several months of non-use before being returned to operation by May 1 of the following ozone season. In the 22 state CSAPR Update region, 2005 EGU NO_X emission data suggest that 125 EGUs operated SCR systems in the summer ozone season while idling these controls for the remaining seven non-ozone season months of the year.[163] Based on EGUs' past experience and the frequency of this practice, the EPA finds that idled SCRs can be restored to operation in no more than a few months. Further, because turning on idled SCRs requires inherently more steps than fully operating existing operating SCR or turning on idled SNCR, the EPA finds that these additional EGU NO_X reduction strategies are also feasible within a few months. The lead-time for compliance with this rule is longer than this timeframe. More details on these analyses can be found in the EGU NO_X Mitigation Strategies Final Rule TSD.

The EPA also finds that, generally,[164] state-of-the-art combustion controls require a short installation time—typically, four weeks to install along with a scheduled outage (with order placement, fabrication, and delivery occurring beforehand). Feasibility of installing combustion controls was examined by the EPA in the original CSAPR where industry demonstrated the ability to install LNB controls on a large unit (800 MW) in under six months. More details on these analyses can be found in the EGU NO_X Mitigation Strategies Final Rule TSD.

As described in section VI, to establish emission budgets, the EPA made a data-informed assumption with respect to the reasonable achievable SCR NO_X rate (0.10 lbs/mmBtu) for units that are not operating SCR optimally. In order to independently evaluate whether emission budgets that rely on this assumption are achievable, the EPA used actual SCR rates for existing units that reflect demonstrated unit-level achievable SCR performance. Specifically, the EPA used the lower of 2015 NO_X rates (the most recent demonstrated achievable SCR NO_X rate) and each unit's third lowest historical ozone season NO_X rate. This approach

[161] As described in Section VI, the EPA is finalizing for Arkansas a 2017 ozone season emission budget that does not account for EGU NO_X reduction potential from combustion controls and a 2018 ozone season emission budget for Arkansas that does account for EGU NO_X reduction potential from combustion controls. This approach provides utilities an extra year to upgrade combustion controls in the event that this is their chosen CSAPR Update compliance path. This extra year allows for upgrades to be made across 4 shoulder seasons (fall 2016, spring 2017, fall 2017, and spring 2018).

[162] These adjustments are performed in the same way as the adjusted historic emissions described in section VI.

[164] This is true with one exception. The EPA finds that for Arkansas it is reasonable to delay EGU NO_X reduction potential for certain new combustion controls until 2018 and therefore gives Arkansas a 2017 budget that does not reflect these controls and a 2018 budget that does reflect these controls. This issue is discussed further in Section VI.

reflects SCR units operating in a manner consistent with demonstrated SCR performance capability at each unit. This analysis does not account for further EGU NO_X reduction potential from shifting generation to lower NO_X-emitting or non-emitting units. As discussed in section VI and further in the EGU NO_X Mitigation Strategies Final Rule TSD, the EPA believes shifting generation to lower NO_X-emitting or non-emitting units is feasible to implement for the 2017 ozone season but the agency has not developed an approach to assess generation shifting that is independent of the IPM-based assessment discussed previously.

The EPA's analysis showed that, with known fleet changes and accounting for NO_X reduction potential from SCR, SNCR, and combustion controls, all CSAPR Update rule states would be at or below their 2017 CSAPR Update rule assurance level while continuing to otherwise operate consistent with 2015 behavior. The analysis showed that, with known changes occurring prior to 2017, optimizing SCR and SNCR, and installing combustion controls, the 22 states would lower their emissions to approximately 306,000 tons—approximately 3 percent below their aggregated CSAPR Update rule budgets, and each state would be below its assurance level. Moreover, this analysis does not reflect the NO_X reduction potential from generation shifting that is also available for compliance planning. The state-level summary of this 2017 analysis is provided in Table VII.D–1. For further discussion of implementation feasibility, see the EGU NO_X Mitigation Strategies Final Rule TSD.[165]

TABLE VII.D–1—FINAL 2017 EGU NO_X OZONE SEASON EMISSION BUDGETS, ASSURANCE LEVEL, AND COMPLIANCE FEASIBILITY ANALYSIS

[Tons]

State	Final 2017* EGU NO_X emission budgets	Final 2017 EGU NO_X assurance level	Compliance feasibility analysis
Alabama	13,211	15,985	13,673
Arkansas	12,048	14,578	8,362
Illinois	14,601	17,667	13,892
Indiana	23,303	28,197	25,325
Iowa	11,272	13,639	11,070
Kansas	8,027	9,713	7,845
Kentucky	21,115	25,549	21,269
Louisiana	18,639	22,553	18,250
Maryland	3,828	4,632	3,815
Michigan	17,023	20,598	17,960
Mississippi	6,315	7,641	6,296
Missouri	15,780	19,094	16,326
New Jersey	2,062	2,495	2,048
New York	5,135	6,213	5,406
Ohio	19,522	23,622	16,481
Oklahoma	11,641	14,086	13,039
Pennsylvania	17,952	21,722	17,262
Tennessee	7,736	9,361	6,569
Texas	52,301	63,284	52,647
Virginia	9,223	11,160	8,670
West Virginia	17,815	21,556	12,236
Wisconsin	7,915	9,577	7,813
22 State Region	316,464	.....	306,252

*The EPA is finalizing CSAPR EGU NO_X ozone season emission budgets for Arkansas of 12,048 tons for 2017 and 9,210 tons for 2018 and subsequent control periods.

The allowance trading program used to implement the emission reductions in this rulemaking further promotes compliance feasibility. With this approach, an individual source has the flexibility to forgo any physical changes to its combustion or post-combustion process and simply acquire allowances from another source for compliance. Therefore, any unit-specific limitations in regard to permitting, installing, and/or modifying controls or other elements of plant operation do not jeopardize compliance, as the sources have alternative compliance options.[166] Allowance markets are well established, liquid, and will carry a number of already available banked allowances. Regarding market liquidity, the EPA observes that as of August 15, 2016 (part way through the second CSAPR NO_X ozone season compliance period) more than 1,200 private transfers have taken place involving more than 260,000 CSAPR NO_X ozone season allowances.[167] In particular, the combined flexibility of a bank and a liquid market ensures that any unit with unique circumstances regarding its control configuration can continue to operate in its current fashion. Trading flexibility further enhances system reliability because affected units may cover emissions from any reliability-relevant operations with allowances available in the marketplace.

Stakeholders have a history and familiarity with trading programs. Congress has enacted, and the EPA has promulgated, many rules that allow EGUs and other sources to meet their emission limits by trading allowances

[165] The EPA notes that a state can instead require non-EGU NO_X emission reductions through a SIP, if they choose to do so.

[166] The EPA does not anticipate that restarting an existing and permitted idled post-combustion NO_X control device would trigger any new permitting requirements.

[167] Allowance transaction data are available in EPA's Air Markets Program Data, at *http://ampd.epa.gov/ampd/.*

with other sources. In a trading program, the EPA authorizes a source to meet its emission limit by purchasing emission allowances generated from other sources, typically ones that implement or enhance their pollution control devices to reduce emissions to the point where they are able to sell allowances. As a result, the availability of trading reduces overall costs to the industry by using the marketplace to incentivize particular sources that have the lowest control costs to implement and operate pollution controls.

The combination of control optimization feasibility, recent trends in emission reductions, on-the-way emission reductions, allowance trading, a pre-existing bank, and assurance levels support the feasibility of the CSAPR Update rule 2017 emission budgets finalized in this action.

Further supporting the feasibility of this rule's compliance obligation is the trend in recent emission reductions. While 2014 ozone season NO_X emissions for the 22 covered states were approximately 466,000 tons, they dropped by 14 percent in 2015 to 400,000. Moreover, the 2016 ozone season emissions are anticipated to be approximately 380,000 tons. This pace of reduction illustrates the speed and adaptability in the fleet's response to market conditions. It shows a trend in emission reductions that is consistent with the level of reductions anticipated by the CSAPR Update rule budgets.

Comment: The EPA received comment highlighting the significant drop in the CSAPR Update rule budgets for 2017 relative to the CSAPR phase 1 and phase 2 budgets finalized in the original CSAPR rulemaking to address the 1997 ozone standard. Some commenters asserted this significant percent difference between the two illustrated a feasibility concern.

Response: The EPA views a comparison of the original CSAPR phase 1 and 2 budgets as a poor metric for assessing feasibility of sources' compliance with the budgets being finalized in the CSAPR Update rule. As noted previously, states are already well below their current CSAPR budgets: Reported 2015 emissions for the 21 states subject to the NO_X ozone season trading program pursuant to both the original CSAPR rulemaking and the CSAPR Update rule total 390,000 tons in aggregate. For these 21 states, CSAPR phase 1 budgets aggregate to 535,000 tons and phase 2 budgets aggregate to 502,000 tons. Thus, aggregate 2015 emissions from these states are already more than 100,000 tons below the original CSAPR budgets. Based upon the first two quarters of emissions data, 2016 emissions are anticipated to be even lower. These actual emissions make a more appropriate assessment of what emission reductions are feasible for the 2017 ozone season. Moreover, CSAPR Update rule states have limited flexibility to exceed the emission budgets if needed for compliance feasibility by using banked allowances.

E. FIP Requirements and Key Elements of the CSAPR Trading Programs

The original CSAPR established a NO_X ozone season allowance trading program that allows affected sources within each state to use allowances from other sources within the same trading group for compliance, pursuant to certain monitoring requirements as codified in 40 CFR part 75. In the CSAPR NO_X ozone season trading program, sources are required to hold one CSAPR ozone season allowance for each ton of NO_X emitted during the ozone season. The EPA is utilizing that same regional trading approach, with updated emission budgets, trading groups, and certain additional revisions described later on, as the compliance remedy implemented through the FIPs to address interstate transport for the 2008 ozone NAAQS. The EPA is using the existing NO_X ozone season allowance trading system that was established under CSAPR in 40 CFR part 97, subpart BBBBB for Group 1, and as promulgated in Subpart EEEEE for Group 2, to implement the emission reductions identified and quantified in the FIPs for this action.

1. Applicability

In this rule, the EPA is finalizing the same applicability provisions as the original CSAPR, without change. Under the general CSAPR applicability provisions, a covered unit is any stationary fossil-fuel-fired boiler or combustion turbine serving at any time on or after January 1, 2005, a generator with nameplate capacity exceeding 25 MW, which is producing electricity for sale, with the exception of certain cogeneration units and solid waste incineration units. *See* 76 FR 48273 (August 8, 2011), for a discussion on applicability in the final CSAPR rule. The EPA is finalizing the same applicability provisions as the original CSAPR for the CSAPR Update rule NO_X ozone season trading program Groups 1 and 2. *See* 40 CFR 97.504 and 40 CFR 97.804. The EPA is codifying these provisions as described in section IX.

2. State Budgets

The EPA is promulgating CSAPR NO_X ozone season emission budgets, as provided in table VII.E–1 in this preamble and in 40 CFR 97.810, for the 22 states in this final rule.[168] This includes the NO_X ozone season emission budgets, new unit set-asides, and Indian country new unit set-asides for 2017 and beyond.

The EPA is establishing new or revised CSAPR NO_X ozone season emission budgets for the 22 eastern states subject to FIPs in this final rule to address interstate transport for the 2008 ozone NAAQS. For the 21 of these 22 states that are currently covered by the original CSAPR ozone season program, the requirement to comply with the budgets established to address the 2008 ozone NAAQS will replace the current requirement to comply with the budgets established to address the 1997 ozone NAAQS.[169] For Kansas, which is newly brought into the CSAPR NO_X ozone season program, the EPA is finalizing a new EGU NO_X ozone season emission budget designed to address interstate transport for the 2008 ozone standard.

The EPA is implementing the emission budgets finalized in this rule by allocating allowances to sources in those states equal to the budgets for compliance starting in 2017. The EPA is finalizing allowance allocations for existing units for CSAPR NO_X ozone season Group 2 states through this rulemaking. Portions of the state budgets will be set aside for new units, and the EPA will use the processes set forth in the CSAPR regulations to annually allocate allowances to the new units in each state from the new unit set-asides.

3. Allocations of Emission Allowances

For states participating in the CSAPR NO_X ozone season Group 2 program, the

[168] The 22 states are: Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

[169] As discussed in section IV.C, Iowa, Maryland, Michigan, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, Virginia, West Virginia, and Wisconsin will no longer be subject to an obligation to reduce emissions to address the 1997 ozone NAAQS after 2016, so for these states the requirement to comply with the budgets established under this rule will succeed the current requirement to comply with the budgets established to address the 1997 ozone NAAQS. Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee remain subject to an obligation to reduce emissions to address the 1997 ozone NAAQS, but because the budgets established in this rule are established with regard to the more stringent 2008 ozone NAAQS, the EPA is coordinating compliance requirements and allowing compliance with the budgets established under this rule to serve the purposes of meeting these states' interstate transport obligations with regard to both the 1997 ozone NAAQS and the 2008 ozone NAAQS.

EPA will issue CSAPR NO_X ozone season Group 2 allowances to be used for compliance starting with the 2017 ozone season. This section explains that, for most states, the EPA is allocating these allowances up to each state's budget to existing units and new units in that state by applying the same allocation methodology finalized in the original CSAPR. This methodology considers both a unit's historical heat input and its maximum historical emissions. *See* 76 FR 48284, August 8, 2011. A different approach is taken for Alabama, Missouri, and New York, as described later on. This section also describes allocation to the new unit set-asides and Indian country new unit set-asides in each state; allocation to units that are not operating; and the recordation of allowance allocations in source compliance accounts.

a. *Allocations to existing units.* The EPA will implement each state's EGU NO_X ozone season emission budget in the CSAPR NO_X ozone season Group 2 trading program by allocating the number of emission allowances to covered units [170] within that state equal to the tonnage of that specific state's budget, as calculated in section VI. *See* Table VI.E–2. The portion of a state budget allocated to existing units in that state is the state budget minus the state's new unit set-aside and minus the state's Indian country new unit set-aside. The new unit set-asides are portions of each budget reserved for new units that might locate in each state or in Indian country in the future. For the existing source level allocations, see the TSD called, "Unit Level Allocations and Underlying Data for the CSAPR for the 2008 Ozone NAAQS," in the docket for this rulemaking. The only allowance allocations that are being updated in this final rule are allocations of NO_X ozone season allowances under the CSAPR NO_X ozone season Group 2 program. This final rule does not change allowance allocations for the CSAPR NO_X ozone season Group 1 trading program or allocations of CSAPR SO_2 or NO_X annual allowances.

For the purpose of allocations, the original CSAPR regulations defined an "existing unit" as one that commenced commercial operation prior to January 1, 2010. For the 22 states subject to FIPs in this rulemaking, the EPA is modifying the definition of an "existing unit" for purposes of the NO_X ozone season Group 2 program to include those units that commenced commercial operation prior to January 1, 2015. This change will allow these units to be directly allocated allowances from each state's budget as existing units and will allow the new unit set-asides to be fully reserved for any future new units locating in covered states or Indian country. The EPA did not propose, and is not finalizing, any change in the definition of "existing units" for sources located in states subject to the original CSAPR regulations (*i.e.*, sources located in Georgia with respect to allocation of the CSAPR NO_X ozone season Group 1 allowances, and sources located in all covered states with respect to allocations of CSAPR SO_2 or NO_X annual allowances).

The EPA proposed to apply the methodology finalized in the original CSAPR for allocating emission allowances to existing units. This methodology allocates allowances to each unit based on the unit's share of the state's heat input, limited by the unit's maximum historical emissions. As discussed in the original CSAPR final rule (*See* 76 FR 48288–9, August 8, 2011), the EPA finds this allowance allocation approach to be fuel-neutral, control-neutral, transparent, based on reliable data, and similar to allocation methodologies previously used in the NO_X SIP Call and Acid Rain Program. The EPA is therefore finalizing the continued application of this methodology for allocating allowances to existing sources in this final rule (except as otherwise noted later on with respect to existing sources in Alabama, Missouri, and New York).

This final rule uses the average of the three highest years of heat input data out of a consecutive five-year period to establish the heat input baseline for each unit. These heat input data are used to calculate each unit's proportion of state-level heat input (the unit's three year average heat input divided by the state's average heat input). As a first step, the EPA applies this proportion to the total amount of existing unit allowances to be allocated to quantify unit-level allocations. However, the EPA constrains the unit-level allocations so as not to exceed the maximum historical baseline emissions, calculated as the highest year of emissions out of a consecutive eight-year period.[171] The proposal evaluated 2010–2014 heat input data and 2007–2014 emissions data, which was the most recent data available at that time. The final rule relies on 2011–2015 heat input data and 2008–2015 emission data, which is currently the most recent complete dataset.[172]

For the states of Alabama, Missouri, and New York, the EPA is not applying the methodology described previously. Instead, for these states only, the EPA is allocating allowances to existing units in the state according to methodologies for allocating ozone season NO_X allowances under the current CSAPR NO_X Ozone Season Trading Program that have been adopted into state regulations and submitted to the EPA for approval as SIP revisions, but with the states' methodologies applied to the final budgets established in this rule. This approach is consistent with the proposal, in which the EPA indicated that where a state had adopted state regulations to govern the allocation of allowances under the current CSAPR NO_X ozone season program and had included those regulations in an approved SIP revision, if the state regulations by their terms would govern allocations under a revised budget, or if it was clear how the state's approved methodology could be used by the EPA to compute allocations using the revised budget, the state's regulations or methodology would be used to govern the allowance allocations under the final rule. These three states have adopted state regulations regarding the allocation of CSAPR allowances for ozone season NO_X emissions and have made SIP submittals seeking incorporation of the regulations into their SIPs. Although the EPA has not acted on those SIP submittals (because they concern the current NO_X ozone season trading program to which the sources in these three states will no longer be subject after 2016), the EPA has determined that it is clear how the allocation methodologies reflected in the state-adopted regulations can be used to compute allocations under the final budgets for this rule. The EPA took comment in the proposal on this topic. As explained in the proposal, these possible approaches could avert the need for a state to submit another SIP revision to implement the same allocation provisions under this rule that the state has already implemented or sought to implement under CSAPR before adoption of this rule. Since the agency received no adverse comments on using this modified allocation approach for states with an EPA-approved SIP revision under the current rule, the EPA is finalizing this approach

[170] As described previously in applicability criteria.

[171] The EPA's allocation methodology also considers whether unit-level allocations should be limited because they would otherwise exceed emission levels that are permissible under the terms of consent decrees. However, in this instance the EPA's analysis indicates that consideration of consent decree limits does not alter the unit-level allocations.

[172] *See* the CSAPR Allowance Allocations Final Rule TSD for further description of the allocation methodology.

for these three states.[173] Further discussion of how these three states' methodologies were used to determine the allocations of allowances to existing units in the states is included in the CSAPR Allowance Allocations Final Rule TSD.

As discussed later on, states have several options under CSAPR to submit SIP revisions which, if approved, may result in the replacement of the EPA's default allocations with state-determined allocations for control periods in 2018 or later years. The provisions described previously will not preclude any state from submitting an alternative allocation methodology for later compliance years through a SIP revision. *See* section VII.F for further details on the development of approvable SIP submissions.

b. *Allocations to new units.* Consistent with the revision to the definition of "existing unit" described earlier, for purposes of the final rule a "new unit" that is eligible to receive allocations from the "new unit set-aside" for a state includes any covered unit that commences commercial operation on or after January 1, 2015, as well as a unit that becomes covered by meeting applicability criteria subsequent to January 1, 2015; a unit that relocates to a different state covered by a FIP promulgated by this final rule; and an "existing" covered unit that stops operating for two consecutive years but resumes commercial operation at some point thereafter. To the extent that states seek approval of SIPs with different allocation provisions than those provided by CSAPR, these SIPs may also define new units differently.

The EPA is also finalizing allocations to a new unit set-aside (NUSA) for each state equal to a minimum of 2 percent of the total state budget, plus the projected amount of emissions from planned units in that state. For instance, if planned units in a state are projected to emit 3 percent of the state's NO_X ozone season emission budget, then the new unit set-aside for the state would be set at 5 percent, the sum of the minimum 2 percent set-aside plus an additional 3 percent for planned units. This is the same approach currently used to implement the NUSA for all CSAPR trading programs. *See* 76 FR 48292. Pursuant to the CSAPR regulations, new units may receive allocations starting with the first year they are subject to the allowance-holding requirements of the rule. If the allowances in the NUSA remain unallocated to new units, the allowances from the set-asides are redistributed to existing units before each compliance deadline. For more detail on the CSAPR new unit set-aside provisions, *see* 40 CFR 97.811(b) and 97.812.

TABLE VII.E–1—FINAL EGU NO_X OZONE SEASON NEW UNIT SET-ASIDE AMOUNTS, REFLECTING FINAL EGU EMISSION BUDGETS

[Tons]

State	Final 2017 * EGU NO_X emission budgets (tons)	New unit set-aside amount (percent)	New unit set-aside amount (tons) [1]	Indian country new unit set-aside amount (tons)
Alabama	13,211	2	255	13
Arkansas*	12,048/9,210	2/2	240/185	.....
Illinois	14,601	2	302	.....
Indiana	23,303	2	468	.....
Iowa	11,272	3	324	11
Kansas	8,027	2	148	8
Kentucky	21,115	2	426	.....
Louisiana	18,639	2	352	19
Maryland	3,828	4	152	.....
Michigan	17,023	4	665	17
Mississippi	6,315	2	120	6
Missouri	15,780	2	324	.....
New Jersey	2,062	9	192	.....
New York	5,135	5	252	5
Ohio	19,522	2	401	.....
Oklahoma	11,641	2	221	12
Pennsylvania	17,952	3	541	.....
Tennessee	7,736	2	156	.....
Texas	52,301	2	998	52
Virginia	9,223	6	562	.....
West Virginia	17,815	2	356	.....
Wisconsin	7,915	2	151	8
22 State Region	316,464/313,626	.....	.....	.....

[1] New-unit set-aside amount (tons) does not include the Indian country new unit set-aside amount (tons).

*The EPA is finalizing CSAPR EGU NO_X ozone season emission budgets for Arkansas of 12,048 tons for 2017 and 9,210 tons for 2018 and subsequent control periods.

c. *Allocations to new units in Indian Country.* Clean Air Act programs on Indian reservations and other areas of Indian country over which a tribe or the EPA has demonstrated that a tribe has jurisdiction are implemented either by a tribe through an EPA-approved tribal implementation plan (TIP) or the EPA through a FIP. Tribes may, but are not required to, submit TIPs. Under the EPA's Tribal Authority Rule (TAR), 40 CFR 49.1–49.11, the EPA is authorized

[173] In the case of Missouri, the allocations also reflect the state's comments regarding the use of the state's methodology to establish the allocations.

to promulgate FIPs for Indian country as necessary or appropriate to protect air quality if a tribe does not submit and get EPA approval of a TIP. *See* 40 CFR 49.11(a); see also 42 U.S.C. 7601(d)(4). To date, no tribes have sought approval of a TIP implementing the good neighbor provision at CAA section 110(a)(2)(D)(i)(I) with respect to the 2008 ozone NAAQS. The EPA has therefore determined that it is necessary and appropriate for EPA to implement the FIPs in any affected Indian reservations or other areas of Indian country over which a tribe has jurisdiction. There are no existing units that would qualify as "covered units" under the final CSAPR Update in Indian country located in the states covered by this rule.

The EPA is finalizing its proposal to apply the CSAPR approach for allocating allowances to any new units locating in Indian country. Under the CSAPR approach, allowances to possible future new units locating in Indian country are allocated by the EPA from an Indian country new unit set-aside established for each state with Indian country. *See* 40 CFR 97.811(b)(2) and 97.812(b). The EPA reserves 0.1 percent of the total state budget for new units in Indian country within that state (5 percent of the minimum 2 percent new unit set-aside, without considering any increase in a state's new unit set-aside amount for planned units). Because states generally have no SIP authority in these areas, the EPA will continue to allocate such allowances to sources locating in such areas of Indian country within a state over which a tribe or EPA has demonstrated that a tribe has jurisdiction, even if the state submits a SIP to replace the applicable FIP. 40 CFR 52.38(b)(9)(vi) and (vii) and 52.38(b)(10). Unallocated allowances from a state's Indian country new unit set-aside are returned to the state's new unit set-aside and allocated according to the methodology described previously.

d. *Allocations to units that do not operate and the new unit set-aside.* The EPA is finalizing its proposal to apply the CSAPR approach for allocating to units that do not operate and to the new unit set-aside. The EPA is codifying the existing CSAPR provision under which a covered unit that does not operate for a period of two consecutive years will receive allowance allocations for a total of up to five years of non-operation. 40 CFR 97.811(a)(2). This approach mitigates concerns that loss of allowance allocations could be an economic consideration that would cause a unit, which would otherwise retire, to continue operations in order to retain ongoing allowance allocations. Pursuant to this provision, starting in the fifth year after the first year of non-operation, allowances allocated to such units will instead be allocated to the new unit set-aside for the state in which the non-operating unit is located. This approach allows the balance of allowance allocations to shift over time from existing units to new units, aligned with transition of the EGU fleet from older generating resources to newer ones. Allowances in the new unit set-aside that are not used by new units are reallocated to existing units in the state. The EPA proposed to retain this timeline for allowance allocation for non-operating units and it is finalizing that proposal.

4. Variability Limits, Assurance Levels, and Penalties

In the original CSAPR, the EPA developed assurance provisions, including variability limits and assurance levels (with associated compliance penalties), to ensure that each state will meet its pollution control obligations and to accommodate inherent year-to-year variability in state-level EGU operations.

The original CSAPR budgets, and the updated CSAPR emission budgets finalized in this document, reflect EGU operations in an "average year." However, year-to-year variability in EGU operations occurs due to the interconnected nature of the power sector and from changing weather patterns, changes in electricity demand, or disruptions in electricity supply from other units or from the transmission grid. Recognizing this, the trading program provisions finalized in the original CSAPR rulemaking include variability limits, which define the amount by which an individual state's emissions may exceed the level of its budget in a given year to account for this variability in EGU operations. A state's budget plus its variability limit equals a state's assurance level, which acts as a cap on each state's NO_X emissions during a control period (that is, during the May-September ozone season in the case of this rule). The new NO_X ozone season trading program provisions established for affected sources in the 22 states subject to this rule contain equivalent assurance provisions.

These variability limits ensure that the trading program can accommodate the inherent variability in the power sector while also ensuring that each state eliminates the amount of emissions within the state, in a given year, that must be eliminated to meet the statutory mandate of section 110(a)(2)(D)(i)(I). Moreover, the structure of the program, which achieves required emission reductions through limits on the total number of allowances allocated, assurance provisions, and penalty mechanisms, ensures that the variability limits only allow the amount of temporal and geographic shifting of emissions that is likely to result from the inherent variability in power generation, and not from decisions to avoid or delay the installation of necessary controls.

To establish the variability limits in the original CSAPR, the EPA analyzed historical state-level heat input variability as a proxy for emissions variability, assuming constant emission rates. *See* 76 FR 48265, August 8, 2011. The variability limits for ozone season NO_X in the original CSAPR were calculated as 21 percent of each state's budget, and these variability limits for the NO_X ozone season trading program were then codified in 40 CFR 97.510 along with the state budgets. The EPA performed an updated analysis to ensure the 21 percent variability limits used in the original CSAPR rule were also valid for purposes of implementing the new and revised budgets finalized in this rule. The EPA's updated analysis demonstrates that variability considering recent data remains consistent (*i.e.,* within 1 percent) with the assessment conducted for the original CSAPR rulemaking. This analysis may be found in the TSD called, Power Sector Variability Final CSAPR Update TSD, in the docket for this rulemaking. The EPA is therefore setting variability limits for the 22 states covered by this rule calculated as 21 percent of each state's new or revised budget and codifying these variability limits in 40 CFR 97.810.

Table VII.E–2 shows the final EGU NO_X ozone season Group 2 emission budgets, variability limits, and assurance levels for each state.

TABLE VII.E–2—FINAL EGU NO_X OZONE SEASON EMISSION BUDGETS REFLECTING EGU NO_X MITIGATION AVAILABLE FOR 2017 AT $1,400 PER TON, VARIABILITY LIMITS, AND ASSURANCE LEVELS

[Tons]

State	EGU 2017* NO_X ozone season group 2 emission budgets	EGU NO_X ozone season group 2 variability limits	EGU NO_X ozone season group 2 assurance levels
Alabama	13,211	2,774	15,985
Arkansas	12,048/9,210	2,530/1,934	14,578/11,144
Illinois	14,601	3,066	17,667
Indiana	23,303	4,894	28,197
Iowa	11,272	2,367	13,639
Kansas	8,027	1,686	9,713
Kentucky	21,115	4,434	25,549
Louisiana	18,639	3,914	22,553
Maryland	3,828	804	4,632
Michigan	17,023	3,575	20,598
Mississippi	6,315	1,326	7,641
Missouri	15,780	3,314	19,094
New Jersey	2,062	433	2,495
New York	5,135	1,078	6,213
Ohio	19,522	4,100	23,622
Oklahoma	11,641	2,445	14,086
Pennsylvania	17,952	3,770	21,722
Tennessee	7,736	1,625	9,361
Texas	52,301	10,983	63,284
Virginia	9,223	1,937	11,160
West Virginia	17,815	3,741	21,556
Wisconsin	7,915	1,662	9,577
22 State Region	316,464/313,626	.....	.....

*The EPA is finalizing CSAPR EGU NO_X ozone season emission budgets for Arkansas of 12,048 tons for 2017 and 9,210 tons for 2018 and subsequent control periods.

The assurance provisions include penalties that are triggered when the state emissions as a whole exceed the state's assurance level. The original CSAPR provided that, when the EGUs in a state exceed that state's assurance level in a given year, some of those sources will be assessed a 3-to-1 allowance surrender on the excess tons, as described later on. Each excess ton above the assurance level must be met with one allowance for normal compliance plus two additional allowances to satisfy the penalty. The penalty is designed to deter state-level emissions from exceeding assurance levels. This was described in the original CSAPR as air quality-assured trading that accounts for variability in the electricity sector but also ensures that the necessary emission reductions occur within each covered state.[174] If the EGU emissions in a state do not exceed the state's assurance level, no penalties are incurred by any source. Establishing assurance levels with compliance penalties therefore responds to the court's holding in *North Carolina* requiring the EPA to ensure that sources in each state are required to eliminate emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS in another state.[175]

To assess the penalty under the assurance provisions, the EPA evaluates whether any state's total EGU emissions in a control period exceeded the state's assurance level, and if so, the EPA then determines which owners and operators of units in the state exceeded the common designated representative's (DR) share of the state assurance level and, therefore, will be subject to an allowance surrender requirement. Since a DR often represents multiple sources, the EPA evaluates which groups of units at the common DR level had emissions exceeding the respective common DR's share of the state assurance level. This provision is triggered only if two criteria are met: (1) The group of sources and units with a common DR are located in a state where the total state EGU emissions for a control period exceed the state assurance level; and (2) that group with the common DR had emissions exceeding the respective DR's share of the state assurance level. The EPA is finalizing equivalent assurance provisions, modified only as necessary to allow the provisions to work in the same way despite the presence of factors that could otherwise alter their operation, such as converted banked allowances, the possible election by Georgia to bring its sources into the Group 2 program through a SIP revision, and the possible election by other states to bring non-EGUs and additional allowances into the program through SIP revisions. These differences are discussed in section IX in this preamble. For more information on the CSAPR assurance provisions generally, *see* 76 FR 48294 (August 8, 2011).

[174] *See* 76 FR 48266, August 8, 2011: "Far from excusing any state from addressing emissions within the state that significantly contribute to nonattainment or interfere with maintenance in other states, these variability limits ensure that the system can accommodate the inherent variability in the power sector while ensuring that each state eliminates the amount of emissions within the state, in a given year, that must be eliminated to meet the statutory mandate of section 110(a)(2)(D)(i)(I). Moreover, the structure of the program, which achieves required emission reductions through limits on the total number of allowances allocated, assurance provisions, and penalty mechanisms, ensures that the variability limits only allow the amount of temporal and geographic shifting of emissions that is likely to result from the inherent variability in power generation, and not from decisions to avoid or delay the installation of necessary controls. Under the remedy, an individual state can have emissions up to its budget plus the variability limit. However, the requirement that all sources hold allowances covering emissions, and the fact that those allowances are allocated based on state-specific budgets *without* variability, ensure that the total emissions from the states do not exceed the sum of the state budgets. The remedy, therefore, ensures both that total emissions do not exceed the total of the state budgets and that the required emission reductions occur in each state."

[175] 531 F.3d at 908.

5. Compliance Deadlines

As discussed in sections II.A., III.B., and IV.A., the rule requires sources to comply with the new and revised NO_X emission budgets for the 2017 ozone season (May 1 through September 30) in order to ensure that necessary NO_X emissions reductions are made as expeditiously as practicable to assist downwind states' attainment and maintenance of the 2008 ozone NAAQS. The compliance deadline is coordinated with the attainment deadline for that standard and the rule includes provisions to ensure that all necessary reductions occur at sources within each individual state. Thus, under the new CSAPR NO_X Ozone Season Group 2 Trading Program established by this rule at subpart EEEEE of 40 CFR part 97, the first control period is the 2017 ozone season (*i.e.,* May 1, 2017 through September 30, 2017).

The deadline by which sources must hold Group 2 allowances in their compliance accounts at least equal to their emissions during the control period is March 1 of the year following the control period, which is the same as the deadline for holding allowances under the CSAPR annual trading programs. This is a change from the current CSAPR NO_X Ozone Season Trading Program provisions, which set a deadline of December 1 of the year of the control period, and is intended to simplify compliance and program administration and thereby reduce costs for both regulated parties and the EPA. Under these coordinated deadlines, the date by which Group 2 sources will be required to hold Group 2 allowances for compliance for purposes of the 2017 control period is March 1, 2018.

6. Monitoring and Reporting and the Allowance Management System

Monitoring and reporting in accordance with the provisions of 40 CFR part 75 are required for all units subject to the CSAPR NO_X ozone season trading programs and for all units covered under this final rule for the 2008 ozone NAAQS requirements. The EPA finalizes that the monitoring system certification deadline by which monitors are installed and certified for compliance use generally will be May 1, 2017, the beginning of the first control period in this rule, with potentially later deadlines for units that commence commercial operation less than 180 days before that date. Similarly, the EPA is finalizing that the first period in which emission reporting is required would be the quarter that includes May 1, 2017 (the second quarter of the year that covers April, May, and June). These monitoring and reporting deadlines are analogous to the current deadlines under the original CSAPR.

Under part 75, a unit has several options for monitoring and reporting, including the use of a CEMS; an excepted monitoring methodology based in part on fuel-flow metering for certain gas- or oil-fired peaking units; low-mass emissions monitoring for certain non-coal-fired, low emitting units; or an alternative monitoring system approved by the Administrator through a petition process. In addition, sources can submit petitions to the Administrator for alternatives to specific CSAPR and part 75 monitoring, recordkeeping, and reporting requirements. Each CEMS must undergo rigorous initial certification testing and periodic quality assurance testing thereafter, including the use of relative accuracy test audits (RATAs) and 24-hour calibrations. In addition, when a monitoring system is not operating properly, standard substitute data procedures are applied and result in a conservative estimate of emissions for the period involved.

Further, part 75 requires electronic submission of a quarterly emissions report to the Administrator, in a format prescribed by the Administrator. The report will contain all of the data required concerning ozone season NO_X emissions.

Units currently subject to CSAPR NO_X ozone season or CSAPR NO_X annual trading program requirements monitor and report NO_X emissions in accordance with part 75, so most sources will not have to make any changes to monitoring and reporting practices. In fact, only units in Kansas, which are currently subject to the CSAPR NO_X annual trading program but not the CSAPR NO_X ozone season trading program, will need to start newly reporting ozone season NO_X mass emissions. These emissions are already measured under the annual program, so the change will be a minor reporting modification and the sources will not be required to install new monitoring systems. Units in the following states monitor and report NO_X emissions under the CSAPR NO_X ozone season trading program and will continue to do so without change under the CSAPR ozone update for the 2008 NAAQS: Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

7. Recordation of Allowances

The EPA is establishing deadlines for recording allocations of ozone season NO_X allowances to sources affected under this rule that generally parallel the recordation deadlines under the existing CSAPR trading programs, but with later deadlines reflecting the fact that this program is starting two years later than the existing CSAPR trading programs. Specifically, allocations to existing units for the first two control periods under the new program (2017 and 2018) will be recorded by January 9, 2017. This recordation deadline is four months before the start of the first control period for the new program (May 1, 2017) and 14 months before the date by which sources are required to hold allowances sufficient to cover their emissions for that first control period (March 1, 2018, as discussed previously), giving sources ample time to engage in allowance trading activities consistent with their preferred compliance strategies. Allowance allocations for 2019 and 2020 will be recorded by July 1, 2018; allocations for 2021 and 2022 will be recorded by July 1, 2019; and allocations for 2023 and 2024 will be recorded by July 1, 2020. Allowances for each succeeding control period will be recorded by July 1 of the fourth year before the year of the control period, matching the recordation schedule for the existing CSAPR trading programs. These deadlines apply to recordation of both allocations based on the default allocation provisions under 40 CFR 97.811 and 97.812 and allocations provided by states pursuant to approved SIP revisions. As under the CSAPR annual programs, allocations to new units from the NUSAs and Indian country NUSAs are made in two rounds, with first-round allocations recorded by August 1 of the year of the control period and second-round allocations recorded by February 15 of the year after the year of the control period. (In a change from the current CSAPR NO_X Ozone Season Trading Program provisions, the second-round recordation deadline is now coordinated with the analogous deadline for the CSAPR annual programs.) For 2018 allocations, the EPA will defer recordation if a state submits a timely letter indicating an intent to submit a SIP revision that if approved would substitute state-determined allocations for the default allocations determined by the EPA. The recordation provisions for the new program are codified in 40 CFR 97.821.

Consistent with the first recordation deadline described previously for allocations to existing units under the new trading program, the EPA is also delaying the deadline in 40 CFR 97.521(c) for recordation of allowances

for the 2017 and 2018 control periods under the existing NO_X ozone season trading program (*i.e.*, allocations for sources in Georgia) to January 9, 2017. As explained in the proposal, the reason for extending this deadline was to avoid the possible need to take back allowances recorded under the existing NO_X ozone season trading program in cases where state budgets might have been reduced under that program by this final rule.

F. Submitting a SIP

Any state may replace the FIP finalized in this rule with a SIP at any time if approved by the EPA. "Abbreviated" and "full" SIP options finalized in the original CSAPR rulemaking continue to be available. An abbreviated SIP allows a state to submit a SIP that would provide for state-based allocation provisions in the CSAPR NO_X ozone season trading program that are then incorporated into the FIP the EPA has established for that state. A second approach, referred to as a full SIP, allows a state to adopt state provisions that would require sources in the state to continue to use the EPA-administered CSAPR trading program through an approved SIP, rather than a FIP. In addition to the abbreviated and full SIP options, as under the original CSAPR rulemaking, the EPA provides states with an opportunity to adopt state-determined allowance allocations for existing units for the second control period under this rule—in this case, the 2018 control period—through streamlined SIP revisions. *See* 76 FR 48208 at 48326–48332 (August 8, 2011) for additional discussion on full and abbreviated SIP options and 40 CFR 52.38(b). Once the state has made a SIP submission, the EPA will evaluate the submission(s) for completeness. The EPA's criteria for determining completeness of a SIP submission are codified at 40 CFR part 51, appendix V.

1. 2018 SIP Option

The EPA will allow a state to submit a SIP revision establishing allowance allocations for existing units for the second compliance year (2018) for the new and revised budgets in order to replace the FIP-based allocations finalized in this rule. The process will be the same as under the original CSAPR rulemaking with deadlines shifted roughly 2 years: A state that wishes to take advantage of this option must submit a letter to EPA by December 27, 2016, indicating its intent to submit a complete SIP revision by April 1, 2017. The SIP must provide in an EPA-prescribed format a list of existing units and their allocations for the 2018 control period. If a state does not submit a letter of intent to submit a SIP revision, FIP allocations will be recorded by January 9, 2017. If a state submits a timely letter of intent but fails to submit a SIP revision, FIP allocations will be recorded by April 15, 2017. If a state submits a timely letter of intent followed by a timely SIP revision that is approved, the approved SIP allocations will be recorded by October 1, 2017.

2. 2019 and Beyond SIP Option

For the 2019 control period and later, the EPA is finalizing revisions to the regulations at 40 CFR 52.38(b) that provide additional options to submit abbreviated or full SIP revisions to modify or replace the FIP allowance allocations in 2019 or later years. The deadline for SIP submittals to modify or replace the FIP allocations for 2019 and 2020 is December 1, 2017. The deadline for the state to then submit state allocations for 2019 and 2020 is June 1, 2018 and the deadline for the EPA to record those allocations is July 1, 2018. A state may submit by December 1, 2018, a SIP revision applicable to control periods starting in 2021 or 2022, with state allocations due June 1, 2019, and allocation recordation by July 1, 2019. *See* section IV of this preamble and 76 FR 48208 at 48326–48332 (August 8, 2011) for additional discussion on full and abbreviated SIP options and 40 CFR 52.38(b).

3. SIP Revisions That Do Not Use the CSAPR Trading Program

Each state has the authority under the CAA to replace the FIP finalized in this rule by submitting a transport SIP revision that does not use the CSAPR NO_X ozone season trading program. The EPA will evaluate such SIPs to determine whether they include adequate and enforceable provisions ensuring that the emission reductions will be achieved based on the particular control strategies selected by each state. The SIP revision could include the following general elements: (1) A comprehensive baseline statewide NO_X emission inventory (which includes growth and existing control requirements); (2) a list and description of control measures to satisfy the state emission reduction obligation and a demonstration showing when each measure will be in place by the time the SIP is approved and replaces the CSAPR FIP; (3) fully-adopted state rules providing for such NO_X controls during the ozone season; (4) for EGUs greater than 25 MWe and large boilers and combustion turbines with a rated heat input capacity of 250 mmBtu per hour or greater, Part 75 monitoring, and for other units, monitoring and reporting procedures sufficient to demonstrate that sources are complying with the SIP; and (5) a projected inventory demonstrating that state measures along with federal measures will achieve the necessary emission reductions in a timely manner considering ozone NAAQS attainment dates.[176] The SIPs must meet the requirements for public hearing, be adopted by the appropriate board or authority, and establish by a practically enforceable regulation a permit schedule and date for each affected source or source category to achieve compliance. For further information on replacing a FIP with a SIP, see the discussion in the final CSAPR rulemaking (76 FR 48326, August 8, 2011).

4. Submitting a SIP To Participate in CSAPR for States Not Included in This Rule

There could be circumstances where a state that is not obligated to reduce NO_X emissions in order to address interstate transport requirements (such as Florida, North Carolina, or South Carolina for purposes of this final rule) may wish to participate in the CSAPR NO_X ozone season trading program in order to serve a different regulatory purpose. For example, the state may have a pending request for redesignation of an area to attainment that relies on participation in the trading program as part of the state's demonstration that emissions will not exceed certain levels; or the state may wish to rely on participation in the trading program for purposes of a SIP revision to satisfy certain obligations under the Regional Haze Rule. Further, as discussed previously, Georgia may wish to join the CSAPR NO_X ozone season Group 2 trading program in order to trade with other Group 2 states.

The EPA took comment on whether the EPA should revise the CSAPR regulations to allow the EPA to approve a SIP revision in which a state seeks to participate in the NO_X ozone season trading program for a purpose other than addressing ozone transport obligations.

The EPA is finalizing revisions to CSAPR regulations to allow Georgia to opt-in to the CSAPR NO_X ozone season Group 2 trading group if it adopts, as part of a SIP revision, a NO_X ozone season emission budget no higher than the emission budget that reflects EGU NO_X mitigation strategies represented by a uniform cost of $1,400 per ton for EGUs in Georgia. Such an emission

[176] The EPA notes that the SIP is not required to include modeling.

budget is provided by this final rule. As discussed previously, Georgia submitted comments indicating an interest in allowing its sources to trade with other states, although without any change to its budget. The EPA has already discussed the reasons for rejecting the specific option most favored by Georgia in comments. By providing Georgia with the option to bring the state's sources into the Group 2 program through a SIP revision, the EPA is allowing Georgia to implement its expressed preference for broader trading if that preference continues to apply even when conditioned on adoption of a more stringent budget.

The EPA also took comment on whether the EPA should revise the CSAPR regulations to allow the EPA to approve a SIP revision in which a state seeks to participate in the NO_X ozone season trading program for a purpose other than addressing ozone transport obligations. The EPA received no comments indicating that states had an interest in this option at this time, and the EPA is therefore not finalizing this option at this time.

G. Title V Permitting

This rule, like CSAPR, does not establish any permitting requirements independent of those under title V of the CAA and the regulations implementing title V, 40 CFR parts 70 and 71.[177] All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with the applicable requirements of the CAA, including the requirements of the applicable State Implementation Plan. CAA sections 502(a) and 504(a), 42 U.S.C. 7661a(a) and 7661c(a). The "applicable requirements" that must be addressed in title V permits are defined in the title V regulations (40 CFR 70.2 and 71.2 (definition of "applicable requirement")).

The EPA anticipates that, given the nature of the units subject to this transport rule and given that many of the units covered here are already subject to CSAPR, most of the sources at which the units are located are already subject to title V permitting requirements. For sources subject to title V, the interstate transport requirements for the 2008 ozone NAAQS that are applicable to them under the final FIPs are "applicable requirements" under title V and therefore must be addressed in the title V permits. For example, requirements concerning designated representatives, monitoring, reporting, and recordkeeping, the requirement to hold allowances covering emissions, the assurance provisions, and liability are "applicable requirements" that must be addressed in the permits.

Title V of the CAA establishes the basic requirements for state title V permitting programs, including, among other things, provisions governing permit applications, permit content, and permit revisions that address applicable requirements under final FIPs in a manner that provides the flexibility necessary to implement market-based programs such as the trading programs established by CSAPR and updated by this ozone interstate transport rule. 42 U.S.C. 7661a(b).

In CSAPR, the EPA established standard requirements governing how sources covered by the rule would comply with title V and its regulations.[178] 40 CFR 97.506(d). Under this rule, those same requirements would continue to apply to sources already in the CSAPR NO_X ozone season trading program and to any newly affected sources that have been added to address interstate transport of the 2008 ozone NAAQS. For example, the title V regulations provide that a permit issued under title V must include "[a] provision stating that no permit revision shall be required under any approved . . . emissions trading and other similar programs or processes for changes that are provided for in the permit." 40 CFR 70.6(a)(8) and 71.6(a)(8). Consistent with these provisions in the title V regulations, in CSAPR, the EPA included a provision stating that no permit revision is necessary for the allocation, holding, deduction, or transfer of allowances. 40 CFR 97.806(d)(1). This provision is also included in each title V permit for an affected source. This final rule maintains the approach taken under CSAPR that allows allowances to be traded (or allocated, held, or deducted) without a revision to the title V permit of any of the sources involved.

Similarly, this final rule also continues to support the means by which sources in the CSAPR NO_X ozone season trading program can use the title V minor modification procedure to change their approach for monitoring and reporting emissions, in certain circumstances. Specifically, sources may use the minor modification procedure so long as the new monitoring and reporting approach is one of the prior-approved approaches under CSAPR (*i.e.*, approaches using a continuous emission monitoring system, an excepted monitoring system under appendices D and E to part 75, a low mass emissions excepted monitoring methodology under 40 CFR 75.19, or an alternative monitoring system under subpart E of part 75), and the permit already includes a description of the new monitoring and reporting approach to be used. *See* 40 CFR 97.806(d)(2); 40 CFR 70.7(e)(2)(i)(B) and 40 CFR 71.7(e)(1)(i)(B). As described in the EPA's 2015 guidance, the agency suggests in its template that sources may comply with this requirement by including a table of all of the approved monitoring and reporting approaches under the rule, and the applicable requirements governing each of those approaches. Inclusion of the table in a source's title V permit therefore allows a covered unit that seeks to change or add to their chosen monitoring and recordkeeping approach to easily comply with the regulations governing the use of the title V minor modification procedure.

Under CSAPR, in order to employ a monitoring or reporting approach different from the prior-approved approaches discussed previously, unit owners and operators must submit monitoring system certification applications to the EPA establishing the monitoring and reporting approach actually to be used by the unit, or, if the owners and operators choose to employ an alternative monitoring system, to submit petitions for that alternative to the EPA. These applications and petitions are subject to EPA review and approval to ensure consistency in monitoring and reporting among all trading program participants. The EPA's responses to any petitions for alternative monitoring systems or for alternatives to specific monitoring or reporting requirements are posted on the EPA's Web site.[179] The EPA maintains the same approach in this final rule.

Consistent with the EPA's approach under CSAPR, the applicable requirements resulting from these FIPs must be incorporated into affected sources' existing title V permits either pursuant to the provisions for reopening for cause (40 CFR 70.7(f) and 40 CFR 71.7(f)) or the standard permit renewal provisions (40 CFR 70.7(c) and

[177] Part 70 addresses requirements for state title V programs, and Part 71 governs the federal title V program.

[178] The EPA also issued a guidance document and template that includes instructions describing how to incorporate the CSAPR applicable requirements into a source's title V permit. *https://www3.epa.gov/airtransport/CSAPR/pdfs/CSAPR_Title_V_Permit_Guidance.pdf.*

[179] *https://www.epa.gov/airmarkets/part-75-petition-responses.*

71.7(c)).[180] For sources newly subject to title V that are affected sources under the final FIPs, the initial title V permit issued pursuant to 40 CFR 70.7(a) should address the final FIP requirements.

As in CSAPR, the approach to title V permitting under the FIPs imposes no independent permitting requirements and should reduce the burden on sources already required to be permitted under title V and on permitting authorities.

H. Relationship to Other Emission Trading and Ozone Transport Programs

1. Interactions With Existing CSAPR Annual Programs, Title IV Acid Rain Program, NO_X SIP Call, and Other State Implementation Plans

a. *CSAPR Annual Programs.*[181] Nothing in this rule affects any CSAPR NO_X annual or CSAPR SO_2 Group 1 or CSAPR SO_2 Group 2 requirements.[182] The CSAPR annual program requirements were premised on the 1997 and 2006 $PM_{2.5}$ NAAQS that are not being addressed in this rulemaking. The CSAPR NO_X annual trading program and the CSAPR SO_2 Group 1 and Group 2 trading programs remain in place and will continue to be administered by the EPA.

The EPA acknowledges that, in addition to the ozone budgets discussed previously, the D.C. Circuit has remanded for reconsideration the CSAPR SO_2 budgets for Alabama, Georgia, South Carolina, and Texas. *EME Homer City II,* 795 F.3d at 138. This rule does not address the remand of these CSAPR phase 2 SO_2 emission budgets. On June 27, 2016, the EPA released a memorandum outlining the agency's approach for responding to the D.C. Circuit's July 2015 remand of the CSAPR phase 2 SO_2 annual emission budgets for Alabama, Georgia, South Carolina and Texas. The memorandum can be found at *https://www3.epa.gov/airtransport/CSAPR/pdfs/CSAPR_SO2_Remand_Memo.pdf.*

b. *Title IV Interactions.* This rule will not affect any Acid Rain Program requirements. Acid Rain Program SO_2 and NO_X requirements are established in Title IV of the Clean Air Act, and will continue to apply independently of this rule's provisions. Any Title IV sources that are subject to provisions of this rule are still required to comply with Title IV requirements, including the requirement to hold Title IV allowances to cover SO_2 emissions at the end of a compliance year.

c. *NO_X SIP Call Interactions.* States subject to both the NO_X SIP Call and the final CSAPR Update will be required to comply with the requirements of both rules. The final CSAPR Update rule requires NO_X ozone season emission reductions from EGUs greater than 25 MW in most NO_X SIP Call states and at levels greater than required by the NO_X SIP Call. Therefore, compliance with the budgets established under the CSAPR Update would satisfy the requirements of the NO_X SIP Call for these large EGU units.

The NO_X SIP Call states used the NO_X Budget Trading Program (NBP) model rule to comply with the NO_X SIP Call requirements for EGUs serving a generator with a nameplate capacity greater than 25 MW and large non-EGUs with a maximum rated heat input capacity greater than 250 mmBTU/hr. (In some states, EGUs smaller than 25 MW were also part of the NBP as a carryover from the Ozone Transport Commission NO_X Budget Trading Program.) When the EPA promulgated CAIR and the CAIR FIPs, it allowed states, via SIP, to adopt SIP revisions modifying the applicability provisions of the CAIR NO_X Ozone Season Trading Program to include all NO_X Budget Trading Program units in that program as a way to continue to meet the requirements of the NO_X SIP Call for these sources.

In CSAPR, however, the EPA allowed states, via SIP, to expand applicability of the trading program to EGUs smaller than 25 MW but did not allow the expansion of applicability to include large non-EGU sources. The EPA explained that the reason for excluding large non-EGU sources was based on a concern that emissions from these sources were generally much lower than the portion of each state's NO_X SIP Call budget amount attributable to these large non-EGUs, and we were therefore concerned that surplus allowances created as a result of an overestimation of baseline emissions (the main basis for the non-EGU portion of the NO_X Budget Trading Program budget) and subsequent shutdowns of these large non-EGUs (since 1999 when the NO_X SIP Call was promulgated) would prevent needed reductions by the EGUs to address significant contribution to downwind air quality impacts. *See* 76 FR 48323 (August 8, 2011).

Since then, states have had to find appropriate ways to ensure that their rules continue to show compliance with emissions reduction obligations of the NO_X SIP Call, particularly for large non-EGUs.[183] Most states that used the CAIR NO_X Ozone Season Trading Program as a means of complying with the NO_X SIP Call obligations for large non-EGUs are still working to find suitable solutions now that CSAPR has replaced CAIR.[184]

Therefore, the EPA is finalizing provisions to allow any NO_X SIP Call state subject to a FIP promulgated by this rule to voluntarily submit a SIP revision with a revised budget level that is environmentally neutral to address the state's NO_X SIP Call requirement for ozone season NO_X reductions. The SIP revision could include a provision to expand the applicability of the CSAPR NO_X ozone season trading program in that state to include all NO_X Budget Trading Program units, including large non-EGUs. Analysis shows that these units (mainly large non-EGU boilers, combustion turbines, and combined cycle units with a maximum rated heat input capacity greater than 250 mmBtu/hr) continue to emit well below their portion of the NO_X SIP Call budget. In order to ensure that the necessary amount of EGU emission reductions occur for purposes of addressing interstate transport with respect to the 2008 ozone NAAQS in covered states that submit such a SIP revision, the corresponding state ozone season emission budget amount could be increased by no more than the lesser of the highest ozone season NO_X emissions in the last 3 years from those units or the portion of the NO_X Budget Trading Program Budget attributable to large non-EGUs.[185] The environmental

[180] A permit is reopened for cause if any new applicable requirements (such as those under a FIP) become applicable to an affected source with a remaining permit term of 3 or more years. If the remaining permit term is less than 3 years, such new applicable requirements will be added to the permit during permit renewal. *See* 40 CFR 70.7(f)(1)(I) and 71.7(f)(1)(I).

[181] Reflecting the nomenclature updates adopted in this rule, the CSAPR Annual Programs are referred to in regulations as the CSAPR NO_X Annual Trading Program (40 CFR 97.401–97.435), the CSAPR SO_2 Group 1 Trading Program (40 CFR 97.601–97.635) and the CSAPR SO_2 Group 2 Trading Program (40 CFR 97.701–97.735). (Prior to this rule, the regulations used the acronym "TR" instead of the acronym "CSAPR".)

[182] As discussed in section IX in this preamble, the EPA is making technical corrections to the regulations concerning CSAPR's annual programs, but these corrections do not substantively alter any existing requirements.

[183] Compliance with CSAPR by the EGUs in a state will generally ensure that aggregate emissions from the state's EGUs will not exceed the amount of the state's NO_X SIP Call budget for the source category because the CSAPR cap is lower than the EGU portion of the NO_X SIP Call emission levels.

[184] Affected sources continue to report ozone season emissions using part 75 as required by the NO_X SIP Call and reported emissions have been below NO_X SIP Call non-EGU budget levels.

[185] For further information regarding the determination of the maximum amounts of additional allowances that could be issued by these states, see the memo entitled "Maximum amounts of additional ozone season NO_X allowances that may be issued under SIP revisions expanding

Continued

impact would be neutral using this approach. This approach addresses requests by states for help in determining an appropriate way to address the continuing NO_X SIP Call requirement as to non-EGU sources.

The variability limits established for EGUs remain unchanged as a result of including these non-EGUs. The assurance provisions apply to EGUs, and emissions from non-EGUs would not affect the assurance levels. The provisions of the new Group 2 trading program exclude the emissions and allowance allocations of any non-EGUs participating in the program from any determination of whether a state exceeds its assurance level or whether any group of sources exceeds its share of the responsibility for any exceedance of a state's assurance level. Similarly, the provisions limit the total allocations that can be taken into account for such purposes by all the EGUs in the state to the state budget and thereby prevent any additional allowances issued by the state as a result of expanded program applicability from unduly influencing determinations of shares of responsibility for any exceedance of the state's assurance level. For additional discussion of the specific regulatory provisions involved, see section IX of this preamble.

The NO_X SIP Call generally requires that states choosing to rely on large EGUs and large non-EGUs for meeting NO_X SIP Call emission reduction requirements must establish a NO_X mass emissions cap on each source and require part 75, subpart H monitoring. As an alternative to source-by-source NO_X mass emission caps, a state may impose NO_X emission rate limits on each source and use maximum operating capacity for estimating NO_X mass emissions or may rely on other requirements that the state demonstrates to be equivalent to either the NO_X mass emission caps or the NO_X emission rate limits that assume maximum operating capacity. Collectively, the caps or their alternatives cannot exceed the portion of the state budget for those sources. *See* 40 CFR 51.121(f)(2) and (i)(4). If a state chooses to expand the applicability of the CSAPR NO_X ozone season trading program to other sources in the state through a voluntary SIP revision to include all the NO_X Budget Trading Program units in the CSAPR NO_X ozone season trading program, the cap requirement would be met through the new budget and the monitoring requirement would be met through the trading program provisions, which require part 75 monitoring. The EPA will work with states to ensure that NO_X SIP Call obligations continue to be met.

d. *Other State Implementation Plans.* The EPA has not conducted any technical analysis to determine whether compliance with this rule will satisfy other requirements for EGUs in any attainment or nonattainment areas (*e.g.*, RACT or BART). For that reason, the EPA is not making determinations nor establishing any presumptions that compliance with the final rule satisfies any other requirements for EGUs. Based on analyses that states conduct on a case-by-case basis, states may be able to conclude that compliance with the rule for certain EGUs fulfills other SIP requirements. The EPA encourages states to work with their regional office on these issues.

2. Other Federal Rulemakings

a. *Clean Power Plan.* On August 3, 2015, the EPA finalized the Clean Power Plan (CPP).[186] The Clean Air Act—under section 111(d)—creates a partnership between the EPA, states, tribes and U.S. territories—with the EPA setting a goal and states and tribes choosing how they will meet it. The CPP follows that approach. The CPP establishes interim and final CO_2 emission performance rates for certain existing power plants, under CAA section 111(d). States then develop and implement plans that ensure that the affected power plants in their state—either individually, together, or in combination with other measures—achieve these rates or equivalent state rate- or mass-based goals. The CPP includes interim emission performance rates (or equivalent state goals) to be achieved over the years 2022 to 2029 and the final CO_2 emission performance rates (or equivalent state goals) to be achieved in 2030 and after.

On February 9, 2016, the Supreme Court granted applications to stay the Clean Power Plan, pending judicial review of the rule in the D.C. Circuit, including any subsequent review by the Supreme Court.[187] The EPA firmly believes the Clean Power Plan will be upheld when the courts address its merits because the Clean Power Plan rests on strong scientific and legal foundations. The stay means that no one has to comply with the Clean Power Plan while the stay is in effect. During the pendency of the stay, states are not required to submit plans to EPA, and EPA will not take any action to impose or enforce any such obligations. The Supreme Court's orders granting the stay did not discuss the parties' differing views of whether and how the stay would affect the CPP's compliance deadlines, and they did not expressly resolve that issue. In this context, the question of whether and to what extent tolling is appropriate will need to be resolved once the validity of the CPP is finally adjudicated.

Because mandatory emission reductions under the CPP would not begin until several years after the 2017 implementation of the CSAPR Update rule, the EPA does not anticipate significant interactions with the CPP and the near-term (*i.e.*, starting in 2017) ozone season EGU NO_X emission reduction requirements under this rule. *See* section V.B of the preamble for further information on this point. However the EPA notes that actions taken to reduce CO_2 emissions (*e.g.*, deployment of zero-emitting generation) may also reduce ozone season NO_X emissions. The EPA is also cognizant of the potential influence of addressing interstate ozone transport on CO_2 emissions. As states and utilities undertake the near- and longer-term planning to reduce emissions of these pollutants, they will have the opportunity to consider how compliance with this rule can anticipate, or be consistent with, greenhouse gas mitigation. Some EGU NO_X mitigation strategies, most notably shifting generation from higher NO_X-emitting coal-fired units to existing low NO_X-emitting units or zero-emitting units, can potentially also reduce CO_2 emissions. As the EPA has structured the interstate transport obligations that would be established by this rule as requirements to limit aggregate affected EGU emissions and the EPA is not enforcing source-specific emission reduction requirements, EGU owners have the flexibility to plan for compliance with the interstate ozone transport requirements in ways that are consistent with state and EGU strategies to reduce CO_2 emissions.

b. *2015 Ozone Standard.* On October 1, 2015, the EPA strengthened the ground-level ozone NAAQS to 70 ppb, based on extensive scientific evidence about ozone's effects on public health and welfare.[188] This rule updating the CSAPR NO_X ozone season trading program to address interstate emission transport with respect to the 2008 ozone NAAQS is a separate and distinct regulatory action and is not meant to address the CAA's good neighbor

CSAPR trading program applicability to large non-EGUs", available in the docket.

[186] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 FR 64661 (Oct. 23, 2015).

[187] *West Virginia et al.* v. *EPA*, No. 15A773 (U.S. Feb. 9, 2016).

[188] 80 FR 65291 (October 26, 2015).

provision with respect to the strengthened 2015 ozone NAAQS.

The EPA is mindful of the need to address ozone transport for the 2015 ozone NAAQS. The statutory deadline for the EPA to finalize area designations is October 1, 2017. Further, good neighbor SIPs from states are due on October 1, 2018. The steps taken under this rule to reduce interstate ozone transport will help states make progress toward attaining and maintaining the 2015 ozone NAAQS. Moreover, to facilitate the implementation of the CAA good neighbor provision with respect to the 2015 ozone NAAQS, the EPA intends to provide additional information regarding steps 1 and 2 of the CSAPR framework in the fall of 2016. In particular, the EPA expects to conduct and release modeling necessary to assist states to identify projected nonattainment and maintenance receptors with respect to the 2015 ozone NAAQS and identify the upwind state emissions that contribute significantly to these receptors.

VIII. Costs, Benefits, and Other Impacts of the Final Rule

The EPA evaluated the costs, benefits, and impacts of compliance with the final EGU NO_X ozone season emission budgets developed using uniform control stringency represented by $1,400 per ton. In addition, the EPA also assessed compliance with one more and one less stringent alternative EGU NO_X ozone season emission budgets, developed using uniform control stringency represented by $3,400 per ton and $800 per ton, respectively. The EPA evaluated the impact of implementing these emission budgets to reduce interstate transport for the 2008 ozone NAAQS in 2017. More details for this assessment can be found in the Regulatory Impact Analysis (RIA) in the docket for this final rule.

The EPA notes that its analysis of the regulatory control alternatives (*i.e.*, the final rule and more and less stringent alternatives) is illustrative in nature, in part because the EPA will implement the EGU NO_X emission budgets via a regional NO_X ozone season allowance trading program. This implementation approach provides utilities with the flexibility to determine their own compliance path. The EPA's assessment develops and analyzes one possible scenario for implementing the NO_X budgets finalized by this action and one possible scenario for implementing the more and less stringent alternatives. Furthermore, the emission budgets evaluated for the CSAPR Update regulatory control alternative in this benefit and cost analysis are illustrative because they differ somewhat from the budgets finalized in this rule. (The budgets for the more and less stringent alternative also differ somewhat from the budgets represented by $3,400 per ton and $800 per ton reported in Table VI.C–1). However, the RIA also reports the costs and emissions changes associated with the finalized budgets. Further details on the illustrative nature of this analysis can be found in the RIA in the docket for this rule.

For this final rule, the EPA analyzed the costs to the electric power sector and emissions changes using IPM. The IPM is a dynamic linear programming model that can be used to examine the economic impacts of air pollution control policies throughout the contiguous United States for the entire power system. Documentation for IPM can be found in the docket for this rulemaking or at *www.epa.gov/powersectormodeling.*

Table VIII.1 provides the projected 2017 EGU emissions reductions for the evaluated regulatory control alternatives.

TABLE VIII.1—PROJECTED 2017 EMISSIONS REDUCTIONS OF NO_X AND CO_2 WITH THE FINAL NO_X EMISSION BUDGETS AND MORE OR LESS STRINGENT ALTERNATIVES

[Tons] [1] [2]

	Final rule	More stringent alternative	Less stringent alternative
NO_X (annual)	−75,000	−79,000	−27,000
NO_X (ozone season)	−61,000	−66,000	−27,000
CO_2 (annual)	−1,600,000	−2,000,000	−1,300,000

[1] NO_X emissions are reported in English (short) tons; CO_2 is reported in metric tons.
[2] All estimates are rounded to two significant figures.

The EPA estimates the costs associated with compliance with the illustrative regulatory control alternative for the final CSAPR Update to be approximately $68 million annually. These costs represent the private compliance cost of reducing NO_X emissions to comply with the final rule and does not include monitoring, recordkeeping, and reporting costs. Table VIII.2 provides the estimated costs for the evaluated regulatory control scenarios, including the final rule and more and less stringent alternatives. Estimates are in 2011 dollars.

TABLE VIII.2—COST ESTIMATES FOR COMPLIANCE WITH THE FINAL RULE NO_X EMISSION BUDGETS AND MORE AND LESS STRINGENT ALTERNATIVES

[2011$] [1] [2]

	Final rule	More stringent alternative	Less stringent alternative
Costs	68,000,000	82,000,000	8,000,000

[1] Costs are annualized over the period 2017 through 2020 using the 4.77 discount rate used in IPM's objective function of minimizing the net present value of the stream of total costs of electricity generation. These costs do not include monitoring, recordkeeping, and reporting costs, which are reported separately. See Chapter 4 of the RIA for this final rule for details and explanation.
[2] All estimates are rounded to two significant figures.

In this analysis, the EPA monetized the estimated benefits associated with reducing population exposure to ozone and $PM_{2.5}$ from reductions in NO_X emissions and co-benefits of decreased emissions of CO_2, but was unable to

quantify or monetize the potential co-benefits associated with reducing exposure to NO_2 as well as ecosystem effects and reduced visibility impairment from reducing NO_X emissions. Among the benefits it could quantify, the EPA estimated combinations of health benefits at discount rates of 3 percent and 7 percent (as recommended by the EPA's *Guidelines for Preparing Economic Analyses* [U.S. EPA, 2014] and OMB's *Circular A–4* [OMB, 2003]) and climate co-benefits of CO_2 reductions at discount rates of 5 percent, 3 percent, 2.5 percent, and 3 percent (95th percentile) (as recommended by the interagency working group). The EPA estimates the monetized ozone-related benefits [189] of the final rule to be $370 million to $610 million (2011$) in 2017 and the $PM_{2.5}$-related co-benefits [190] of the final rule to be $93 million to $210 million (2011$) using a 3 percent discount rate and $83 million to $190 million (2011$) using a 7 percent discount rate. Further, the EPA estimates CO_2-related co-benefits of $54 to $87 million (2011$). Additional details on this analysis are provided in the RIA for this final rule. Tables VIII.3 and VIII.5 summarize the quantified monetized human health and climate benefits of the rule and the more and less stringent control alternatives. Table VIII.4 summarizes the estimated avoided ozone- and $PM_{2.5}$-related health incidences for the final rule and the more and less stringent control alternatives.

TABLE VIII.3—ESTIMATED HEALTH BENEFITS OF PROJECTED 2017 EMISSIONS REDUCTIONS FOR THE FINAL RULE, AND MORE OR LESS STRINGENT ALTERNATIVES

[Millions of 2011$] [1 2]

	Final rule	More stringent alternative	Less stringent alternative
NO_X (as ozone)	$370 to $610	$400 to $650	$160 to $270
NO_X (as $PM_{2.5}$)	$93 to $210	$98 to $220	$34 to $75
3% Discount Rate	$83 to $190	$88 to $200	$30 to $67
7% Discount Rate			
Total:			
3% Discount Rate	$460 to $810	$500 to $870	$200 to $340
7% Discount Rate	$450 to $790	$490 to $850	$190 to $330

[1] The health benefits range is based on adult mortality functions (*e.g.*, from Krewski et al. (2009) with Smith et al. (2009) to Lepeule et al. (2012) with Zanobetti and Schwartz (2008)).
[2] All estimates are rounded to two significant figures.

TABLE VIII.4—SUMMARY OF ESTIMATED AVOIDED OZONE-RELATED AND $PM_{2.5}$-RELATED HEALTH INCIDENCES FROM PROJECTED 2017 EMISSIONS REDUCTIONS FOR THE FINAL RULE AND MORE OR LESS STRINGENT ALTERNATIVES [1]

	Final rule	More stringent alternative	Less stringent alternative
Ozone-Related Health Effects			
Avoided Premature Mortality:			
Smith *et al.* (2009) (all ages)	21	23	9
Zanobetti and Schwartz (2008) (all ages)	60	65	26
Avoided Morbidity:			
Hospital admissions—respiratory causes (ages >65)	59	64	26
Emergency room visits for asthma (all ages)	240	250	100
Asthma exacerbation (ages 6–18)	67,000	73,000	30,000
Minor restricted-activity days (ages 18–65)	170,000	180,000	75,000
School loss days (ages 5–17)	56,000	60,000	25,000
$PM_{2.5}$-Related Health Effects			
Avoided Premature Mortality:			
Krewski *et al.* (2009) (adult)	10	11	3.7
Lepeule *et al.* (2012) (adult)	23	25	8.4
Woodruff *et al.* (1997) (infant)	<1	<1	<1
Avoided Morbidity:			
Emergency department visits for asthma (all ages)	6.1	6.5	2.2
Acute bronchitis (age 8–12)	15	15	5.2
Lower respiratory symptoms (age 7–14)	180	190	67
Upper respiratory symptoms (asthmatics age 9–11)	260	280	95
Minor restricted-activity days (age 18–65)	7,500	7,900	2,700
Lost work days (age 18–65)	1,300	1,300	450
Asthma exacerbation (age 6–18)	270	290	98
Hospital admissions—respiratory (all ages)	2.8	2.9	1.0
Hospital admissions—cardiovascular (age >18)	3.8	4.0	1.4
Non-Fatal Heart Attacks (age >18)	.....	.....	.....

[189] The ozone-related health benefits range is based on applying different adult mortality functions (*i.e.*, Smith et al. (2009) and Zanobetti and Schwartz (2008)).

[190] The $PM_{2.5}$-related health co-benefits range is based on applying different adult mortality functions (*i.e.*, Krewski et al. (2009) and Lepeule et al. (2012)).

TABLE VIII.4—SUMMARY OF ESTIMATED AVOIDED OZONE-RELATED AND $PM_{2.5}$-RELATED HEALTH INCIDENCES FROM PROJECTED 2017 EMISSIONS REDUCTIONS FOR THE FINAL RULE AND MORE OR LESS STRINGENT ALTERNATIVES [1]—Continued

	Final rule	More stringent alternative	Less stringent alternative
Peters *et al.* (2001)	12	13	4.3
Pooled estimate of 4 studies	1.3	1.4	0.46

[1] All estimates are rounded to whole numbers with two significant figures.

TABLE VIII.5—ESTIMATED GLOBAL CLIMATE CO-BENEFITS OF CO_2 REDUCTIONS FOR THE FINAL RULE AND MORE OR LESS STRINGENT ALTERNATIVES

[Millions of 2011$] [1]

Discount rate and statistic	Final rule	More stringent alternative	Less stringent alternative
5% (average)	$19	$25	$15
3% (average)	66	87	54
2.5% (average)	100	130	81
3% (95th percentile)	190	250	150

[1] The social cost of carbon ($SC–CO_2$) values are dollar-year and emissions-year specific. $SC–CO_2$ values represent only a partial accounting of climate impacts.

The EPA combined this information to perform a benefit-cost analysis for this final rule (shown in table VIII.6 and for the more and less stringent alternatives—shown in the RIA in the docket for this rule).

TABLE VIII.6—TOTAL COSTS, TOTAL MONETIZED BENEFITS, AND NET BENEFITS OF THE FINAL RULE IN 2017 FOR U.S.

[Millions of 2011$] [1]

Climate Co-Benefits	$66
Air Quality Health Benefits	$460 to $810 [2] and $450 to $790 [3]
Total Benefits	$530 to $880 [2] and $520 to $860 [3]
Annualized Compliance Costs	$68 [4]
Net Benefits	$460 to $810 [2] and $450 to $790 [3]
Non-Monetized Benefits	Non-monetized climate benefits.
	Reductions in exposure to ambient NO_2.
	Ecosystem benefits and visibility improvement assoc. with reductions in emissions of NO_X.

[1] All estimates are rounded to two significant figures.
[2] 3% discount rate.
[3] 7% discount rate.
[4] These costs do not include monitoring, recordkeeping, and reporting costs, which are reported separately. See Chapter 4 of the RIA for this final rule for details and explanation.

There are additional important benefits that the EPA could not monetize. Due to current data and modeling limitations, the EPA's estimates of the co-benefits from reducing CO_2 emissions do not include important impacts like ocean acidification or potential tipping points in natural or managed ecosystems. Unquantified benefits also include the potential co-benefits from reducing direct exposure to NO_X as well as from reducing ecosystem effects and visibility impairment by reducing NO_X emissions. Based upon the foregoing discussion, it remains clear that the benefits of this final action are substantial, and far exceed the costs. Additional details on benefits, costs, and net benefits estimates are provided in the RIA for this rule.

The EPA provides a qualitative assessment of economic impacts associated with electricity price changes to consumers that may result from this final rule. This assessment can be found in the RIA for this rule in the docket.

Executive Order 13563 directs federal agencies to consider the effect of regulations on job creation and employment. According to the Executive Order, "our regulatory system must protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation. It must be based on the best available science" (Executive Order 13563, 2011). Although benefit-cost analyses that are consistent with standard economic theory have not typically included a separate analysis of regulation-induced employment impacts, regulatory impact analyses prepared by the EPA do include analysis of employment impacts. Employment impacts are of particular concern and questions may arise about their existence and magnitude.

States have the responsibility and flexibility to implement policies and practices as part of developing SIPs for compliance with the emission budgets found in this final rule. Given the wide range of approaches that may be used and industries that could be affected, quantifying the associated employment impacts is difficult. The EPA provides an analysis of employment impacts for the final rule in the RIA. The employment analysis includes quantitative estimation of employment changes related to installation and operation of new pollution control equipment, ongoing expenditures on

pollution control, changes in electricity generation and fuel use, and qualitative discussion of employment trends both for the electric power sector and in related fuel markets for the illustrative CSAPR update alternative.

IX. Summary of Changes to the Regulatory Text for the CSAPR FIPs and CSAPR Trading Programs

This section describes amendments to the regulatory text in the CFR for the CSAPR FIPs and the CSAPR NO_X ozone season trading program related to the findings and remedy discussed throughout this preamble. This section also describes other minor corrections to the existing CFR text for the CSAPR FIPs and the CSAPR trading programs more generally.

As a preliminary matter, it is worth noting that two of the changes made from the proposal to the final rule after consideration of comments dramatically simplify the final regulatory text as compared to the proposed amendments. First, because the final rule does not allow post-2016 allowances issued to sources in Georgia to be used for compliance by sources in other states, the final regulatory text establishes a new, separate CSAPR NO_X Ozone Season Group 2 Trading Program in a new subpart EEEEE of part 97 for sources subject to this rule instead of including those sources in the existing trading program in subpart BBBBB of part 97 (which is renamed the CSAPR NO_X Ozone Season Group 1 Trading Program and will now apply only to sources in Georgia). Second, the final text addresses the use of banked 2015 and 2016 allowances to meet compliance obligations under this rule by providing for a one-time conversion of Group 1 allowances to Group 2 allowances instead of creating an ongoing process of "tonnage equivalent" determinations. These two simplifying changes largely eliminate the need for substantive amendments to the existing Group 1 trading program regulations other than to address the one-time conversion of the banked allowances, as discussed in section IX.B of this preamble. Although the changes do result in the creation of new subpart EEEEE of part 97, the provisions of the new subpart parallel the existing subpart BBBBB provisions with only a small number of exceptions.

A. Amendments to the CSAPR FIPs in Part 52

The CSAPR FIPs related to ozone season NO_X emissions are set forth in § 52.38(b) as well as CFR sections specific to each covered state. The principal amendments to those FIPs made by this rule appear in § 52.38(b)(1) and (2) as well as the state-specific CFR sections. The amendments to § 52.38(b)(1) expand the overall set of CSAPR trading programs addressing ozone season NO_X emissions to include the new Group 2 trading program in subpart EEEEE of part 97 in addition to the current Group 1 trading program in subpart BBBBB of part 97. The amendments to § 52.38(b)(2) identify the states whose sources are required under the FIPs to participate in each of the respective trading programs with regard to their emissions occurring in particular years. More specifically, § 52.38(b)(2)(ii) ends the requirement to participate in the Group 1 program after the 2016 control period for sources in all states whose sources currently participate in that program except Georgia, and § 52.38(b)(2)(iii) establishes the requirement for the 22 states covered by this rule to participate in the Group 2 program starting with the 2017 control period. These changes in requirements are replicated, as applicable, in the state-specific CFR sections for the respective states.[191]

The options for states covered by this rule to modify or replace the FIPs implementing the emission reduction requirements under this rule are finalized substantially as proposed, but generally as new options to modify or replace subpart EEEEE requirements instead of as changes to the existing options to modify or replace subpart BBBBB requirements. Thus, new § 52.38(b)(7), (8), and (9) establish options to replace allowance allocations for the 2018 control period, to adopt an abbreviated SIP revision for control periods in 2019 or later years, and to adopt a full SIP revision for control periods in later years, respectively. These options generally replicate the analogous options in § 52.38(b) (3), (4) and (5) with regard to the subpart BBBBB program. To make use of the 2018 option, a state must notify the EPA by December 27, 2016 of its intent to submit to the EPA by April 1, 2017 a state-approved spreadsheet with allowance allocations to existing units. The submission deadline for an abbreviated or full SIP affecting 2019 or 2020 allocations is December 1, 2017.

[191] *See* §§ 52.54(b) (Alabama), 52.184 (Arkansas), 52.540 (Florida), 52.731(b) (Illinois), 52.789(b) (Indiana), 52.840(b) (Iowa), 52.882(b) (Kansas), 52.940(b) (Kentucky, 52.984(d) (Louisiana), 52.1084(b) (Maryland), 52.1186(e) (Michigan), 52,1284 (Mississippi), 52.1326(b) (Missouri), 52.1584(e) (New Jersey), 52.1684(b) (New York), 52.1784(b) (North Carolina), 52.1882(b) (Ohio), 52.1930 (Oklahoma), 52.2040(b) (Pennsylvania), 52.2140(b) (South Carolina), 52.2240(e) (Tennessee), 52.2283(d) (Texas), 52.2440(b) (Virginia), 52.2540(b) (West Virginia), and 52.2587(e) (Wisconsin).

The revised FIPs also clarify that in cases where a FIP represents a partial rather than full remedy for the state's obligation to address interstate air pollution, an approved SIP revision replacing that FIP would also be a partial rather than full remedy for that obligation, unless provided otherwise in the EPA's approval. (As discussed in section VI of this preamble, for all covered states except Tennessee, the emission reduction requirements established in this rule represent partial rather than full remedies to the respective states' interstate transport obligations with regard to the 2008 ozone NAAQS.)

The abbreviated and full SIP options under the Group 2 program do have one important difference from the similar options under the Group 1 program, namely that § 52.38(b)(8)(ii) and (9)(ii) include an option for a state to expand applicability to include non-EGUs in the state that were previously subject to the NO_X Budget Trading Program. As discussed in section VII.F of this preamble, in conjunction with such an expansion, the state may also issue an additional amount of allowances. New § 52.38(b)(10)(ii) clarifies that a SIP revision requiring a state's sources—EGUs or non-EGUs—to participate in the Group 2 trading program would satisfy the state's obligations to adopt control measures for such sources under the NO_X SIP Call.

The option discussed in section VII.C.1 of this preamble for Georgia to replace the FIP requiring its sources to participate in the Group 1 program with a SIP revision requiring its sources to participate in the Group 2 program is set forth in § 52.38(b)(6). This option is generally similar to the full SIP option under § 52.38(b)(9) for states whose sources are already subject to the Group 2 program under a FIP. The provisions would allow Georgia to elect (subject to EPA approval) to allocate Group 2 allowances for future control periods under the SIP revision (even if the EPA had already commenced allocations of Group 1 allowances to Georgia sources for those control periods) instead of having the EPA convert the Group 1 allowances already allocated for future years into Group 2 allowances under § 97.526(c)(2), as described later on. Approval by the EPA of a Georgia SIP revision of this nature would also result in the conversion of all remaining Group 1 allowances banked from earlier control periods into Group 2 allowances under § 97.526(c)(3), as also described later on.

New § 52.38(b)(11)(ii) preserves the EPA's authority to carry out conversions of Group 1 allowances to Group 2

allowances in all compliance accounts (as well as all general accounts) following any SIP revision that would otherwise lead to automatic withdrawal of a CSAPR FIP with regard to particular sources.

Finally, new § 52.38(b)(12) and (13), respectively, contain updatable lists of states with approved SIP revisions to modify or replace the CSAPR FIPs requiring participation in either the Group 1 program or the Group 2 program. Similar updatable lists for states with SIPs related to the NO_X Annual, SO_2 Group 1, and SO_2 Group 2 programs are added at new §§ 52.38(a)(8) and 52.39(l) and (m), respectively. With the addition of these updatable lists, all previously approved and future CSAPR SIP revisions will be acknowledged in centralized CFR locations and will no longer be acknowledged through amendments to the individual states' FIPs.[192]

B. Amendments to the Group 1 Trading Program Provisions in Subpart BBBBB of Part 97

As noted previously, the EPA's determinations regarding the separation of Georgia allowances and the one-time conversion of banked allowances dramatically simplify the amendments in the final rule compared to the proposed amendments. Most significantly, in place of the proposed amendments designed to implement the concept of "tonnage equivalents," which would have affected multiple sections of the Group 1 regulations throughout subpart BBBBB, the final regulatory text implements the one-time conversion of banked Group 1 allowances to Group 2 allowances through amendments limited to the Group 1 trading program banking provisions in § 97.526. Specifically, new § 97.526(c)(1) sets forth the schedule and mechanics for a default one-time conversion of most Group 1 allowances that remain banked following the completion of deductions for compliance for the 2016 control period. The conversion will be applied to banked Group 1 allowances held in any general account and in any compliance account except a compliance account for a source located in Georgia. The owner or operator of a Georgia source can retain banked Group 1 allowances for future use in the Group 1 program simply by keeping the allowances in the source's compliance account as of the conversion date or, alternatively, can elect to have banked allowances converted to Group 2 allowances simply by transferring the allowances from the source's compliance account to a general account prior to the conversion date. The conversion factor is determined based on the ratio of the total number of banked Group 1 allowances being converted to 1.5 times the sum of the variability limits for all states covered by the Group 2 program.

Two additional conversion provisions in § 97.526(c)(2) and (3) apply only if Georgia submits and the EPA approves a SIP revision requiring sources in Georgia to participate in the Group 2 program. In that case, under § 97.526(c)(2) the EPA would replace the allocations of Group 1 allowances to Georgia sources already recorded for future control periods with allocations of Group 2 allowances, using a conversion factor determined based on the ratio of Georgia's emissions budget under the Group 1 program to its emissions budget under the Group 2 program. Under § 97.526(c)(3) the EPA would convert any remaining banked Group 1 allowances from prior control periods using a conversion factor based on the ratio of the total number of Group 1 allowances being converted to 1.5 times Georgia's variability limit under the Group 2 program. Allowances would be converted under these provisions regardless of the accounts in which they were held.

Additional provisions of § 97.526(c) address special circumstances. Under § 97.526(c)(4), if Group 1 allowances are removed for conversion from the compliance account for a source located in Florida, North Carolina, or South Carolina, the owner or operator can identify to the EPA a different account to receive the Group 2 allowances. This provision is necessary because sources in these states will not be participating in the Group 2 program, and Group 2 allowances cannot be recorded in any compliance account other than a compliance account for a source with a unit affected under the Group 2 program.

Under § 97.526(c)(5), the EPA may group multiple general accounts under common ownership for purposes of performing conversion computations. Because allowances are only recorded as whole allowances, allowance conversion computations will necessarily be rounded to whole allowances. The purpose of the grouping provision is to ensure that, given rounding, the total quantities of Group 2 allowances issued are not unduly affected by how the Group 1 allowances are distributed across multiple general accounts under common ownership, with potentially adverse consequences to achievement of the emission reductions required under the rule.

There is a possibility under the Group 1 program that some new Group 1 allowances could be issued after the conversions to Group 2 allowances have already taken place. Under § 97.526(c)(6), the EPA may convert these allowances to Group 2 allowances as if they had been issued and recorded before the general conversions.

Owners and operators of non-Georgia sources generally will not be able to retain banked Group 1 allowances (except to the extent that they also own or operate sources in Georgia and choose to hold Group 1 allowances in the compliance accounts for those sources). However, new § 97.526(c)(7) authorizes the use of Group 2 allowances to satisfy obligations to hold Group 1 allowances that might arise after the conversion date, such as an obligation to hold additional allowances because of excess emissions or for compliance with the assurance provisions. When held for this purpose, a single Group 2 allowance may satisfy the obligation to hold more than one Group 1 allowance, as though the conversion were reversed.

Beyond the conversion provisions, additional amendments to the Group 1 program align certain deadlines under the Group 1 program with the comparable deadlines under the new Group 2 program and the CSAPR annual programs. Although these changes were not addressed in the proposal, the EPA expects them to be noncontroversial because they impose no additional burdens and are designed to simplify program compliance and administration, thereby tending to reduce costs for both regulated parties and the EPA. Specifically, the date as of which allowances equal to emissions in the preceding control period must be held in a source's compliance account under the Group 1 program is being amended from December 1 of the year of the control period to March 1 of the following year. This change is accomplished through an amendment to the definition of "allowance transfer deadline" in § 97.502. In addition, the deadlines for providing notices regarding the units that are eligible for

[192] As part of several 2015 actions approving SIP revisions to modify allocations of allowances for the 2016 control period to sources in Alabama, Kansas, Missouri, and Nebraska, the EPA added language acknowledging the approved SIP revisions to the state-specific CFR sections describing the CSAPR FIPs for these states. This rule removes those previous additions to the state-specific CFR sections. *See* §§ 52.54 and 52.55 (Alabama), 52.882 (Kansas), 52.1326 (Missouri), and 52.1428 and 52.1429 (Nebraska). The removed acknowledgements are replaced by similar acknowledgements in new §§ 52.38(a)(8)(i) and (b)(12)(i) and 52.39(m)(1), and the SIP revisions remain effective notwithstanding the removal of the previous acknowledgements.

second-round allocations of NUSA allowances and for allocating and recording those allowances are being amended from September 15 and November 15 of the year of the control period to December 15 of the year of the control period and February 15 of the following year, respectively. These changes are accomplished through amendments to §§ 97.511(b)(1)(iii) and (iv) and (2)(iii) and (iv), 97.512(a)(9)(i) and (b)(9)(i), and 97.521(i).

The final substantive revision to the Group 1 trading program in the final regulatory text is in § 97.521(c), where the deadline for the EPA to record Group 1 allowances for the control periods in 2017 and 2018 is amended to January 9, 2017, as discussed in section VII.E.7 of this preamble.

Additional proposed amendments to the Group 1 trading program regulations establishing new amounts for budgets, new unit set-asides, Indian country new unit set-asides, and variability limits and new deadlines for compliance, allowance recordation, monitor certification, and reporting are not being finalized because they concern budgets and sources under the new Group 2 trading program instead of the Group 1 trading program. The substance of the proposed amendments to deadlines is reflected in the new Group 2 trading program regulations in various subsections of new subpart EEEEE. Similarly, the amounts of the budgets, new unit set-asides, Indian country new unit set-asides, and variability limits as finalized in this rule are reflected in § 97.810 of the new Group 2 trading program regulations.

C. Group 2 Trading Program Provisions in Subpart EEEEE of Part 97

The Group 2 trading program regulations in new subpart EEEEE of part 97 generally parallel the existing Group 1 trading program regulations in subpart BBBBB of part 97 but reflect the amounts of the budgets, new unit set-asides, Indian country new unit set-asides, and variability limits established in this rule, all of which are set forth in § 97.810. That same section sets forth the amounts of a Group 2 budget, new unit set-aside, and variability limit which Georgia could adopt in a SIP revision that would be approvable under new § 52.38(b)(6).

Under § 97.806(c)(3)(i), the obligation to hold one Group 2 allowance for each ton of emissions during the control period begins with the 2017 control period, two years later than the analogous start date for the Group 1 program. The deadlines for certifying monitoring systems under § 97.830(b) and for beginning quarterly reporting under § 97.834(d)(1) are similarly two years later than the analogous Group 1 program deadlines. However, the start date for the assurance provisions for the Group 2 program under § 97.806(c)(3)(ii) is May 1, 2017. The allowance recordation deadlines under § 97.821 begin generally two years later than the comparable recordation deadlines under the Group 1 program but reach the same schedule by July 1, 2020, which is the deadline for recordation of allowances for the control period in 2024 under both programs.

Additional differences in the Group 2 program regulations relative to the Group 1 program regulations concern the use of converted Group 1 allowances. In general, the Group 2 regulations allow a Group 2 allowance that was allocated to any account as a replacement for removed Group 1 allowances to be used for all of the purposes for which any other Group 2 allowance may be used. This is accomplished by adding references to § 97.526(c)—the section under which the conversions are carried out—to the definitions of "allocate" and "CSAPR NO_X Ozone Season Group 2 allowance" in § 97.802 as well as the default order for deducting allowances for compliance purposes under § 97.824(c)(2).

Any Group 2 allowances allocated based on conversion of Group 1 allowances allocated for future years—specifically, the Group 2 allowances that could be allocated under § 97.526(c)(2) if the EPA approved a SIP revision from Georgia requiring Georgia sources to participate in the Group 2 program—would also be treated like any other Group 2 allowance for purposes of determining shares of responsibility for exceedances under the assurance provisions. New paragraph (2)(ii) of the definition of "common designated representative's share" in § 97.802 establishes this equivalence. However, allocations of Group 2 allowances converted from banked Group 1 allowances must be excluded for purposes of determining such shares of responsibility because such converted allowances do not represent allowances allocated from the current control period's emissions budgets. This exclusion is addressed in new paragraph (2)(i) of the definition of "common designated representative's share" in § 97.802.

Consistent with the proposal, the EPA has determined that, in order to facilitate NO_X SIP Call compliance, a state should be allowed to expand applicability of the Group 2 program to include any sources that previously participated in the NO_X Budget Trading Program, and that the state should be able to issue an amount of allowances beyond the CSAPR Update state budget if applicability is expanded. The EPA has further determined, again consistent with the proposal, that the assurance provisions should continue to apply only to emissions from the sources subject to the Group 2 program before any such expansion. Accordingly, the Group 2 program rules reflect certain revisions to the assurance provisions so as to exclude any additional units and allowances brought into the program through such a SIP revision.

In order to exclude the additional units, new definitions of "base CSAPR NO_X Ozone Season Group 2 unit" and "base CSAPR NO_X Ozone Season Group 2 source" are added in § 97.802 which exclude units that would not have been included in the program under § 97.804. All provisions related to the assurance provisions are amended to reference only such "base" units and sources. The amended provisions are §§ 97.802 (the definitions of "assurance account", "common designated representative", and "common designated representative's share"), 97.806(c)(2) and (3)(ii), and 97.825.[193] The exclusion of the additional allowances from the determination of shares of responsibility for exceedances of the assurance provisions is accomplished through an amendment to paragraph (2) of the definition of "common designated representative's share" in § 97.802.

Finally, amendments to §§ 97.816, 97.818, and 97.820(c)(1) and (5) reduce the administrative compliance burden for sources in the transition from the Group 1 program to the Group 2 program by providing that certain one-time or periodic submissions made for purposes of compliance with the Group 1 program will be considered valid for purposes of the Group 2 program as well. The submissions treated in this manner are a certificate of representation or notice of delegation submitted by a designated representative and an application for a general account or notice of delegation submitted by an authorized account representative.

C. Administrative Appeal Procedures in Part 78

The final rule amends the administrative appeal provisions in part 78 in order to make the procedures of

[193] In the provisions in § 52.38(b)(9)(vii) concerning full CSAPR SIP revisions, the new definitions of "base" units and sources also have been included in the lists of trading program provisions that may be removed from a state's SIP revision and added to a FIP if and when a unit is located in Indian country within the state's borders.

that part applicable to determinations of the EPA Administrator under the new Group 2 program in subpart EEEEE of part 97 in the same manner as the procedures are applicable to similar determinations under the other CSAPR trading programs and previous EPA trading programs. These amendments concern the list in § 78.1(a)(1) of CFR sections (and analogous SIP revisions) generally giving rise to determinations subject to the part 78 procedures; the list in § 78.1(b) of certain determinations that are expressly subject to those procedures; the list in § 78.3(a) of the types of persons who may seek review under the procedures; the list in § 78.3(c) of the required contents of petitions for review; the list in § 78.3(d) of matters for which a right of review is not provided; and the requirements in § 78.4(a)(1) as to who must sign a filing.

In addition, consistent with the proposal, under new § 78.1(b)(14)(viii), determinations of the EPA Administrator under § 97.526(c) regarding the removal of Group 1 allowances from accounts and the allocation in their place of Group 2 allowances are added to the list of determinations expressly subject to the part 78 procedures.

D. Nomenclature Changes

The EPA is finalizing the proposal to change the nomenclature in the CFR from "Transport Rule" to "Cross-State Air Pollution Rule" and from "TR" to "CSAPR". The change affects subparts AAAAA, BBBBB, CCCCC, and DDDDD of part 97, part 78, and all the CSAPR FIP sections in part 52 of 40 CFR.

In order to minimize administrative burden associated with the nomenclature changes, the regulations for all of the CSAPR trading programs (including the new subpart EEEEE) include provisions allowing continued use of the acronym "TR" instead of the acronym "CSAPR" in SIP revisions and in submissions by regulated parties. Language for this purpose has been included in §§ 97.502 (introductory text), 97.516, and 97.520(c)(1) and (2).[194]

[194] For brevity, in this section and the following section only the citations to subpart BBBBB are listed. Unless otherwise indicated, the citations should also be understood as representing the analogous provisions in subparts AAAAA, CCCCC, DDDDD, and potentially EEEEE which would have the same section numbers as the citations shown but with "4", "6", "7", or "8" respectively, substituted for the initial "5" in the section number (*e.g.*, a reference to § 97.502 is intended to also refer to §§ 97.402, 97.602, 97.702, and 97.802).

E. Technical Corrections and Clarifications

The final rule also finalizes technical corrections and clarifications throughout the sections of parts 52, 78, and 97 implementing CSAPR, including the sections implementing CSAPR's other three emissions trading programs. The EPA received no adverse comments on any of the technical corrections that were discussed in the proposal. The final rule contains some additional technical corrections that the EPA considers similarly noncontroversial.

The most common category of these minor changes consists of corrections to cross-references that as originally published indicated incorrect locations because of typographical errors or indicated correct locations but did not use the correct CFR format. In virtually all cases, the intended correct cross-reference can be determined from context, but the corrections clarify the regulations. Besides the corrections to cross-references, most of the remaining corrections address typographical errors.

A small number of the CFR changes correct errors that are not cross-references or obviously typographical errors. While the EPA views these corrections as noncontroversial, and no adverse comments were received regarding the corrections described in the proposal, they merit a short explanation.

The phrase "with regard to the State" or "the State and" has been added in a number of locations in §§ 52.38 and 52.39 where it was inadvertently omitted. The added phrase clarifies that when the EPA approves a state's SIP revision as modifying or replacing provisions in a CSAPR trading program, the modification or replacement is effective only with regard to that particular state. Correcting the omissions of these phrases makes the language concerning SIP revisions consistent for all the types of SIP revisions under all the CSAPR trading programs.

The phrase "in part" has been removed from the existing FIP language in various sections of part 52 for certain states with Indian country to clarify that in order to replace a CSAPR FIP affecting the sources in these states, a SIP revision must fully, not "in part," correct the SIP deficiency identified by the EPA as the basis for the FIP. The intended purpose of the words "in part"—specifically, to indicate that approval of a state's SIP revision would apply only to sources in the state and would not relieve any sources in Indian country within the borders of the state from obligations under the FIP—is already served by other language in those FIPs, and is further clarified by addition of the phrase "for those sources and units" (referencing the units in the state). The corrections make the language in these CSAPR FIPs consistent with the FIP language for the remaining CSAPR FIPs that address states with Indian country. Analogous changes to the general CSAPR FIP language in §§ 52.38(a)(5) and (6) and (b)(5) and (6) and 52.39(f), (i), and (j) have removed the phrase "in whole or in part" (referencing states without Indian country and states with Indian country, respectively) while adding language distinguishing the effect that the EPA's approval of a SIP revision has on sources in the state from the lack of effect on any sources in Indian country within the borders of the state.

Language has been added to § 78.1 clarifying that determinations by the EPA Administrator under the CSAPR trading programs that are subject to the part 78 administrative appeal procedures are subject to those procedures whether the source in question participates in a CSAPR federal trading program under a FIP or a CSAPR state trading program under an approved SIP revision. This approach is consistent with the approach taken under CAIR FIPs and SIPs and with the EPA's intent in CSAPR, as evidenced by the lack of any proposal or discussion in the CSAPR rulemaking regarding deviation from the historical approach taken under CAIR. This approach is also consistent with provisions in §§ 52.38 and 52.39 prohibiting approvable SIP revisions from altering certain provisions of the CSAPR trading programs, including the provisions specifying that administrative appeal procedures for determinations of the EPA Administrator under the trading programs are set forth in part 78.

The phrase "steam turbine generator" has been changed to "generator" in the list of required equipment in the definition of a "cogeneration system" in § 97.502. Absent this correction, a combustion turbine in a facility that uses the combustion turbine in combination with an electricity generator and heat recovery steam generator, but no steam turbine, to produce electricity and useful thermal energy would not meet the definition of a "cogeneration unit." The correction clarifies that a combustion turbine in such a facility should be able to qualify as a "cogeneration unit" (assuming it meets other relevant criteria) under the CSAPR trading programs, as it could under the CAIR trading programs. The consistency of this approach with the

EPA's intent in the CSAPR rulemaking is evidenced by the lack of any proposal or discussion in that rulemaking regarding the concept of narrowing the set of facilities qualifying for an applicability exemption as cogeneration units. To the contrary, as discussed in the preamble to the CSAPR proposal (75 FR 45307, August 2, 2010), the definition of "cogeneration system" was created in CSAPR to potentially broaden the set of facilities qualifying for the exemption, specifically by facilitating qualification as "cogeneration units" for certain units that might not meet the required levels of efficiency on an individual basis but that operate as components of multi-unit "cogeneration systems" that do meet the required levels of efficiency.

The deadline for recording certain allowance allocations under § 97.521(j) has been changed from "the date on which" the EPA receives the necessary allocation information to "the date 15 days after the date on which" the EPA receives the information. The EPA's lack of intention in the CSAPR rulemaking to establish the deadline as defined prior to the correction is evidenced by the impracticability of complying with such a deadline.

A change to a description of a required notice under the assurance provisions in § 97.525(b)(2)(iii)(B) has modified the phrase "any adjustments" to the phrase "calculations incorporating any adjustments" in order to clarify that the required notice will identify not only any adjustments made to previously noticed calculations, but also the complete calculations with (or without) such adjustments. The intended meaning is clear from the subsequent provisions that use this document as the point of reference for the complete calculations used in the succeeding administrative procedures.

The final rule also makes several additional technical corrections and clarifications. One set of corrections addresses the inconsistent treatment in the regulations of allowances initially distributed to sources by means of auction mechanisms instead of zero-cost allocation mechanisms. The original CSAPR regulations gave states the option to distribute allowances by auction under the provisions of an approved SIP revision, and some of the trading program provisions expressly accounted for that possibility. *See, e.g.,* §§ 52.38(b)(4) and (5); 97.502 (definitions of "common designated representative's share", "CSAPR NO_X Ozone Season Group 1 allowance and "record"), and 97.521. However, other trading program provisions, including some that define the allowances that can be used for compliance, failed to address the possible use of allowances acquired in an auction held pursuant to an approved SIP revision. The technical corrections have addressed this inadvertent omission principally by adding a definition of "auction" in § 97.502 and by adding references to auctioned allowances in provisions describing allowances available for use in compliance in §§ 97.506(c)(4)(i) and (ii), 97.524(a)(1) and (d), and 97.525(a). Additional changes recognizing the possible existence of auctioned allowances have been made in § 97.802 (definitions of "Allowance Management System" and Allowance Management System account") and in §§ 97.523(b) and 97.524(c)(2)(i) and (ii).

Technical corrections have been made to the definitions of "heat input", "heat input rate", "heat rate", "maximum heat input rate", and "potential electrical output capacity" in § 97.502 in order to express the definitions in correct and clearly identified units of measurement. The corrections clarify the regulations and do not change any regulatory requirement for any unit.

In a provision in § 97.506(c)(2)(ii) stating the deadline to hold allowances for purposes of the assurance provisions, the phrase "after such control period" has been corrected to say "after the year of such control period". The change makes the deadline as described in this section consistent with the deadline as already described correctly in § 97.525(b)(4)(i).

In § 97.520(c)(5)(v), incorrect references to the "designated representative" have been replaced with references to the "authorized account representative". The EPA's intent to use the term "authorized account representative" is clear from the cross-references to other paragraphs of § 97.520(c)(5) where that term, rather than the term "designated representative", is used.

In § 97.521, a new paragraph (j) has been added to correct the inadvertent omission of any recordation deadline for second-round allocations of allowances from an Indian country NUSA. The deadlines in the new paragraph are identical to the recordation deadlines for second-round allocations of allowances from a NUSA. The EPA's intent for such deadlines to apply is evident from the provisions of §§ 97.511(b)(2) and 97.512(b) which establish schedules for the determination of allocations of allowances from Indian country NUSAs that are fully synchronized with the schedules for determination of allocations of allowances from other NUSAs.

The provisions concerning full CSAPR SIP revisions in §§ 52.38(a)(5)(iv) and (b)(5)(v) and 52.39(f)(4) and (i)(4) have been amended to include more comprehensive lists of the specific CSAPR trading program provisions that concern administration of Indian country NUSAs and that therefore should not be incorporated by a state into a full CSAPR SIP revision. The language has also been modified to clarify that mere "references to" units in Indian country within a state's borders are not impermissible in such SIP revisions, as long as the SIP revisions do not impose any obligations on any units in Indian country and as long as the SIP revisions remain substantively identical to the federal trading program regulations (except as otherwise expressly permitted) notwithstanding any references to units in Indian country.

In the state-specific sections of part 52, the EPA has corrected instances from the original CSAPR rulemaking where language to address sources and units in Indian country within a state's borders was inadvertently omitted from or included in the state-specific FIP language for certain states. Specifically, language addressing sources and units in Indian country has been added to the FIP language concerning annual NO_X and SO_2 emissions for Alabama in §§ 52.54(a)(1) and 52.55(a), respectively, and has been removed from the FIP language concerning annual NO_X and SO_2 emissions for Tennessee in §§ 52.2240(d)(1) and 52.2241(c)(1), respectively. These revisions make the state-specific FIP language consistent with the existing general FIP language in §§ 52.38(a)(2) and 52.39(b) and (c) making CSAPR FIP requirements applicable to any units in Indian country located within the borders of each state listed in those sections

In several provisions in part 78, cross-references that previously referred to part 97 in its entirety have been clarified to refer to only the portions of part 97 related to particular non-CSAPR trading programs, consistent with the intent of the provisions when promulgated. Specifically, general references to part 97 in §§ 78.1(a)(1) and (b)(6) and 78.3(a)(3), (c)(7), and (d) have been replaced by references to either subparts A through J (federal NO_X Budget Trading Program); subparts AA through II, AAA through III, and AAAA through IIII (CAIR); or subparts AAAAA, BBBBB, CCCCC, DDDDD, and EEEEE (CSAPR). In several of these sections the more precise reference lists have been further clarified through reorganization. For the same reason, former appendices A through D to part 97 have been

redesignated as appendices A through D to subpart E of part 97, and the cross-references to those appendices in subpart E of part 97 have been updated.

In § 78.3(a)(10) and (11), the phrase "and that is appealable under § 78.1(a)" has been added in order to correct an inadvertent omission and clarify that, like the other paragraphs of § 78.3(a), these paragraphs are subject to the limits set in § 78.1(a). The provisions of § 78.3(a) concern the types of persons who may petition for administrative review, while the provisions of § 78.1 address the subject matter over which administrative review may be sought. The words being added to § 78.3(a)(10) and (11) are present in each of the other parallel provisions in § 78.3(a). The EPA's intent to include the words being added is evident from the fact that, without the added words, these two paragraphs concerning the persons who may petition for administrative review could be misread as expanding the matters for which administrative review may be sought, in conflict with the provisions of § 78.1(a).

X. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

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

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket. The EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, which is contained in the "Regulatory Impact Analysis for the Final Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS", is available in the docket and is briefly summarized in section VIII of this preamble.

Consistent with Executive Orders 12866 and 13563, the EPA estimated the costs and benefits for three regulatory control alternatives: The final rule EGU NO_X ozone season emission budgets and more and less stringent alternatives. This final action reduces ozone season NO_X emissions from EGUs in 22 eastern states. Actions taken to comply with the EGU NO_X ozone season emission budgets also reduce emissions of other criteria air pollutants, including annual NO_X and associated $PM_{2.5}$ concentrations, and CO_2. The benefits associated with these co-pollutant reductions are referred to as co-benefits, as these reductions are not the primary objective of this rule.

The RIA for this rule analyzed illustrative compliance approaches for implementing the FIPs. This action establishes EGU NO_X ozone season emission budgets for 22 states and implements these budgets via the existing CSAPR NO_X ozone season allowance trading program.

The EPA evaluated the costs, benefits, and impacts of implementing the EGU NO_X ozone season emission budgets developed using uniform control stringency represented by $1,400 per ton. In addition, the EPA also assessed implementation of one more and one less stringent alternative EGU NO_X ozone season emission budgets, developed using uniform control stringency represented by $3,400 per ton and $800 per ton, respectively. The EPA evaluated the impact of implementing these emission budgets to reduce interstate transport for the 2008 ozone NAAQS in 2017. More details for this assessment can be found in the Regulatory Impact Analysis in the docket for this rule.

The EPA notes that its analysis of the regulatory control alternatives (*i.e.,* the final rule and more and less stringent alternatives) is illustrative in nature, in part because the EPA implements the EGU NO_X emission budgets via a regional NO_X ozone season allowance trading program. This implementation approach provides utilities with the flexibility to determine their own compliance path. The EPA's assessment develops and analyzes one possible scenario for implementing the NO_X budgets in this action and one possible scenario for implementing the more and less stringent alternatives. Furthermore, the emission budgets evaluated for the CSAPR Update regulatory control alternative in this benefit and cost analysis are illustrative because they differ somewhat from the budgets finalized in this rule. (The budgets for the more and less stringent alternative also differ somewhat from the budgets represented by $3,400 per ton and $800 per ton reported in Table VI.C–1). However, the RIA also reports the costs and emissions changes associated with the finalized budgets. Further details on the illustrative nature of this analysis can be found in the RIA in the docket for this rule.

The EPA estimates the costs associated with compliance with the illustrative regulatory control alternative to be approximately $68 million (2011$) annually. These costs represent the private compliance cost of reducing NO_X emissions to comply with the final rule.

In this analysis, the EPA monetized the estimated benefits associated with the reduced exposure to ozone and $PM_{2.5}$ and co-benefits of decreased emissions of CO_2, but was unable to quantify or monetize the potential co-benefits associated with reducing exposure to NO_2 as well as ecosystem effects and reduced visibility impairment from reducing NO_X emissions. Specifically, the EPA estimated combinations of health benefits at discount rates of 3 percent and 7 percent (as recommended by the EPA's *Guidelines for Preparing Economic Analyses* [U.S. EPA, 2014] and OMB's *Circular A–4* [OMB, 2003]) and climate co-benefits of CO_2 reductions at discount rates of 5 percent, 3 percent, 2.5 percent, and 3 percent (95th percentile) (as recommended by the interagency working group). The EPA estimates the monetized ozone-related benefits[195] of the final rule to be $370 million to $610 million (2011$) in 2017 and the $PM_{2.5}$-related co-benefits[196] of the rule to be $93 million to $210 million (2011$) using a 3 percent discount rate and $83 million to $190 million (2011$) using a 7 percent discount rate. Further, the EPA estimates CO_2-related co-benefits of $54 to $87 million (2011$). Additional details on this analysis are provided in the RIA for this final rule. Tables X.A–1, X.A–2, and X.A–3 summarize the quantified human health and climate benefits and the costs of the rule and the more and less stringent control alternatives.

[195] The ozone-related health benefits range is based on applying different adult mortality functions (*i.e.,* Smith *et al.* (2009) and Zanobetti and Schwartz (2008)).

[196] The $PM_{2.5}$-related health co-benefits range is based on applying different adult mortality functions (*i.e.,* Krewski *et al.* (2009) and Lepeule *et al.* (2012)).

TABLE X.A–1—ESTIMATED HEALTH BENEFITS OF PROJECTED 2017 EMISSIONS REDUCTIONS FOR THE FINAL RULE AND MORE OR LESS STRINGENT ALTERNATIVES

[Millions of 2011$][1][2]

	Final rule	More stringent	Less stringent
NO_X (as ozone)	$370 to $610	$400 to $650	$160 to $270
NO_X (as $PM_{2.5}$):			
3% Discount Rate	$93 to $210	$98 to $220	$34 to $75
7% Discount Rate	$83 to $190	$88 to $200	$30 to $67
Total:			
3% Discount Rate	$460 to $810	$500 to $870	$200 to $340
7% Discount Rate	$450 to $790	$490 to $850	$190 to $330

[1] The health benefits range is based on adult mortality functions (*e.g.,* from Krewski et al. (2009) with Smith *et al.* (2009) to Lepeule *et al.* (2012) with Zanobetti and Schwartz (2008)).
[2] All estimates are rounded to two significant figures.

TABLE X.A–2—ESTIMATED GLOBAL CLIMATE CO-BENEFITS OF CO_2 REDUCTIONS FOR THE FINAL RULE AND MORE OR LESS STRINGENT ALTERNATIVES

[Millions of 2011$][1]

Discount rate and statistic	Final rule	More stringent	Less stringent
5% (average)	$19	$25	$15
3% (average)	66	87	54
2.5% (average)	100	130	81
3% (95th percentile)	190	250	150

[1] The social cost of carbon ($SC–CO_2$) values are dollar-year and emissions-year specific. $SC–CO_2$ values represent only a partial accounting of climate impacts.

The EPA combined this information to perform a benefit-cost analysis for this action (shown in table VIII.6 and for the more and less stringent alternatives—shown in the RIA in the docket for this rule).

TABLE X.A–3—TOTAL COSTS, TOTAL MONETIZED BENEFITS, AND NET BENEFITS OF THE FINAL RULE IN 2017 FOR U.S.

[Millions of 2011$][1]

Air Quality Health Benefits	$460 to $810[2] and $450 to $790.[3]
Total Benefits	$530 to $880[2] and $520 to $860.[3]
Annualized Costs Compliance Costs	$68[4]
Net Benefits	$460 to $810[2] and $450 to $790.[3]
Non-Monetized Benefits	Non-monetized climate benefits.
	Reductions in exposure to ambient NO_2.
	Ecosystem benefits and visibility improvement assoc. with reductions in emissions of NO_X.

[1] All estimates are rounded to two significant figures.
[2] 3% discount rate.
[3] 7% discount rate.
[4] These costs do not include monitoring, recordkeeping, and reporting costs, which are reported separately. See Chapter 4 of the RIA for this final rule for details and explanation.

There are additional important benefits that the EPA could not monetize. Due to current data and modeling limitations, the EPA's estimates of the co-benefits from reducing CO_2 emissions do not include important impacts like ocean acidification or potential tipping points in natural or managed ecosystems. Unquantified benefits also include co-benefits from reducing direct exposure to NO_2 as well as from reducing ecosystem effects and visibility impairment from reducing NO_X emissions. Based upon the foregoing discussion, it remains clear that the benefits of this action are substantial, and far exceed the costs. Additional details on benefits, costs, and net benefits estimates are provided in the RIA for this final rule.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to the OMB under the Paperwork Reduction Act (PRA), 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2391.05. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information generated by information collection activities under CSAPR is used by the EPA to ensure that affected facilities comply with the emission limits and other requirements. Records and reports are necessary to enable the EPA or states to identify affected facilities that may not be in compliance with the requirements. The recordkeeping requirements require only the specific information needed to determine compliance. These recordkeeping and reporting requirements are established pursuant to CAA sections 110(a)(2)(D) and (c) and 301(a) (42 U.S.C. 7410(a)(2)(D) and (c) and 7601(a)) and are specifically authorized by CAA section 114 (42

U.S.C. 7414). Reported data may also be used for other regulatory and programmatic purposes. All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to EPA policies in 40 CFR part 2, subpart B, Confidentiality of Business Information.

All of the EGUs that are subject to changed information collection requirements under this rule are already subject to information collection requirements under CSAPR. Most of these EGUs also are already subject to information collection requirements under the Acid Rain Program (ARP) established under Title IV of the 1990 Clean Air Act Amendments. Both CSAPR and the ARP have existing approved ICRs: EPA ICR Number 2391.03/OMB Control Number 2060–0667 (CSAPR) and EPA ICR Number 1633.16/OMB Control Number 2060–0258 (ARP). The burden and costs of the information collection requirements covered under the CSAPR ICR are estimated as incremental to the information collection requirements covered under the ARP ICR. Most of the information used to estimate burden and costs in this ICR was developed for the existing CSAPR and ARP ICRs.

This rule changes the universe of sources subject to certain information collection requirements under CSAPR but does not change the substance of any CSAPR information collection requirements. The burden and costs associated with the changes in the reporting universe are estimated as reductions from the burden and costs under the existing CSAPR ICR. (This rule does not change any source's information collection requirements with respect to the ARP.) The EPA intends to incorporate the burden and costs associated with the changes in the reporting universe under this rulemaking into the next renewal of the CSAPR ICR.

Respondents/affected entities: Entities potentially affected by this action are EGUs in the states of Florida, Kansas, North Carolina, and South Carolina that meet the applicability criteria for the CSAPR NO_X ozone season Group 1 and Group 2 trading programs in 40 CFR 97.504 and 97.804.

Respondent's obligation to respond: Mandatory (sections 110(a), 110(c), and 301(a) of the Clean Air Act).

Estimated number of respondents: 138 sources in Florida, Kansas, North Carolina, and South Carolina with one or more EGUs.

Frequency of response: Quarterly, occasionally.

Total estimated burden: Reduction of 12,879 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: Reduction of $1,347,291 (per year), includes reduction of $409,786 operation and maintenance costs.

The burden and cost estimates above reflect the reduction in burden and cost for Florida sources with EGUs that would no longer be required to report NO_X mass emissions and heat input data for the ozone season to the EPA under the rule and that are not subject to similar information collection requirements under the Acid Rain Program. Because these EGUs would no longer need to collect NO_X emissions or heat input data under 40 CFR part 75, the estimates above also reflect the reduction in burden and cost to collect and quality assure these data and to maintain the associated monitoring equipment.

The EPA estimates that the rule causes no change in information collection burden or cost for EGUs in Kansas that would be required to report NO_X mass emissions and heat input data for the ozone season to the EPA or for EGUs in North Carolina or South Carolina that would no longer be required to report NO_X emissions and heat input data for the ozone season to the EPA. The EGUs in Kansas, North Carolina, and South Carolina already are and would remain subject to requirements to report NO_X mass emissions and heat input data for the entire year to the EPA under the CSAPR NO_X Annual Trading Program, and the requirements related to ozone season reporting are a subset of the requirements related to annual reporting. Similarly, the EPA estimates that the rule causes no change in information collection burden or cost for EGUs in Florida that are subject to the Acid Rain Program because of the close similarity between the information collection requirements under CSAPR and under the Acid Rain Program. The EPA also estimates that the rule causes no change in information collection burden or cost for EGUs in the states have been covered by the current CSAPR NO_X Ozone Season Group 1 Trading Program and starting in 2017 will be covered by the new CSAPR NO_X Ozone Season Group 2 Trading Program because the information collection requirements applicable to an individual source under the two programs are identical.

The comments received in response to the proposal included no comments regarding the ICR for this final rule, but did include one comment regarding the existing CSAPR ICR. The comment noted that the existing CSAPR ICR should have been renewed in order to remain valid past July 31, 2014, but that OMB had not acted on the EPA's renewal submission as of that date. The commenter is correct as to those facts, but the commenter's apparent suggestion that the existing CSAPR ICR may have lapsed as of that date is incorrect. The EPA made a timely renewal submission for that ICR, and an agency may continue to collect information pursuant to a previously approved ICR if a timely renewal submission for the ICR has been made, pending OMB action on the submission. 5 CFR 1320.10(e)(2). Further, prior to the date when the comment was submitted, OMB did in fact approve the EPA's renewal submission for the CSAPR ICR.

More information on the ICR analysis is included in the docket for this rule.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are small businesses, small organizations, and small governmental jurisdictions.

The EPA has lessened the impacts for small entities by excluding all units 25 MWe or less. This exclusion, in addition to the exemptions for cogeneration units and solid waste incineration units, eliminates the burden of higher costs for a substantial number of small entities located in the 22 states for which the EPA is finalizing FIPs.

Within these states, the EPA identified a total of 365 potentially affected EGUs (*i.e.*, greater than 25 MWe) warranting examination in its RFA analysis. Of these, the EPA identified 30 potentially affected EGUs that are owned by 11 entities that met the Small Business Administration's criteria for identifying small entities. The EPA estimated the annualized net compliance cost to these 11 small entities to be approximately $23.9 million in 2017. Of the 11 small entities

considered in this analysis, 1 entity may experience compliance costs greater than 1 or 3 percent of generation revenues in 2017. The EPA notes that this entity is located in a cost of service market, where the agency typically expects that entities should be able to recover all of their costs of complying with the final rule.

The EPA has concluded that there is no significant economic impact on a substantial number of small entities (no SISNOSE) for this rule. Details of this analysis are presented in the RIA, which is in the public docket.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. According to the EPA's analysis, the total net economic impact on government owned entities (state- and municipality-owned utilities and subdivisions) is expected to be $20.5 million in 2017. Note that the EPA expects the rule to potentially have an impact on 11 municipality-owned entities and 1 state-owned entity. This analysis does not examine potential indirect economic impacts associated with the rule, such as employment effects in industries providing fuel and pollution control equipment, or the potential effects of electricity price increases on government entities. For more information on the estimated impact on government entities, refer to the RIA, which is in the public docket.

E. Executive Order 13132: Federalism

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

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

This action has tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law.

This final action implements EGU NO_X ozone season emissions reductions in 22 eastern states. However, at this time, none of the existing or planned EGUs affected by this rule are owned by tribes or located in Indian country. This action may have tribal implications if a new affected EGU is built in Indian country. Additionally, tribes have a vested interest in how this rule affects air quality.

In developing the original CSAPR, which was published on August 8, 2011 to address interstate transport of ozone pollution under the 1997 ozone NAAQS,[197] the EPA consulted with tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes early in the process of developing that regulation to permit them to have meaningful and timely input into its development. A summary of that consultation is provided in 76 FR 48346 (August 8, 2011).

The EPA received comments from several tribal commenters regarding the availability of CSAPR allowance allocations to new units in Indian country. The EPA responded to these comments by instituting Indian country new unit set-asides in the final CSAPR. In order to protect tribal sovereignty, these set-asides are managed and distributed by the federal government regardless of whether CSAPR in the adjoining or surrounding state is implemented through a FIP or SIP. While there are no existing affected EGUs in Indian country covered by the CSAPR Update, the Indian country set-asides will ensure that any future new units built in Indian country will be able to obtain the necessary allowances. The CSAPR Update maintains the Indian country new unit set-aside and adjusts the amounts of allowances in each set-aside according to the same methodology of the original CSAPR rule, with one small correction.

The EPA consulted with tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes early in the process of developing this regulation to permit them to have meaningful and timely input into its development. The EPA informed tribes of its development of this rule on a regularly scheduled National Tribal Air Association—EPA air policy monthly conference call (January 29, 2015) and gave an overview of the proposed rule on a separate call (November 17, 2015). In December 2015, the EPA offered consultation to tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes to permit them to have meaningful and timely input into the development of the final rule. The EPA sent letters to all 566 federally-recognized tribes informing them of this action, offering consultation and requesting comment on this rulemaking. Letters were also sent via email to tribal air staff. The EPA received no requests for consultation on this rule.

As part of the public comment process, we received one letter from the National Tribal Air Association (NTAA) that highlighted the need for an Indian country new unit set aside for the Poarch Band of Creek Indians in Alabama. EPA made this adjustment in the final rule and addressed the NTAA's other comments in the Response to Comments document, available in the docket, for this final action.

In order to help tribes to better understand this final action and how it could affect their communities, the EPA is providing an interactive map of affected sources and Indian country. This map will be available online. The EPA will continue to engage with tribes as part of the outreach strategy for this final rule.

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

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it does not involve decisions on environmental health or safety risks that may disproportionately affect children. However, the EPA believes that the ozone-related benefits, $PM_{2.5}$-related co-benefits, and CO_2-related co-benefits would further improve children's health.

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

This action, which is a significant regulatory action under Executive Order 12866, is likely to have a significant effect on the supply, distribution, or use of energy. The EPA noted in the proposal that one aspect of this rule that could affect energy supply, disposition, or use was the EPA's proposing and taking comment on a range of options with respect to use of 2015 vintage and 2016 vintage CSAPR NO_X ozone season allowances for compliance with 2017 and later ozone season requirements. The EPA did not finalize actions that could have eliminated the allowance

[197] CSAPR also addressed interstate transport of fine particulate matter ($PM_{2.5}$) under the 1997 and 2006 $PM_{2.5}$ NAAQS.

bank but is converting the 2015 and 2016 vintage CSAPR allowances to a currency that can be used for compliance in 2017 and beyond. The EPA prepared a Statement of Energy Effects for the regulatory control alternative as follows: The agency estimates no change in retail electricity prices on average across the contiguous U.S. in 2017 as a result of this rule, and a much less than 1 percent reduction in coal-fired electricity generation in 2017 as a result of this rule. The EPA projects that utility power sector delivered natural gas prices will change by less than 1 percent in 2017. For more information on the estimated energy effects, refer to the RIA, which is in the public docket.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

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

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

The EPA notes that this action updates CSAPR to reduce interstate ozone transport with respect to the 2008 ozone NAAQS. This rule uses the EPA's authority in CAA section 110(a)(2)(d) to reduce NO_X pollution that significantly contributes to downwind ozone nonattainment or maintenance areas. As a result, the rule will reduce exposures to ozone in the most-contaminated areas (*i.e.,* areas that are not meeting the 2008 ozone NAAQS). In addition, the rule separately identifies both nonattainment areas and maintenance areas. This requirement reduces the likelihood that areas close to the level of the standard will exceed the current health-based standards in the future. The EPA implements these emission reductions using the CSAPR EGU NO_X ozone season emissions trading program with assurance provisions.

The EPA recognizes that some communities have voiced concerns in the past about emission trading and the potential for emission increases in any location from an environmental justice perspective. The EPA believes that CSAPR mitigated these concerns and that this final rule, which applies the CSAPR framework to reduce interstate ozone pollution and implement these reductions, will also alleviate community concerns.

Ozone pollution from power plants has both local and regional components: part of the pollution in a given location—even in locations near emission sources—is due to emissions from nearby sources, and part is due to emissions that travel hundreds of miles and mix with emissions from other sources.

It is important to note that the section of the Clean Air Act providing authority for this rule, section 110(a)(2)(D), unlike some other provisions, does not dictate levels of control for particular facilities. In developing the original CSAPR, the EPA considered several alternative implementation approaches, and found that none of the approaches could ensure that all affected power plants would decrease their emissions. For example, under an alternative approach that required direct emission controls on individual facilities, the emission rate for each facility would have been limited but individual facilities could emit more pollution overall by increasing their power output.[198]

CSAPR allows sources to trade allowances with other sources in the same or different states while firmly limiting any emissions shifting that may occur by requiring a strict emission ceiling in each state (the assurance level). In addition, assurance provisions in the existing CSAPR regulations that will remain in place under this rule outline the allowance surrender penalties for failing to meet the assurance level; there are additional allowance penalties as well as financial penalties for failing to hold an adequate number of allowances to cover emissions.

This approach reduces EGU emissions in each state that significantly contribute to downwind nonattainment or maintenance areas, while allowing power companies to adjust generation as needed and ensure that the country's electricity needs will continue to be met. The EPA maintains that the existence of these assurance provisions, including the penalties imposed when triggered, will ensure that state emissions will stay below the level of the budget plus variability limit.

In addition, all sources must hold enough allowances to cover their emissions. Therefore, if a source emits more than its allocation in a given year, either another source must have used less than its allocation and be willing to sell some of its excess allowances, or the source itself had emitted less than its allocation in one or more previous years (*i.e.,* banked, or saved, allowances for future use).

In summary, the CSAPR addresses community concerns about localized hot spots and reduces ambient concentrations of pollution where they are most needed by sensitive and vulnerable populations by: Considering the science of ozone transport to set strict state emission budgets to reduce significant contributions to ozone nonattainment and maintenance (*i.e.,* the most polluted) areas; implementing air quality-assured trading; requiring any emissions above the level of the allocations to be offset by emission decreases; and imposing strict penalties for sources that contribute to a state's exceedance of its budget plus variability limit. In addition, it is important to note that nothing in this final rule allows sources to violate their title V permit or any other federal, state, or local emissions or air quality requirements.

It is also important to note that CAA section 110(a)(2)(D), which addresses transport of criteria pollutants between states, is only one of many provisions of the CAA that provide the EPA, states, and local governments with authorities to reduce exposure to ozone in communities. These legal authorities work together to reduce exposure to these pollutants in communities, including for minority, low-income, and tribal populations, and provide substantial health benefits to both the general public and sensitive sub-populations.

The EPA informed communities of its development of this rule on an Environmental Justice community call (January 28, 2015) and two National Tribal Air Association—EPA air policy conference calls (January 29, 2015 and November 17, 2015). The EPA will continue to engage with communities and tribes as part of the outreach strategy for this final rule.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is a "major rule" as defined by 5 U.S.C. 804(2).

L. Judicial Review and Determinations Under Section 307(b)(1) and (d)

Section 307(b)(1) of the CAA indicates which Federal Courts of Appeal have venue for petitions of review of final actions by the EPA. This section provides, in part, that petitions for review must be filed in the Court of Appeals for the District of Columbia Circuit if (i) the agency action consists of "nationally applicable regulations

[198] 76 FR 48348 (August 8, 2011).

promulgated, or final action taken, by the Administrator," or (ii) such action is locally or regionally applicable, if "such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination."

The EPA finds that any final action related to this rulemaking is "nationally applicable" and of "nationwide scope and effect" within the meaning of section 307(b)(1). Through this rulemaking action, the EPA interprets section 110 of the CAA, a provision which has nationwide applicability. In addition, the rule applies to 22 States. The rule is also based on a common core of factual findings and analyses concerning the transport of pollutants between the different states subject to it. For these reasons, the Administrator determines that this final action is of nationwide scope and effect for purposes of section 307(b)(1). Thus, pursuant to section 307(b) any petitions for review of any final actions regarding the rulemaking would be filed in the Court of Appeals for the District of Columbia Circuit within 60 days from the date any final action is published in the **Federal Register**.

In addition, pursuant to sections 307(d)(1)(C) and 307(d)(1)(V) of the CAA, the Administrator determines that this action is subject to the provisions of section 307(d). CAA section 307(d)(1)(B) provides that section 307(d) applies to, among other things, to "the promulgation or revision of an implementation plan by the Administrator under CAA section 110(c)." 42 U.S.C. 7407(d)(1)(B). Under section 307(d)(1)(V), the provisions of section 307(d) also apply to "such other actions as the Administrator may determine." 42 U.S.C. 7407(d)(1)(V). The agency has complied with procedural requirements of CAA section 307(d) during the course of this rulemaking.

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

40 CFR Part 78

Environmental protection, Acid rain, Administrative practice and procedure, Air pollution control, Electric utilities, Nitrogen oxides, Reporting and recordkeeping requirements, Sulfur oxides.

40 CFR Part 97

Environmental protection, Administrative practice and procedure, Air pollution control, Intergovernmental relations, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements.

Dated: September 7, 2016.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, parts 52, 78, and 97 of chapter I of title 40 of the Code of Federal Regulations are amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

§§ 52.38, 52.39, 52.54, 52.55, 52.584, 52.585, 52.731, 52.732, 52.789, 52.790, 52.840, 52.841, 52.882, 52.883, 52.940, 52.941, 52.1084, 52.1085, 52.1186, 52.1187, 52.1240, 52.1241, 52.1326, 52.1327, 52.1428, 52.1429, 52.1584, 52.1585, 52.1684, 52.1685, 52.1784, 52.1785, 52.1882, 52.1883, 52.2040, 52.2041, 52.2140, 52.2141, 52.2240, 52.2241, 52.2283, 52.2284, 52.2440, 52.2441, 52.2540, 52.2541, 52.2587, and 52.2588 [Amended]

■ 2. Sections 52.38, 52.39, 52.54, 52.55, 52.584, 52.585, 52.731, 52.732, 52.789, 52.790, 52.840, 52.841, 52.882, 52.883, 52.940, 52.941, 52.1084, 52.1085, 52.1186, 52.1187, 52.1240, 52.1241, 52.1326, 52.1327, 52.1428, 52.1429, 52.1584, 52.1585, 52.1684, 52.1685, 52.1784, 52.1785, 52.1882, 52.1883, 52.2040, 52.2041, 52.2140, 52.2141, 52.2240, 52.2241, 52.2283, 52.2284, 52.2440, 52.2441, 52.2540, 52.2541, 52.2587, and 52.2588 are amended by removing the text "TR" wherever it appears and adding in its place the text "CSAPR".

Subpart A—General Provisions

§ 52.36 [Amended]

■ 3. Section 52.36, paragraph (e)(1)(i) is amended by removing the text "paragraphs (a) through (e)" and adding in its place the text "paragraphs (a) through (c)".

■ 4. Section 52.38 is amended by:

■ a. Revising the section heading;

■ b. After the text "NO_X Ozone Season" wherever it appears adding the text "Group 1";

■ c. In paragraph (a)(2), removing the words "the sources in" and adding in their place the words "sources in each of";

■ d. In paragraph (a)(3)(ii), after the text "2016, of" adding the word "the";

■ e. In paragraph (a)(3)(v)(A), removing the word "paragraph" and adding in its place the word "paragraphs";

■ f. In paragraph (a)(4)(i)(B), table heading, removing the word "annual" and adding in its place the word "Annual", and removing the word "administrator" and adding in its place the words "the Administrator";

■ g. In paragraph (a)(4)(ii), removing the words "section for" and adding in their place the words "section applicable to";

■ h. Revising paragraph (a)(5) introductory text;

■ i. In paragraph (a)(5)(i)(B), table heading, removing the word "annual" and adding in its place the word "Annual", and removing the word "administrator" and adding in its place the words "the Administrator";

■ j. Revising paragraphs (a)(5)(iv) and (v);

■ k. In paragraph (a)(5)(vi), removing the text "paragraphs (a)(5)(i) and (ii)" and adding in its place the text "paragraph (a)(5)(i)";

■ l. Revising paragraph (a)(6);

■ m. In paragraph (a)(7), removing the words "a State" and adding in their place the words "the State";

■ n. Adding paragraph (a)(8);

■ o. Revising paragraphs (b)(1) and (2);

■ p. In paragraph (b)(3) introductory text, removing the text "paragraph (b)(2)" and adding in its place the text "paragraph (b)(2)(i) or (ii)";

■ q. In paragraph (b)(3)(ii), after the text "2016, of" adding the word "the";

■ r. In paragraph (b)(3)(v)(A), removing the word "paragraph" and adding in its place the word "paragraphs";

■ s. In paragraph (b)(4) introductory text, removing the text "paragraph (b)(2)" and adding in its place the text "paragraph (b)(2)(i)";

■ t. Revising paragraph (b)(4)(i);

■ u. In paragraph (b)(4)(ii) introductory text, after the words "with regard to" adding the words "the State and";

■ v. In paragraph (b)(4)(ii)(B), table heading, removing the word "administrator" and adding in its place the words "the Administrator";

■ w. Revising paragraph (b)(5) introductory text, paragraph (b)(5)(i), and paragraph (b)(5)(ii) introductory text;

■ x. In paragraph (b)(5)(ii)(B), removing the words "auction of" and adding in their place the words "auctions of", and removing from the table heading the word "administrator" and adding in its place the words "the Administrator";

■ y. In paragraph (b)(5)(ii)(C), removing the words "any control" and adding in

their place the words "any such control";

■ z. In paragraph (b)(5)(iii), after the words "May adopt" adding a comma;

■ aa. Revising paragraphs (b)(5)(v) through (vii), and (b)(6) and (7); and

■ bb. Adding paragraphs (b)(8) through (13).

The revisions and additions read as follows:

§ 52.38 What are the requirements of the Federal Implementation Plans (FIPs) for the Cross-State Air Pollution Rule (CSAPR) relating to emissions of nitrogen oxides?

(a) * * *

(5) Notwithstanding the provisions of paragraph (a)(1) of this section, a State listed in paragraph (a)(2) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a)(1) through (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR NO_X Annual Trading Program set forth in §§ 97.402 through 97.435 of this chapter, except that the SIP revision:

* * * * *

(iv) Must not include any of the requirements imposed on any unit in Indian country within the borders of the State in the provisions in §§ 97.402 through 97.435 of this chapter and must not include the provisions in §§ 97.411(b)(2) and (c)(5)(iii), 97.412(b), and 97.421(h) and (j) of this chapter, all of which provisions will continue to apply under any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision;

(v) Provided that, if and when any covered unit is located in Indian country within the borders of the State, the Administrator may modify his or her approval of the SIP revision to exclude the provisions in §§ 97.402 (definitions of "common designated representative", "common designated representative's assurance level", and "common designated representative's share"), 97.406(c)(2), and 97.425 of this chapter and the portions of other provisions of subpart AAAAA of part 97 of this chapter referencing these sections and may modify any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision to include these provisions;

* * * * *

(6) Following promulgation of an approval by the Administrator of a State's SIP revision as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a)(1) through (4) of this section for sources in the State, the provisions of paragraph (a)(2) of this section will no longer apply to sources in the State, unless the Administrator's approval of the SIP revision is partial or conditional, and will continue to apply to sources in any Indian country within the borders of the State, provided that if the CSAPR Federal Implementation Plan was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision.

* * * * *

(8) The following States have SIP revisions approved by the Administrator under paragraph (a)(3), (4), or (5) of this section:

(i) For each of the following States, the Administrator has approved a SIP revision under paragraph (a)(3) of this section as replacing the CSAPR NO_X Annual allowance allocation provisions in § 97.411(a) of this chapter with regard to the State and the control period in 2016: Alabama, Kansas, Missouri, and Nebraska.

(ii) For each of the following States, the Administrator has approved a SIP revision under paragraph (a)(4) of this section as replacing the CSAPR NO_X Annual allowance allocation provisions in §§ 97.411(a) and (b)(1) and 97.412(a) of this chapter with regard to the State and the control period in 2017 or any subsequent year: Kansas and Missouri.

(iii) For each of the following States, the Administrator has approved a SIP revision under paragraph (a)(5) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a)(1) through (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): Alabama.

(b)(1) The CSAPR NO_X Ozone Season Group 1 Trading Program provisions and the CSAPR NO_X Ozone Season Group 2 Trading Program provisions set forth respectively in subparts BBBBB and EEEEE of part 97 of this chapter constitute the CSAPR Federal Implementation Plan provisions that relate to emissions of NO_X during the ozone season, defined as May 1 through September 30 of a calendar year.

(2)(i) The provisions of subpart BBBBB of part 97 of this chapter apply to sources in each of the following States and Indian country located within the borders of such States with regard to emissions in 2015 and each subsequent year: Georgia.

(ii) The provisions of subpart BBBBB of part 97 of this chapter apply to sources in each of the following States and Indian country located within the borders of such States with regard to emissions occurring in 2015 and 2016 only: Alabama, Arkansas, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

(iii) The provisions of subpart EEEEE of part 97 of this chapter apply to sources in each of the following States and Indian country located within the borders of such States with regard to emissions occurring in 2017 and each subsequent year: Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

* * * * *

(4) * * *

(i) The State may adopt, as applicability provisions replacing the provisions in § 97.504(a)(1) and (2) of this chapter with regard to the State, provisions substantively identical to those provisions, except that the words "more than 25 MWe" are replaced, wherever such words appear, by words specifying a uniform lower limit on the amount of megawatts that is not greater than the amount specified by the words "more than 25 MWe" and is not less than the amount specified by the words "15 MWe or more"; and

* * * * *

(5) Notwithstanding the provisions of paragraph (b)(1) of this section, a State listed in paragraph (b)(2)(i) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(i), and (b)(3) and (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR NO_X Ozone Season Group 1 Trading Program set forth in §§ 97.502 through 97.535 of this chapter, except that the SIP revision:

(i) May adopt, as applicability provisions replacing the provisions in § 97.504(a)(1) and (2) of this chapter

with regard to the State, provisions substantively identical to those provisions, except that the words "more than 25 MWe" are replaced, wherever such words appear, by words specifying a uniform lower limit on the amount of megawatts that is not greater than the amount specified by the words "more than 25 MWe" and is not less than the amount specified by the words "15 MWe or more"; and

(ii) May adopt, as CSAPR NO_X Ozone Season Group 1 allowance allocation provisions replacing the provisions in §§ 97.511(a) and (b)(1) and 97.512(a) of this chapter with regard to the State and the control period in 2017 or any subsequent year, any methodology under which the State or the permitting authority allocates or auctions CSAPR NO_X Ozone Season Group 1 allowances and that—

* * * * *

(v) Must not include any of the requirements imposed on any unit in Indian country within the borders of the State in the provisions in §§ 97.502 through 97.535 of this chapter and must not include the provisions in §§ 97.511(b)(2) and (c)(5)(iii), 97.512(b), and 97.521(h) and (j) of this chapter, all of which provisions will continue to apply under any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision;

(vi) Provided that, if and when any covered unit is located in Indian country within the borders of the State, the Administrator may modify his or her approval of the SIP revision to exclude the provisions in §§ 97.502 (definitions of "common designated representative", "common designated representative's assurance level", and "common designated representative's share"), 97.506(c)(2), and 97.525 of this chapter and the portions of other provisions of subpart BBBBB of part 97 of this chapter referencing these sections and may modify any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision to include these provisions;

(vii) Provided that the State must submit a complete SIP revision meeting the requirements of paragraphs (b)(5)(i) through (v) of this section by December 1 of the year before the year of the deadlines for submission of allocations or auction results under paragraphs (b)(5)(ii)(B) and (C) of this section applicable to the first control period for which the State wants to replace the applicability provisions, make allocations, or hold an auction under paragraph (b)(5)(i) or (ii) of this section.

(6) Notwithstanding the provisions of paragraph (b)(1) of this section, a State listed in paragraph (b)(2)(i) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(i), and (b)(3) and (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR NO_X Ozone Season Group 2 Trading Program set forth in §§ 97.802 through 97.835 of this chapter, subject to the following requirements and exceptions:

(i) The provisions of paragraphs (b)(9)(i) through (viii) of this section apply to any such SIP revision.

(ii) Following promulgation of an approval by the Administrator of such a SIP revision:

(A) The provisions of the SIP revision will apply to sources in the State with regard to emissions occurring in the control period that begins May 1 immediately after promulgation of such approval, or such later control period as may be adopted by the State in its regulations and approved by the Administrator in the SIP revision, and in each subsequent control period.

(B) Notwithstanding the provisions of paragraph (b)(6)(ii)(A) of this section, if, at the time of the approval of the SIP revision, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 1 allowances to units in the State for a control period in any year, the Administrator will not record allocations of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for any such control period under the provisions of the SIP revision but instead will allocate and record CSAPR NO_X Ozone Season Group 2 allowances in place of CSAPR NO_X Ozone Season Group 1 allowances under § 97.526(c)(2) of this chapter, unless provided otherwise by such approval of the SIP revision.

(7) Notwithstanding the provisions of paragraph (b)(1) of this section, a State listed in paragraph (b)(2)(iii) of this section may adopt and include in a SIP revision, and the Administrator will approve, as CSAPR NO_X Ozone Season Group 2 allowance allocation provisions replacing the provisions in § 97.811(a) of this chapter with regard to the State and the control period in 2018, a list of CSAPR NO_X Ozone Season Group 2 units and the amount of CSAPR NO_X Ozone Season Group 2 allowances allocated to each unit on such list, provided that the list of units and allocations meets the following requirements:

(i) All of the units on the list must be units that are in the State and commenced commercial operation before January 1, 2015;

(ii) The total amount of CSAPR NO_X Ozone Season Group 2 allowance allocations on the list must not exceed the amount, under § 97.810(a) of this chapter for the State and the control period in 2018, of the CSAPR NO_X Ozone Season Group 2 trading budget minus the sum of the new unit set-aside and Indian country new unit set-aside;

(iii) The list must be submitted electronically in a format specified by the Administrator; and

(iv) The SIP revision must not provide for any change in the units and allocations on the list after approval of the SIP revision by the Administrator and must not provide for any change in any allocation determined and recorded by the Administrator under subpart EEEEE of part 97 of this chapter;

(v) Provided that:

(A) By December 27, 2016, the State must notify the Administrator electronically in a format specified by the Administrator of the State's intent to submit to the Administrator a complete SIP revision meeting the requirements of paragraphs (b)(7)(i) through (iv) of this section by April 1, 2017; and

(B) The State must submit to the Administrator a complete SIP revision described in paragraph (b)(7)(v)(A) of this section by April 1, 2017.

(8) Notwithstanding the provisions of paragraph (b)(1) of this section, a State listed in paragraph (b)(2)(iii) of this section may adopt and include in a SIP revision, and the Administrator will approve, regulations revising subpart EEEEE of part 97 of this chapter as follows and not making any other substantive revisions of that subpart:

(i) The State may adopt, as applicability provisions replacing the provisions in § 97.804(a)(1) and (2) of this chapter with regard to the State, provisions substantively identical to those provisions, except that the words "more than 25 MWe" are replaced, wherever such words appear, by words specifying a uniform lower limit on the amount of megawatts that is not greater than the amount specified by the words "more than 25 MWe" and is not less than the amount specified by the words "15 MWe or more";

(ii) Such a State listed in § 51.121(c) of this chapter may adopt, as applicability provisions replacing the provisions in § 97.804(a) and (b) of this chapter with regard to the State, provisions substantively identical to those provisions, except that

applicability is expanded to include, in addition to all units in the State that would be CSAPR NO_X Ozone Season Group 2 units under § 97.804(a) and (b) of this chapter and any units to which the State elects to expand applicability pursuant to paragraph (b)(8)(i) of this section, all other units that would have been subject to the State's emissions trading program regulations approved as a SIP revision under § 51.121(p) of this chapter except units to which the State is authorized to expand applicability under paragraph (b)(8)(i) of this section; and

(iii) The State may adopt, as CSAPR NO_X Ozone Season Group 2 allowance allocation or auction provisions replacing the provisions in §§ 97.811(a) and (b)(1) and 97.812(a) of this chapter with regard to the State and the control period in 2019 or any subsequent year, any methodology under which the State or the permitting authority allocates or auctions CSAPR NO_X Ozone Season Group 2 allowances and may adopt, in addition to the definitions in § 97.802 of this chapter, one or more definitions that shall apply only to terms as used in the adopted CSAPR NO_X Ozone Season Group 2 allowance allocation or auction provisions, if such methodology—

(A) Requires the State or the permitting authority to allocate and, if applicable, auction a total amount of CSAPR NO_X Ozone Season Group 2 allowances for any such control period not exceeding the amount, under §§ 97.810(a) and 97.821 of this chapter for the State and such control period, of the CSAPR NO_X Ozone Season Group 2 trading budget minus the sum of the Indian country new unit set-aside and the amount of any CSAPR NO_X Ozone Season Group 2 allowances already allocated and recorded by the Administrator, plus, if the State adopts regulations expanding applicability to additional units pursuant to paragraph (b)(8)(ii) of this section, an additional amount of CSAPR NO_X Ozone Season Group 2 allowances not exceeding the lesser of:

(*1*) The highest of the sum, for all additional units in the State to which applicability is expanded pursuant to paragraph (b)(8)(ii) of this section, of the NO_X emissions reported in accordance with part 75 of this chapter for the ozone season in the year before the year of the submission deadline for the SIP revision under paragraph (b)(8)(iv) of this section and the corresponding sums of the NO_X emissions reported in accordance with part 75 of this chapter for each of the two immediately preceding ozone seasons, provided that each such seasonal sum shall exclude the amount of any NO_X emissions reported by any unit for all hours in any calendar day during which the unit did not have at least one quality-assured monitor operating hour, as defined in § 72.2 of this chapter; or

(*2*) The portion of the emissions budget under the State's emissions trading program regulations approved as a SIP revision under § 51.121(p) of this chapter that is attributable to the units to which applicability is expanded pursuant to paragraph (b)(8)(ii) of this section.

(B) Requires, to the extent the State adopts provisions for allocations or auctions of CSAPR NO_X Ozone Season Group 2 allowances for any such control period to any CSAPR NO_X Ozone Season Group 2 units covered by § 97.811(a) of this chapter, that the State or the permitting authority submit such allocations or the results of such auctions for such control period (except allocations or results of auctions to such units of CSAPR NO_X Ozone Season Group 2 allowances remaining in a set-aside after completion of the allocations or auctions for which the set-aside was created) to the Administrator no later than the following dates:

Year of the control period for which CSAPR NO_X Ozone season group 2 allowances are allocated or auctioned	Deadline for submission of allocations or auction results to the Administrator
2019	June 1, 2018.
2020	June 1, 2018.
2021	June 1, 2019.
2022	June 1, 2019.
2023	June 1, 2020.
2024	June 1, 2020.
2025 and any year thereafter	June 1 of the fourth year before the year of the control period.

(C) Requires, to the extent the State adopts provisions for allocations or auctions of CSAPR NO_X Ozone Season Group 2 allowances for any such control period to any CSAPR NO_X Ozone Season Group 2 units covered by §§ 97.811(b)(1) and 97.812(a) of this chapter, that the State or the permitting authority submit such allocations or the results of such auctions (except allocations or results of auctions to such units of CSAPR NO_X Ozone Season Group 2 allowances remaining in a set-aside after completion of the allocations or auctions for which the set-aside was created) to the Administrator by July 1 of the year of such control period.

(D) Does not provide for any change, after the submission deadlines in paragraphs (b)(8)(iii)(B) and (C) of this section, in the allocations submitted to the Administrator by such deadlines and does not provide for any change in any allocation determined and recorded by the Administrator under subpart EEEEE of part 97 of this chapter or § 97.526(c) of this chapter;

(iv) Provided that the State must submit a complete SIP revision meeting the requirements of paragraph (b)(8)(i), (ii), or (iii) of this section by December 1 of the year before the year of the deadlines for submission of allocations or auction results under paragraphs (b)(8)(iii)(B) and (C) of this section applicable to the first control period for which the State wants to replace the applicability provisions, make allocations, or hold an auction under paragraph (b)(8)(i), (ii), or (iii) of this section.

(9) Notwithstanding the provisions of paragraph (b)(1) of this section, a State listed in paragraph (b)(2)(iii) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(iii), and (b)(7) and (8) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR NO_X Ozone Season Group 2 Trading Program set forth in §§ 97.802 through 97.835 of this chapter, except that the SIP revision:

(i) May adopt, as applicability provisions replacing the provisions in § 97.804(a)(1) and (2) of this chapter with regard to the State, provisions substantively identical to those provisions, except that the words "more than 25 MWe" are replaced, wherever

such words appear, by words specifying a uniform lower limit on the amount of megawatts that is not greater than the amount specified by the words "more than 25 MWe" and is not less than the amount specified by the words "15 MWe or more";

(ii) In the case of such a State listed in § 51.121(c) of this chapter, may adopt, as applicability provisions replacing the provisions in § 97.804(a) and (b) of this chapter with regard to the State, provisions substantively identical to those provisions, except that applicability is expanded to include, in addition to all units in the State that would be CSAPR NO_X Ozone Season Group 2 units under § 97.804(a) and (b) of this chapter and any units to which the State elects to expand applicability pursuant to paragraph (b)(9)(i) of this section, all other units that would have been subject to the State's emissions trading program regulations approved as a SIP revision under § 51.121(p) of this chapter except units to which the State is authorized to expand applicability under paragraph (b)(9)(i) of this section; and

(iii) May adopt, as CSAPR NO_X Ozone Season Group 2 allowance allocation provisions replacing the provisions in §§ 97.811(a) and (b)(1) and 97.812(a) of this chapter with regard to the State and the control period in 2019 or any subsequent year, any methodology under which the State or the permitting authority allocates or auctions CSAPR NO_X Ozone Season Group 2 allowances and that—

(A) Requires the State or the permitting authority to allocate and, if applicable, auction a total amount of CSAPR NO_X Ozone Season Group 2 allowances for any such control period not exceeding the amount, under §§ 97.810(a) and 97.821 of this chapter for the State and such control period, of the CSAPR NO_X Ozone Season Group 2 trading budget minus the sum of the Indian country new unit set-aside and the amount of any CSAPR NO_X Ozone Season Group 2 allowances already allocated and recorded by the Administrator, plus, if the State adopts regulations expanding applicability to additional units pursuant to paragraph (b)(9)(ii) of this section, an additional amount of CSAPR NO_X Ozone Season Group 2 allowances not exceeding the lesser of:

(*1*) The highest of the sum, for all additional units in the State to which applicability is expanded pursuant to paragraph (b)(9)(ii) of this section, of the NO_X emissions reported in accordance with part 75 of this chapter for the ozone season in the year before the year of the submission deadline for the SIP revision under paragraph (b)(9)(viii) of this section and the corresponding sums of the NO_X emissions reported in accordance with part 75 of this chapter for each of the two immediately preceding ozone seasons, provided that each such seasonal sum shall exclude the amount of any NO_X emissions reported by any unit for all hours in any calendar day during which the unit did not have at least one quality-assured monitor operating hour, as defined in § 72.2 of this chapter; or

(*2*) The portion of the emissions budget under the State's emissions trading program regulations approved as a SIP revision under § 51.121(p) of this chapter that is attributable to the units to which applicability is expanded pursuant to paragraph (b)(9)(ii) of this section.

(B) Requires, to the extent the State adopts provisions for allocations or auctions of CSAPR NO_X Ozone Season Group 2 allowances for any such control period to any CSAPR NO_X Ozone Season Group 2 units covered by § 97.811(a) of this chapter, that the State or the permitting authority submit such allocations or the results of such auctions for such control period (except allocations or results of auctions to such units of CSAPR NO_X Ozone Season Group 2 allowances remaining in a set-aside after completion of the allocations or auctions for which the set-aside was created) to the Administrator no later than the following dates:

Year of the control period for which CSAPR NO_X Ozone season group 2 allowances are allocated or auctioned	Deadline for submission of allocations or auction results to the Administrator
2019	June 1, 2018.
2020	June 1, 2018.
2021	June 1, 2019.
2022	June 1, 2019.
2023	June 1, 2020.
2024	June 1, 2020.
2025 and any year thereafter	June 1 of the fourth year before the year of the control period.

(C) Requires, to the extent the State adopts provisions for allocations or auctions of CSAPR NO_X Ozone Season Group 2 allowances for any such control period to any CSAPR NO_X Ozone Season Group 2 units covered by §§ 97.811(b)(1) and 97.812(a) of this chapter, that the State or the permitting authority submit such allocations or the results of such auctions (except allocations or results of auctions to such units of CSAPR NO_X Ozone Season Group 2 allowances remaining in a set-aside after completion of the allocations or auctions for which the set-aside was created) to the Administrator by July 1 of the year of such control period.

(D) Does not provide for any change, after the submission deadlines in paragraphs (b)(9)(iii)(B) and (C) of this section, in the allocations submitted to the Administrator by such deadlines and does not provide for any change in any allocation determined and recorded by the Administrator under subpart EEEEE of part 97 of this chapter or § 97.526(c) of this chapter;

(iv) May adopt, in addition to the definitions in § 97.802 of this chapter, one or more definitions that shall apply only to terms as used in the CSAPR NO_X Ozone Season Group 2 allowance allocation or auction provisions adopted under paragraph (b)(9)(iii) of this section;

(v) May substitute the name of the State for the term "State" as used in subpart EEEEE of part 97 of this chapter, to the extent the Administrator determines that such substitutions do not make substantive changes in the provisions in §§ 97.802 through 97.835 of this chapter; and

(vi) Must not include any of the requirements imposed on any unit in Indian country within the borders of the State in the provisions in §§ 97.802 through 97.835 of this chapter and must not include the provisions in §§ 97.811(b)(2) and (c)(5)(iii), 97.812(b), and 97.821(h) and (j) of this chapter, all of which provisions will continue to apply under any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision;

(vii) Provided that, if and when any covered unit is located in Indian country within the borders of the State, the Administrator may modify his or her approval of the SIP revision to exclude

the provisions in §§ 97.802 (definitions of "base CSAPR NO_X Ozone Season Group 2 source", "base CSAPR NO_X Ozone Season Group 2 unit", "common designated representative", "common designated representative's assurance level", and "common designated representative's share"), 97.806(c)(2), and 97.825 of this chapter and the portions of other provisions of subpart EEEEE of part 97 of this chapter referencing these sections and may modify any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision to include these provisions;

(viii) Provided that the State must submit a complete SIP revision meeting the requirements of paragraphs (b)(9)(i) through (vi) of this section by December 1 of the year before the year of the deadlines for submission of allocations or auction results under paragraphs (b)(9)(iii)(B) and (C) of this section applicable to the first control period for which the State wants to replace the applicability provisions, make allocations, or hold an auction under paragraph (b)(9)(i), (ii), or (iii) of this section.

(10) Following promulgation of an approval by the Administrator of a State's SIP revision as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(i), and (b)(3) and (4) of this section or paragraphs (b)(1), (b)(2)(iii), and (b)(7) and (8) of this section for sources in the State—

(i) The provisions of paragraph (b)(2)(i) or (iii) of this section, as applicable, will no longer apply to sources in the State, unless the Administrator's approval of the SIP revision is partial or conditional, and will continue to apply to sources in any Indian country within the borders of the State, provided that if the CSAPR Federal Implementation Plan was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision; and

(ii) For a State listed in § 51.121(c) of this chapter, the State's adoption of the regulations included in such approved SIP revision will satisfy with regard to the sources subject to such regulations, including any sources made subject to such regulations pursuant to paragraph (b)(9)(ii) of this section, the requirement under § 51.121(r)(2) of this chapter for the State to revise its SIP to adopt control measures with regard to such sources.

(11) Notwithstanding the provisions of paragraph (b)(10)(i) of this section—

(i) If, at the time of such approval of the State's SIP revision, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 1 allowances under subpart BBBBB of part 97 of this chapter, or allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter, to units in the State for a control period in any year, the provisions of subpart BBBBB of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 1 allowances, or of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances, as applicable, to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision; and

(ii) The provisions of § 97.526(c)(1) through (6) of this chapter authorizing the Administrator to remove CSAPR NO_X Ozone Season Group 1 allowances from any account where such allowances are held and to allocate and record amounts of CSAPR NO_X Ozone Season Group 2 allowances in place of any CSAPR NO_X Ozone Season Group 1 allowances that have been so removed or that have not been initially recorded, and the provisions of § 97.526(c)(7) of this chapter authorizing the use of CSAPR NO_X Ozone Season Group 2 allowances to satisfy requirements to hold CSAPR NO_X Ozone Season Group 1 allowances, will continue to apply.

(12) The following States have SIP revisions approved by the Administrator under paragraph (b)(3), (4), or (5) of this section:

(i) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(3) of this section as replacing the CSAPR NO_X Ozone Season Group 1 allowance allocation provisions in § 97.511(a) of this chapter with regard to the State and the control period in 2016: Alabama and Missouri.

(ii) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(4) of this section as replacing the CSAPR NO_X Ozone Season Group 1 applicability provisions in § 97.504(a)(1) and (2) of this chapter or the CSAPR NO_X Ozone Season Group 1 allowance allocation provisions in §§ 97.511(a) and (b)(1) and 97.512(a) of this chapter with regard to the State and the control period in 2017 or any subsequent year: [none].

(iii) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(5) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(i), and (b)(3) and (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): [none].

(13) The following States have SIP revisions approved by the Administrator under paragraph (b)(6), (7), (8), or (9) of this section:

(i) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(6) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(i), and (b)(3) and (4) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): [none].

(ii) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(7) of this section as replacing the CSAPR NO_X Ozone Season Group 2 allowance allocation provisions in § 97.811(a) of this chapter with regard to the State and the control period in 2018: [none].

(iii) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(8) of this section as replacing the CSAPR NO_X Ozone Season Group 2 applicability provisions in § 97.804(a) and (b) or § 97.804(a)(1) and (2) of this chapter or the CSAPR NO_X Ozone Season Group 2 allowance allocation provisions in §§ 97.811(a) and (b)(1) and 97.812(a) of this chapter with regard to the State and the control period in 2019 or any subsequent year: [none].

(iv) For each of the following States, the Administrator has approved a SIP revision under paragraph (b)(9) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (b)(1), (b)(2)(iii), and (b)(7) and (8) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): [none].

■ 5. Section 52.39 is amended by:

■ a. Revising the section heading;

■ b. In paragraph (d)(2), after the text "2016, of" adding the word "the";

■ c. In paragraph (d)(5)(i), removing the word "paragraph" and adding in its place the word "paragraphs";

■ d. In paragraph (e)(1) introductory text, after the words "with regard to" adding the words "the State and";
■ e. In paragraph (e)(1)(ii), removing the words "auction of" and adding in their place the words "auctions of", and removing from the table heading the word "administrator" and adding in its place the words "the Administrator";
■ f. Revising paragraph (f) introductory text;
■ g. In paragraph (f)(1) introductory text, removing the text "control period in 2017 and" and adding in its place the text "State and the control period in 2017 or";
■ h. In paragraph (f)(1)(i), removing the words "for such" and adding in their place the words "for any such";
■ i. In paragraph (f)(1)(ii), removing the words "auction of" and adding in their place the words "auctions of", and removing from the table heading the word "administrator" and adding in its place the words "the Administrator";
■ j. In paragraph (f)(1)(iv), removing the text "paragraphs (f)(2)(ii) and (iii)" and adding in its place the text "paragraphs (f)(1)(ii) and (iii)";
■ k. Revising paragraphs (f)(4) and (5);
■ l. In paragraph (f)(6), removing the text "hold an auction under paragraph (f)(1)(ii) and (iii)" and adding in its place the text "hold an auction under paragraph (f)(1)";
■ m. In paragraph (g) introductory text, after the words "with regard to" adding the words "the State and";
■ n. In paragraph (g)(2), after the text "2016, of" adding the word "the";
■ o. In paragraph (g)(5)(i), removing the word "paragraph" and adding in its place the word "paragraphs";
■ p. In paragraph (h)(1) introductory text, removing the text "control period in 2017 and" and adding in its place the text "State and the control period in 2017 or";
■ q. In paragraph (h)(1)(ii), removing the words "auction of" and adding in their place the words "auctions of", and removing from the table heading the word "administrator" and adding in its place the words "the Administrator";
■ r. In paragraph (h)(2), removing the text "hold an auction under paragraph (h)(1)(ii) and (iii)" and adding in its place the text "hold an auction under paragraph (h)(1)";
■ s. Revising paragraph (i) introductory text;
■ t. In paragraph (i)(1) introductory text, removing the text "control period in 2017 and" and adding in its place the text "State and the control period in 2017 or";
■ u. In paragraph (i)(1)(ii), removing the words "auction of" and adding in their place the words "auctions of", and removing from the table heading the word "administrator" and adding in its place the words "the Administrator";
■ v. Revising paragraphs (i)(4) and (5);
■ w. In paragraph (i)(6), removing the text "hold an auction under paragraphs (i)(1)(ii) and (iii)" and adding in its place the text "hold an auction under paragraph (i)(1)";
■ x. Revising paragraph (j);
■ y. In paragraph (k), removing the words "a State" and adding in their place the words "the State"; and
■ z. Adding paragraphs (l) and (m).

The revisions and additions read as follows:

§ 52.39 What are the requirements of the Federal Implementation Plans (FIPs) for the Cross-State Air Pollution Rule (CSAPR) relating to emissions of sulfur dioxide?

* * * * *

(f) Notwithstanding the provisions of paragraph (a) of this section, a State listed in paragraph (b) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a), (b), (d), and (e) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR SO_2 Group 1 Trading Program set forth in §§ 97.602 through 97.635 of this chapter, except that the SIP revision:

* * * * *

(4) Must not include any of the requirements imposed on any unit in Indian country within the borders of the State in the provisions in §§ 97.602 through 97.635 of this chapter and must not include the provisions in §§ 97.611(b)(2) and (c)(5)(iii), 97.612(b), and 97.621(h) and (j) of this chapter, all of which provisions will continue to apply under any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision;

(5) Provided that, if and when any covered unit is located in Indian country within the borders of the State, the Administrator may modify his or her approval of the SIP revision to exclude the provisions in §§ 97.602 (definitions of "common designated representative", "common designated representative's assurance level", and "common designated representative's share"), 97.606(c)(2), and 97.625 of this chapter and the portions of other provisions of subpart CCCCC of part 97 of this chapter referencing these sections and may modify any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision to include these provisions;

* * * * *

(i) Notwithstanding the provisions of paragraph (a) of this section, a State listed in paragraph (c) of this section may adopt and include in a SIP revision, and the Administrator will approve, as correcting the deficiency in the SIP that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a), (c), (g), and (h) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State), regulations that are substantively identical to the provisions of the CSAPR SO_2 Group 2 Trading Program set forth in §§ 97.702 through 97.735 of this chapter, except that the SIP revision:

* * * * *

(4) Must not include any of the requirements imposed on any unit in Indian country within the borders of the State in the provisions in §§ 97.702 through 97.735 of this chapter and must not include the provisions in §§ 97.711(b)(2) and (c)(5)(iii), 97.712(b), and 97.721(h) and (j) of this chapter, all of which provisions will continue to apply under any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision;

(5) Provided that, if and when any covered unit is located in Indian country within the borders of the State, the Administrator may modify his or her approval of the SIP revision to exclude the provisions in §§ 97.702 (definitions of "common designated representative", "common designated representative's assurance level", and "common designated representative's share"), 97.706(c)(2), and 97.725 of this chapter and the portions of other provisions of subpart DDDDD of part 97 of this chapter referencing these sections and may modify any portion of the CSAPR Federal Implementation Plan that is not replaced by the SIP revision to include these provisions;

* * * * *

(j) Following promulgation of an approval by the Administrator of a State's SIP revision as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a), (b), (d), and (e) of this section or paragraphs (a), (c), (g), and (h) of this section for sources in the State, the provisions of paragraph (b) or (c) of this section, as applicable, will no longer apply to sources in the State, unless the Administrator's approval of the SIP revision is partial or conditional, and will continue to apply to sources in any Indian country within the borders of the State, provided that if the CSAPR

Federal Implementation Plan was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision.

* * * * *

(l) The following States have SIP revisions approved by the Administrator under paragraph (d), (e), or (f) of this section:

(1) For each of the following States, the Administrator has approved a SIP revision under paragraph (d) of this section as replacing the CSAPR SO_2 Group 1 allowance allocation provisions in § 97.611(a) of this chapter with regard to the State and the control period in 2016: [none].

(2) For each of the following States, the Administrator has approved a SIP revision under paragraph (e) of this section as replacing the CSAPR SO_2 Group 1 allowance allocation provisions in §§ 97.611(a) and (b)(1) and 97.612(a) of this chapter with regard to the State and the control period in 2017 or any subsequent year: Missouri.

(3) For each of the following States, the Administrator has approved a SIP revision under paragraph (f) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a), (b), (d), and (e) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): [none].

(m) The following States have SIP revisions approved by the Administrator under paragraph (g), (h), or (i) of this section:

(1) For each of the following States, the Administrator has approved a SIP revision under paragraph (g) of this section as replacing the CSAPR SO_2 Group 2 allowance allocation provisions in § 97.711(a) of this chapter with regard to the State and the control period in 2016: Alabama and Nebraska.

(2) For each of the following States, the Administrator has approved a SIP revision under paragraph (h) of this section as replacing the CSAPR SO_2 Group 2 allowance allocation provisions in §§ 97.711(a) and (b)(1) and 97.712(a) of this chapter with regard to the State and the control period in 2017 or any subsequent year: [none].

(3) For each of the following States, the Administrator has approved a SIP revision under paragraph (i) of this section as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan set forth in paragraphs (a), (c), (g), and (h) of this section with regard to sources in the State (but not sources in any Indian country within the borders of the State): Alabama.

Subpart B—Alabama

■ 6. Section 52.54 is amended by:
■ a. Revising paragraph (a)(1);
■ b. Removing paragraph (a)(3); and
■ c. Revising paragraph (b).

The revisions read as follows:

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

(a)(1) The owner and operator of each source and each unit located in the State of Alabama and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Annual Trading Program in subpart AAAAA of part 97 of this chapter must comply with such requirements. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Alabama's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan under § 52.38(a) for those sources and units, except to the extent the Administrator's approval is partial or conditional. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Alabama's SIP.

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Alabama and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Alabama and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Alabama's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Alabama's SIP.

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Alabama's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

■ 7. Section 52.55 is amended by:
■ a. Revising paragraph (a); and
■ b. Removing paragraph (c).

The revisions read as follows:

§ 52.55 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of sulfur dioxide?

(a) The owner and operator of each source and each unit located in the State of Alabama and Indian country within the borders of the State and for which requirements are set forth under the CSAPR SO_2 Group 2 Trading Program in subpart DDDDD of part 97 of this chapter must comply with such requirements. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a

revision to Alabama's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan under § 52.39 for those sources and units, except to the extent the Administrator's approval is partial or conditional. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Alabama's SIP.

* * * * *

Subpart E—Arkansas

■ 8. Section 52.184 is revised to read as follows:

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

(a) The owner and operator of each source and each unit located in the State of Arkansas and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(c) Notwithstanding the provisions of paragraph (b) of this section, if, at the time of the approval of Arkansas' SIP revision described in paragraph (b) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart K—Florida

■ 9. Section 52.540 is amended by:
■ a. Revising paragraph (a); and
■ b. Removing and reserving paragraph (b).

The revisions read as follows:

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

(a) The owner and operator of each source and each unit located in the State of Florida and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

* * * * *

Subpart L—Georgia

§ 52.584 [Amended]

■ 10. Section 52.584 is amended by:
■ a. In paragraph (b)(1), removing the words "Ozone Season" and adding in their place the text "Ozone Season Group 1"; and
■ b. In paragraph (b)(2), removing the words "Ozone Season" two times and adding in their place the text "Ozone Season Group 1".

Subpart O—Illinois

■ 11. Section 52.731 is amended by revising paragraph (b) to read as follows:

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

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Illinois and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Illinois' SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart P—Indiana

■ 12. Section 52.789 is amended by revising paragraph (b) to read as follows:

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

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Indiana and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State

of Indiana and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements will be eliminated by the promulgation of an approval by the Administrator of a revision to Indiana's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b), except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision.

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Indiana's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart Q—Iowa

■ 13. Section 52.840 is amended by:
■ a. In paragraph (a)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Revising paragraph (b).
The revisions read as follows:

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

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Iowa and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Iowa and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Iowa's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Iowa's SIP.

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Iowa's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.841 [Amended]

■ 14. Section 52.841, paragraph (a) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart R—Kansas

■ 15. Section 52.882 is amended by:
■ a. In paragraph (a)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units";
■ b. Removing paragraph (a)(3); and
■ c. Adding paragraph (b).
The additions read as follows:

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

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Kansas and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Kansas' State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Kansas' SIP.

(2) Notwithstanding the provisions of paragraph (b)(1) of this section, if, at the time of the approval of Kansas' SIP revision described in paragraph (b)(1) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR

NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.883 [Amended]

■ 16. Section 52.883, paragraph (a) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart S—Kentucky

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

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

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Kentucky and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Kentucky's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart T—Louisiana

■ 18. Section 52.984 is amended by revising paragraph (d) to read as follows:

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

* * * * *

(d)(1) The owner and operator of each source and each unit located in the State of Louisiana and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Louisiana and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Louisiana's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Louisiana's SIP.

(3) Notwithstanding the provisions of paragraph (d)(2) of this section, if, at the time of the approval of Louisiana's SIP revision described in paragraph (d)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart V—Maryland

■ 19. Section 52.1084 is amended by revising paragraph (b) to read as follows:

§ 52.1084 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Maryland and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Maryland's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart X—Michigan

■ 20. Section 52.1186 is amended by:
■ a. In paragraph (d)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Revising paragraph (e).
The revisions read as follows:

§ 52.1186 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(e)(1) The owner and operator of each source and each unit located in the State of Michigan and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Michigan and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Michigan's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Michigan's SIP.

(3) Notwithstanding the provisions of paragraph (e)(2) of this section, if, at the time of the approval of Michigan's SIP revision described in paragraph (e)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.1187 [Amended]

■ 21. Section 52.1187 is amended by:
■ a. In paragraph (c)(1), removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units"; and
■ b. In paragraph (c)(2), removing the word "Maryland's" and adding in its place the word "Michigan's".

Subpart Y—Minnesota

§ 52.1240 [Amended]

■ 22. Section 52.1240, paragraph (c)(1) is amended by removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units".

§ 52.1241 [Amended]

■ 23. Section 52.1241, paragraph (c)(1) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart Z—Mississippi

■ 24. Section 52.1284 is revised to read as follows:

§ 52.1284 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

(a) The owner and operator of each source and each unit located in the State of Mississippi and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(b) The owner and operator of each source and each unit located in the State of Mississippi and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Mississippi's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Mississippi's SIP.

(c) Notwithstanding the provisions of paragraph (b) of this section, if, at the time of the approval of Mississippi's SIP revision described in paragraph (b) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such

control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart AA—Missouri

■ 25. Section 52.1326 is amended by:
■ a. Removing paragraph (a)(3); and
■ b. Revising paragraph (b).
The revisions read as follows:

§ 52.1326 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Missouri and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Missouri's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart CC—Nebraska

§ 52.1428 [Amended]

■ 26. Section 52.1428 is amended by:
■ a. In paragraph (a), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Removing paragraph (c).

§ 52.1429 [Amended]

■ 27. Section 52.1429 is amended by:
■ a. In paragraph (a), removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units"; and
■ b. Removing paragraph (c).

Subpart FF—New Jersey

■ 28. Section 52.1584 is amended by revising paragraph (e) to read as follows:

§ 52.1584 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(e)(1) The owner and operator of each source and each unit located in the State of New Jersey and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (e)(2) of this section, if, at the time of the approval of New Jersey's SIP revision described in paragraph (e)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart HH—New York

■ 29. Section 52.1684 is amended by:
■ a. In paragraph (a)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Revising paragraph (b).
The revisions read as follows:

§ 52.1684 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of New York and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to New York's SIP.

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of New York's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.1685 [Amended]

■ 30. Section 52.1685, paragraph (a) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart II—North Carolina

■ 31. Section 52.1784 is amended by:
■ a. In paragraph (a)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units";
■ b. Revising paragraph (b)(1); and
■ c. Removing and reserving paragraph (b)(2).

The revisions read as follows:

§ 52.1784 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of North Carolina and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

* * * * *

§ 52.1785 [Amended]

■ 32. Section 52.1785, paragraph (a) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart KK—Ohio

■ 33. Section 52.1882 is amended by revising paragraph (b) to read as follows:

§ 52.1882 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Ohio and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Ohio's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart LL—Oklahoma

■ 34. Section 52.1930 is revised to read as follows:

§ 52.1930 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

(a) The owner and operator of each source and each unit located in the State of Oklahoma and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(b) The owner and operator of each source and each unit located in the State of Oklahoma and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Oklahoma's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Oklahoma's SIP.

(c) Notwithstanding the provisions of paragraph (b) of this section, if, at the time of the approval of Oklahoma's SIP revision described in paragraph (b) of this section, the Administrator has already started recording any allocations

of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart NN—Pennsylvania

■ 35. Section 52.2040 is amended by revising paragraph (b) to read as follows:

§ 52.2040 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Pennsylvania and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Pennsylvania's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart PP—South Carolina

■ 36. Section 52.2140 is amended by:
■ a. In paragraph (a)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units";
■ b. Revising paragraph (b)(1); and
■ c. Removing and reserving paragraph (b)(2).

The revisions read as follows:

§ 52.2140 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of South Carolina and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

* * * * *

§ 52.2141 [Amended]

■ 37. Section 52.2141, paragraph (a) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart RR—Tennessee

■ 38. Section 52.2240 is amended by:
■ a. In paragraph (d)(1), removing the last sentence; and
■ b. Revising paragraph (e).

The revisions read as follows:

§ 52.2240 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(e)(1) The owner and operator of each source and each unit located in the State of Tennessee and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (e)(2) of this section, if, at the time of the approval of Tennessee's SIP revision described in paragraph (e)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.2241 [Amended]

■ 39. Section 52.2241, paragraph (c)(1) is amended by removing the last sentence.

Subpart SS—Texas

■ 40. Section 52.2283 is amended by:
■ a. In paragraph (c)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Revising paragraph (d).

The revisions read as follows:

§ 52.2283 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(d)(1) The owner and operator of each source and each unit located in the State of Texas and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Texas and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Texas' State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Texas' SIP.

(3) Notwithstanding the provisions of paragraph (d)(2) of this section, if, at the time of the approval of Texas' SIP revision described in paragraph (d)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.2284 [Amended]

■ 41. Section 52.2284, paragraph (c)(1) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

Subpart VV—Virginia

■ 42. Section 52.2440 is amended by revising paragraph (b) to read as follows:

§ 52.2440 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of Virginia and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of Virginia's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart XX—West Virginia

■ 43. Section 52.2540 is amended by revising paragraph (b) to read as follows:

§ 52.2540 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(b)(1) The owner and operator of each source and each unit located in the State of West Virginia and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

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

(3) Notwithstanding the provisions of paragraph (b)(2) of this section, if, at the time of the approval of West Virginia's SIP revision described in paragraph (b)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

Subpart YY—Wisconsin

■ 44. Section 52.2587 is amended by:
■ a. In paragraph (d)(1), removing the words "in part", and after the text "§ 52.38(a)" adding the words "for those sources and units"; and
■ b. Revising paragraph (e).

The revisions read as follows:

§ 52.2587 Interstate pollutant transport provisions; What are the FIP requirements for decreases in emissions of nitrogen oxides?

* * * * *

(e)(1) The owner and operator of each source and each unit located in the State of Wisconsin and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 1 Trading Program in subpart BBBBB of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2015 and 2016.

(2) The owner and operator of each source and each unit located in the State of Wisconsin and Indian country within the borders of the State and for which requirements are set forth under the CSAPR NO_X Ozone Season Group 2 Trading Program in subpart EEEEE of part 97 of this chapter must comply with such requirements with regard to emissions occurring in 2017 and each subsequent year. The obligation to comply with such requirements with regard to sources and units in the State will be eliminated by the promulgation of an approval by the Administrator of a revision to Wisconsin's State Implementation Plan (SIP) as correcting the SIP's deficiency that is the basis for the CSAPR Federal Implementation Plan (FIP) under § 52.38(b) for those sources and units, except to the extent the Administrator's approval is partial or conditional, provided that because the CSAPR FIP was promulgated as a partial rather than full remedy for an obligation of the State to address interstate air pollution, the SIP revision likewise will constitute a partial rather than full remedy for the State's obligation unless provided otherwise in the Administrator's approval of the SIP revision. The obligation to comply with such requirements with regard to sources and units located in Indian country within the borders of the State will not be eliminated by the promulgation of an approval by the Administrator of a revision to Wisconsin's SIP.

(3) Notwithstanding the provisions of paragraph (e)(2) of this section, if, at the time of the approval of Wisconsin's SIP revision described in paragraph (e)(2) of this section, the Administrator has already started recording any allocations of CSAPR NO_X Ozone Season Group 2 allowances under subpart EEEEE of part 97 of this chapter to units in the State for a control period in any year, the provisions of subpart EEEEE of part 97 of this chapter authorizing the Administrator to complete the allocation and recordation of CSAPR NO_X Ozone Season Group 2 allowances to units in the State for each such control period shall continue to apply, unless provided otherwise by such approval of the State's SIP revision.

§ 52.2588 [Amended]

■ 45. Section 52.2588, paragraph (c)(1) is amended by removing the words "in part", and after the text "§ 52.39" adding the words "for those sources and units".

PART 78—APPEAL PROCEDURES

■ 46. The authority citation for part 78 continues to read as follows:

Authority: 42 U.S.C. 7401, 7403, 7410, 7411, 7426, 7601, and 7651, *et seq.*

■ 47. Section 78.1 is amended by:
■ a. Removing the text "TR" wherever it appears and adding in its place the text "CSAPR";
■ b. Revising paragraphs (a)(1) and (b)(2)(iv) and (v);
■ c. In paragraph (b)(3)(iii), after the semicolon adding the word "and";
■ d. In paragraph (b)(3)(iv), removing the semicolon and adding in its place a period;
■ e. Revising paragraph (b)(6) introductory text;
■ f. In paragraph (b)(9)(iv), after the text "§ 96.361" adding the words "of this chapter";
■ g. In paragraph (b)(12)(iv), after the text "§ 97.361" adding the words "of this chapter";
■ h. In paragraph (b)(13)(i), after the words "decision on" adding the word "the";
■ i. Revising paragraph (b)(14)(i);
■ j. In paragraphs (b)(14)(ii), (iii) and (v), after the words "Ozone Season" adding the text "Group 1";
■ k. Adding paragraph (b)(14)(viii);
■ l. In paragraphs (b)(15)(i) and (b)(16)(i), after the words "decision on" adding the word "the";
■ m. In paragraphs (b)(16)(ii), (iii), and (v), removing the text "Group 1" and adding in its place the text "Group 2"; and
■ n. Redesignating paragraph (b)(17) as paragraph (b)(18) and adding a new paragraph (b)(17).

The revisions and additions read as follows:

§ 78.1 Purpose and scope.

(a)(1)(i) This part shall govern appeals of any final decision of the Administrator under:

(A) Part 72, 73, 74, 75, 76, or 77 of this chapter.

(B) Subparts A through J of part 97 of this chapter.

(C) Subparts AA through II, AAA through III, or AAAA through IIII of part 96 of this chapter or State regulations approved under § 51.123(o)(1) or (2) or (aa)(1) or (2) of this chapter or § 51.124(o)(1) or (2) of this chapter.

(D) Subparts AA through II, AAA through III, or AAAA through IIII of part 97 of this chapter.

(E) Subpart AAAAA, BBBBB, CCCCC, DDDDD, or EEEEE of part 97 of this chapter or State regulations approved under § 52.38(a)(4) or (5) or (b)(4), (5), (6), (8), or (9) of this chapter or § 52.39(e), (f), (h), or (i) of this chapter.

(F) Subpart RR of part 98 of this chapter.

(ii) Notwithstanding paragraph (a)(1)(i) of this section, matters listed in § 78.3(d) and preliminary, procedural, or intermediate decisions, such as draft Acid Rain permits, may not be appealed.

(iii) All references in paragraph (b) of this section and in § 78.3 to subparts AA through II of part 96 of this chapter, subparts AAA through III of part 96 of this chapter, and subparts AAAA through IIII of part 96 of this chapter shall be read to include the comparable provisions in State regulations approved under § 51.123(o)(1) or (2) of this chapter, § 51.124(o)(1) or (2) of this chapter, and § 51.123(aa)(1) or (2) of this chapter, respectively.

(iv) All references in paragraph (b) of this section and in § 78.3 to subpart AAAAA of part 97 of this chapter, subpart BBBBB of part 97 of this chapter, subpart CCCCC of part 97 of this chapter, subpart DDDDD of part 97 of this chapter, and subpart EEEEE of part 97 of this chapter shall be read to include the comparable provisions in State regulations approved under § 52.38(a)(4) or (5) of this chapter, § 52.38(b)(4) or (5) of this chapter, § 52.39(e) or (f) of this chapter, § 52.39(h) or (i) of this chapter, and § 52.38(b)(6), (8), or (9) of this chapter, respectively.

* * * * *

(b) * * *

(2) * * *

(iv) The decision on the allocation of allowances under subpart F of part 73 of this chapter;

(v) The decision on the sale or return of allowances and transfer of proceeds

under subpart E of part 73 of this chapter; and

* * * * *

(6) Under subparts A through J of part 97 of this chapter,

* * * * *

(14) * * *

(i) The decision on the allocation of CSAPR NO_X Ozone Season Group 1 allowances under § 97.511(a)(2) and (b) of this chapter.

* * * * *

(viii) The decision on the removal of CSAPR NO_X Ozone Season Group 1 allowances from an Allowance Management System account and the allocation to such account or another account of CSAPR NO_X Ozone Season Group 2 allowances under § 97.526(c) of this chapter.

* * * * *

(17) Under subpart EEEEE of part 97 of this chapter,

(i) The decision on the allocation of CSAPR NO_X Ozone Season Group 2 allowances under § 97.811(a)(2) and (b) of this chapter.

(ii) The decision on the transfer of CSAPR NO_X Ozone Season Group 2 allowances under § 97.823 of this chapter.

(iii) The decision on the deduction of CSAPR NO_X Ozone Season Group 2 allowances under §§ 97.824 and 97.825 of this chapter.

(iv) The correction of an error in an Allowance Management System account under § 97.827 of this chapter.

(v) The adjustment of information in a submission and the decision on the deduction and transfer of CSAPR NO_X Ozone Season Group 2 allowances based on the information as adjusted under § 97.828 of this chapter.

(vi) The finalization of control period emissions data, including retroactive adjustment based on audit.

(vii) The approval or disapproval of a petition under § 97.835 of this chapter.

* * * * *

■ 48. Section 78.3 is amended by:

■ a. In paragraph (a)(1) introductory text, removing the words "of this part";

■ b. Revising paragraph (a)(3) introductory text;

■ c. In paragraph (a)(8) introductory text and paragraph (a)(9) introductory text, after the text "part 97" adding the words "of this chapter";

■ d. Revising paragraph (a)(10) introductory text and paragraph (a)(11) introductory text;

■ e. In paragraph (b)(1), removing the words "of this part" two times; and

■ f. Revising paragraphs (b)(3)(i), (c)(7), and (d).

The revisions read as follows:

§ 78.3 Petition for administrative review and request for evidentiary hearing.

(a) * * *

(3) The following persons may petition for administrative review of a decision of the Administrator that is made under subparts A through J of part 97 of this chapter and that is appealable under § 78.1(a):

* * * * *

(10) The following persons may petition for administrative review of a decision of the Administrator that is made under subpart AAAAA, BBBBB, CCCCC, DDDDD, or EEEEE of part 97 of this chapter and that is appealable under § 78.1(a):

* * * * *

(11) The following persons may petition for administrative review of a decision of the Administrator that is made under subpart RR of part 98 of this chapter and that is appealable under § 78.1(a):

* * * * *

(b) * * *

(3) * * *

(i) Serve a copy of the petition on the Administrator and the following person (unless such person is the petitioner):

(A) The designated representative or authorized account representative, for a petition under paragraph (a)(1), (2), (10), or (11) of this section.

(B) The NO_X authorized account representative, for a petition under paragraph (a)(3) of this section.

(C) The CAIR designated representative or CAIR authorized account representative, for a petition under paragraph (a)(4), (5), (6), (7), (8), or (9) of this section.

* * * * *

(c) * * *

(7) Any revised or alternative action of the Administrator sought by the petitioner as necessary to implement the requirements, purposes, or policies of, as appropriate:

(i) Title IV of the Act.

(ii) Subparts A through J of part 97 of this chapter.

(iii) Subparts AA through II, AAA through III, or AAAA through IIII of part 96 of this chapter.

(iv) Subparts AA through II, AAA through III, or AAAA through IIII of part 97 of this chapter.

(v) Subpart AAAAA, BBBBB, CCCCC, DDDDD, or EEEEE of part 97 of this chapter.

(d) In no event shall a petition for administrative review be filed, or review be available under this part, with regard to:

(1) Actions of the Administrator under sections 112(r), 113, 114, 120, 301, and 303 of the Act.

(2) The reliance by the Administrator on:

(i) A certificate of representation submitted by a designated representative or an application for a general account submitted by an authorized account representative under the Acid Rain Program or subpart AAAAA, BBBBB, CCCCC, DDDDD, or EEEEE of part 97 of this chapter.

(ii) An account certificate of representation or an application for a general account submitted by a NO_X authorized account representative under the NO_X Budget Trading Program.

(iii) A certificate of representation submitted by a CAIR designated representative or an application for a general account submitted by a CAIR authorized account representative under subparts AA through II, AAA through III, or AAAA through IIII of part 96 of this chapter or subparts AA through II, AAA through III, or AAAA through IIII of part 97 of this chapter.

(3) Any provision or requirement of part 72, 73, 74, 75, 76, or 77 of this chapter, including the standard requirements under § 72.9 of this chapter and any emission monitoring or reporting requirements.

(4) Any provision or requirement of subparts A through J of part 97 of this chapter, including the standard requirements under § 97.6 of this chapter and any emission monitoring or reporting requirements.

(5) Any provision or requirement of subparts AA through II, AAA through III, or AAAA through IIII of part 96 of this chapter, including the standard requirements under § 96.106, § 96.206, or § 96.306 of this chapter, respectively, and any emission monitoring or reporting requirements.

(6) Any provision or requirement of subparts AA through II, AAA through III, or AAAA through IIII of part 97 of this chapter, including the standard requirements under § 97.106, § 97.206, or § 97.306 of this chapter, respectively, and any emission monitoring or reporting requirements.

(7) Any provision or requirement of subpart AAAAA, BBBBB, CCCCC, DDDDD, or EEEEE of part 97 of this chapter, including the standard requirements under § 97.406, § 97.506, § 97.606, § 97.706, or § 97.806 of this chapter, respectively, and any emission monitoring or reporting requirements.

(8) Any provision or requirement of subpart RR of part 98 of this chapter.

■ 49. Section 78.4 is amended by:

■ a. Revising paragraph (a)(1)(i);

■ b. In paragraph (a)(1)(ii), removing the word "filing" and adding in its place the word "filings";

■ c. Revising paragraph (a)(1)(iii); and
■ d. In paragraphs (d), (e)(1), and (g), removing the words "of this part".

The revisions read as follows:

§ 78.4 Filings.

(a)(1) * * *

(i) Any filings on behalf of owners and operators of an affected unit or affected source, CSAPR NO_X Annual unit or CSAPR NO_X Annual source, CSAPR NO_X Ozone Season Group 1 unit or CSAPR NO_X Ozone Season Group 1 source, CSAPR NO_X Ozone Season Group 2 unit or CSAPR NO_X Ozone Season Group 2 source, CSAPR SO_2 Group 1 unit or CSAPR SO_2 Group 1 source, or CSAPR SO_2 Group 2 unit or CSAPR SO_2 Group 2 source shall be signed by the designated representative. Any filings on behalf of persons with an ownership interest with respect to allowances, CSAPR NO_X Annual allowances, CSAPR NO_X Ozone Season Group 1 allowances, CSAPR NO_X Ozone Season Group 2 allowances, CSAPR SO_2 Group 1 allowances, or CSAPR SO_2 Group 2 allowances in a general account shall be signed by the authorized account representative.

* * * * *

(iii) Any filings on behalf of owners and operators of a CAIR NO_X unit or CAIR NO_X source, CAIR SO_2 unit or CAIR SO_2 source, or CAIR NO_X Ozone Season unit or CAIR NO_X Ozone Season source shall be signed by the CAIR designated representative. Any filings on behalf of persons with an ownership interest with respect to CAIR NO_X allowances, CAIR SO_2 allowances, or CAIR NO_X Ozone Season allowances in a general account shall be signed by the CAIR authorized account representative.

* * * * *

PART 97—FEDERAL NO_X BUDGET TRADING PROGRAM, CAIR NO_X AND SO_2 TRADING PROGRAMS, AND CSAPR NO_X AND SO_2 TRADING PROGRAMS

■ 50. The authority citation for part 97 continues to read as follows:

Authority: 42 U.S.C. 7401, 7403, 7410, 7426, 7601, and 7651, *et seq.*

■ 51. The heading of part 97 is revised to read as set forth above.

Subpart E—NO_X Allowance Allocations

§ 97.40 [Amended]

■ 52. Section 97.40 is amended by removing the text "appendix C of this part" and adding in its place the text "appendix C to this subpart".

§ 97.41 [Amended]

■ 53. Section 97.41, paragraph (a) is amended by removing the text "appendices A and B of this part" and adding in its place the text "appendices A and B to this subpart".

§ 97.43 [Amended]

■ 54. Section 97.43 is amended by:
■ a. In paragraph (c)(3), removing the text "appendix D of this part" and adding in its place the text "appendix D to this subpart"; and
■ b. In paragraph (c)(4), removing the text "appendix D of this part" two times and adding in its place the text "appendix D to this subpart".

Subpart AAAAA—CSAPR NO_X Annual Trading Program

■ 55. The heading of subpart AAAAA of part 97 is revised to read as set forth above.

§ 97.401 [Amended]

■ 56. Section 97.401 is amended by removing the text "Transport Rule (TR) NO_X Annual Trading Program" and adding in its place the text "Cross-State Air Pollution Rule (CSAPR) NO_X Annual Trading Program".

§§ 97.402 through 97.435 [Amended]

■ 57. Sections 97.402 through 97.435 are amended by removing the text "TR" wherever it appears and adding in its place the text "CSAPR".

■ 58. Section 97.402 is amended by:
■ a. Revising the introductory text and the definitions "Allowable NO_X emission rate" and "Allowance Management System";
■ b. In the definition "Allowance Management System account", removing the word "holding" and adding in its place the text "auction, holding";
■ c. Revising the definition "Alternate designated representative";
■ d. Adding in alphabetical order the definition "Auction";
■ e. In the definition "Cogeneration system", removing the words "steam turbine";
■ f. In the definition "Commence commercial operation", paragraph (2) introductory text, after the words "defined in" adding the word "the";
■ g. In the definition "Common designated representative's share", paragraph (2), removing the words "and of the total" and adding in their place the words "and the total";
■ h. Placing the newly amended definitions "CSAPR NO_X Annual allowance", "CSAPR NO_X Annual allowance deduction or deduct CSAPR NO_X Annual allowances", "CSAPR NO_X Annual allowances held or hold CSAPR NO_4 Annual allowances", "CSAPR NO_X Annual emissions limitation", "CSAPR NO_X Annual source", "CSAPR NO_X Annual Trading Program", "CSAPR NO_X Annual unit", "CSAPR NO_X Ozone Season Trading Program", "CSAPR SO_2 Group 1 Trading Program", and "CSAPR SO_2 Group 2 Trading Program" in alphabetical order in the section;
■ i. In the newly amended definition heading "CSAPR NO_X Annual allowances held or hold CSAPR NO_4 Annual allowances", removing the text "NO_4" and adding in its place the text "NO_X";
■ j. Removing the newly amended definition "CSAPR NO_X Ozone Season Trading Program";
■ k. Adding in alphabetical order the definitions "CSAPR NO_X Ozone Season Group 1 Trading Program" and "CSAPR NO_X Ozone Season Group 2 Trading Program";
■ l. Revising the newly amended definitions "CSAPR SO_2 Group 1 Trading Program" and "CSAPR SO_2 Group 2 Trading Program" and the definition "Designated representative";
■ m. In the definition "Fossil fuel", paragraph (2), removing the text "§§ " and adding in its place the text "§ ";
■ n. Removing the definition "Gross electrical output";
■ o. Revising the definitions "Heat input", "Heat input rate", and "Heat rate";
■ p. In the definition heading "Maximum design heat input", after the words "heat input" adding the word "rate";
■ q. Italicizing the words "Annual unit" in the newly amended definition heading "Newly affected CSAPR NO_X Annual unit";
■ r. Revising the definition "Potential electrical output capacity"; and
■ s. In the definition "Sequential use of energy", paragraph (2), after the word "from" adding the word "a".

The revisions and additions read as follows:

§ 97.402 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows, provided that any term that includes the acronym "CSAPR" shall be considered synonymous with a term that is used in a SIP revision approved by the Administrator under § 52.38 or § 52.39 of this chapter and that is substantively identical except for the inclusion of the acronym "TR" in place of the acronym "CSAPR":

* * * * *

Allowable NO_X emission rate means, for a unit, the most stringent State or

federal NO_X emission rate limit (in lb/MWh or, if in lb/mmBtu, converted to lb/MWh by multiplying it by the unit's heat rate in mmBtu/MWh) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, auctions, transfers, and deductions of CSAPR NO_X Annual allowances under the CSAPR NO_X Annual Trading Program. Such allowances are allocated, auctioned, recorded, held, transferred, or deducted only as whole allowances.

* * * * *

Alternate designated representative means, for a CSAPR NO_X Annual source and each CSAPR NO_X Annual unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the CSAPR NO_X Annual Trading Program. If the CSAPR NO_X Annual source is also subject to the Acid Rain Program, CSAPR NO_X Ozone Season Group 1 Trading Program, CSAPR NO_X Ozone Season Group 2 Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative as defined in the respective program.

* * * * *

Auction means, with regard to CSAPR NO_X Annual allowances, the sale to any person by a State or permitting authority, in accordance with a SIP revision submitted by the State and approved by the Administrator under § 52.38(a)(4) or (5) of this chapter, of such CSAPR NO_X Annual allowances to be initially recorded in an Allowance Management System account.

* * * * *

CSAPR NO_X Ozone Season Group 1 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR NO_X Ozone Season Group 2 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart EEEEE of this part and § 52.38(b)(1), (b)(2)(i) and (iii), (b)(6) through (11), and (b)(13) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(7) or (8) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(6) or (9) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart CCCCC of this part and § 52.39(a), (b), (d) through (f), and (j) through (l) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

CSAPR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart DDDDD of this part and § 52.39(a), (c), (g) through (k), and (m) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

Designated representative means, for a CSAPR NO_X Annual source and each CSAPR NO_X Annual unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the CSAPR NO_X Annual Trading Program. If the CSAPR NO_X Annual source is also subject to the Acid Rain Program, CSAPR NO_X Ozone Season Group 1 Trading Program, CSAPR NO_X Ozone Season Group 2 Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative as defined in the respective program.

* * * * *

Heat input means, for a unit for a specified period of unit operating time, the product (in mmBtu) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time) and unit operating time, as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the quotient (in mmBtu/hr) of the amount of heat input for a specified period of unit operating time (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the quotient (in mmBtu/unit of load) of the unit's maximum design heat input rate (in Btu/hr) divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

* * * * *

Potential electrical output capacity means, for a unit (in MWh/yr), 33 percent of the unit's maximum design heat input rate (in Btu/hr), divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

* * * * *

§ 97.403 [Amended]

■ 59. Section 97.403 is amended by:
■ a. Adding in alphabetical order the list entry "CSAPR—Cross-State Air Pollution Rule";
■ b. Removing the list entry "kW—kilowatt electrical";
■ c. Removing the list entry "kWh—kilowatt hour" and adding in its place the entry "kWh—kilowatt-hour";
■ d. Removing the list entry "MWh—megawatt hour" and adding in its place the entry "MWh—megawatt-hour"; and
■ e. Adding in alphabetical order the list entries "SIP—State implementation plan" and "TR—Transport Rule".

§ 97.404 [Amended]

■ 60. Section 97.404 is amended by:
■ a. In paragraph (b)(1)(i)(B), removing the word "electric" and adding in its place the word "electrical";
■ b. In paragraph (b)(2)(ii), removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(2)(i)"; and
■ c. Italicizing the headings of paragraphs (c)(1) and (2).

§ 97.405 [Amended]

■ 61. Section 97.405, paragraph (b) is amended by italicizing the heading.

§ 97.406 [Amended]

■ 62. Section 97.406 is amended by:
■ a. Italicizing the headings of paragraphs (c)(1) and (2) and (c)(4) through (7);
■ b. In paragraph (c)(2)(ii), after the words "immediately after" adding the words "the year of";
■ c. In paragraph (c)(4) heading, after the words "Vintage of" adding the text "CSAPR NO_X Annual"; and
■ d. In paragraphs (c)(4)(i) and (ii), after the word "allocated" adding the words "or auctioned".

■ 63. Section 97.410 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a) introductory text, removing the text "unit-set asides" and adding in its place the text "unit set-asides";
■ c. In paragraphs (a)(1) through (23):
■ i. Removing the words "annual trading" wherever they appear and adding in their place the words "Annual trading";
■ ii. Removing the text "NO_X annual new" wherever it appears and adding in its place the word "new"; and
■ iii. Removing the text "NO_X annual Indian" wherever it appears and adding in its place the word "Indian";
■ d. Adding and reserving paragraphs (a)(11)(vi) and (a)(16)(vi);
■ e. In paragraphs (b)(1) through (23), removing the text "NO_X annual"; and
■ f. Revising paragraph (c).

The revisions read as follows:

§ 97.410 State NO_X Annual trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.

* * * * *

(c) Each State NO_X Annual trading budget in this section includes any tons in a new unit set-aside or Indian country new unit set-aside but does not include any tons in a variability limit.

■ 64. Section 97.411 is amended by:
■ a. Revising the section heading;
■ b. Italicizing the headings of paragraphs (b)(1) and (2);
■ c. In paragraph (b)(1)(iii), after the text "November 30 of" adding the word "the";
■ d. In paragraph (b)(1)(iv)(B), removing the words "the each" and adding in their place the word "each";
■ e. In paragraph (b)(2)(iii), after the text "November 30 of" adding the word "the";
■ f. In paragraph (b)(2)(iv)(B), removing the words "the each" and adding in their place the word "each";
■ g. In paragraph (c)(1)(ii), removing the text "§ 52.38(a)(3), (4), or (5)" and adding in its place the text "§ 52.38(a)(4) or (5)";
■ h. In paragraph (c)(5)(i)(B), after the text "§ 52.38(a)(4) or (5)" adding the words "of this chapter";
■ i. In paragraph (c)(5)(ii) introductory text, removing the words "this paragraph" and adding in their place the words "this section";
■ j. In paragraph (c)(5)(ii)(B), after the text "§ 52.38(a)(4) or (5)" adding the words "of this chapter"; and
■ k. In paragraph (c)(5)(iii), removing the words "this paragraph" and adding in their place the words "this section".

The revision reads as follows:

§ 97.411 Timing requirements for CSAPR NO_X Annual allowance allocations.

* * * * *

■ 65. Section 97.412 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(2), removing the text "§§ " and adding in its place the text "§ ";
■ c. In paragraph (a)(4)(i), removing the text "paragraph (a)(1)(i) through (iii)" and adding in its place the text "paragraphs (a)(1)(i) through (iii)";
■ d. In paragraph (a)(4)(ii), after the text "paragraph (a)(4)(i)" adding the words "of this section";
■ e. In paragraph (a)(9)(i), after the text "November 30 of" adding the word "the";
■ f. In paragraph (b)(4)(ii), after the text "paragraph (b)(4)(i)" adding the words "of this section";
■ g. In paragraph (b)(9)(i), after the text "November 30 of" adding the word "the"; and
■ h. In paragraph (b)(10)(ii), after the text "§ 52.38(a)(4) or (5)" adding the words "of this chapter".

The revision reads as follows:

§ 97.412 CSAPR NO_X Annual allowance allocations to new units.

* * * * *

■ 66. Section 97.416 is amended by:
■ a. In paragraph (a)(1), removing the word "Country" and adding in its place the word "country"; and
■ b. Adding paragraph (c).

The addition reads as follows:

§ 97.416 Certificate of representation.

* * * * *

(c) A certificate of representation under this section that complies with the provisions of paragraph (a) of this section except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification statements will be considered a complete certificate of representation under this section, and the certification statements included in such certificate of representation will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

■ 67. Section 97.420 is amended by:
■ a. Italicizing the headings of paragraphs (c)(1) through (6);
■ b. Adding paragraph (c)(1)(iv);
■ c. In paragraph (c)(2)(i) introductory text, removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";
■ d. Adding paragraph (c)(2)(iv):
■ e. In paragraph (c)(4)(i), removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";
■ f. In paragraph (c)(5)(iii)(D), removing the words "authorized representative" and adding in their place the words "authorized account representative"; and
■ g. In paragraph (c)(5)(v), removing the word "designated" two times and adding in its place the words "authorized account".

The additions read as follows:

§ 97.420 Establishment of compliance accounts, assurance accounts, and general accounts.

* * * * *

(c) * * *

(1) * * *

(iv) An application for a general account under paragraph (c)(1) of this section that complies with the provisions of such paragraph except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification statement will be considered a complete application for a general account under such paragraph, and the certification statement included in such application for a general account will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

(2) * * *

(iv) A certification statement submitted in accordance with paragraph (c)(2)(ii) of this section that contains the acronym "TR" will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

* * * * *

■ 68. Section 97.421 is amended by:
■ a. Revising the section heading;
■ b. In paragraphs (c), (d), and (e), removing the word "period" and adding in its place the word "periods";
■ c. In paragraph (i), after the text "through (12)" removing the comma;
■ d. Revising paragraph (j); and
■ e. Redesignating paragraph (k) as paragraph (l) and adding a new paragraph (k).

The revisions and additions read as follows:

§ 97.421 Recordation of CSAPR NO_X Annual allowance allocations and auction results.

* * * * *

(j) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each CSAPR NO_X Annual source's compliance account the CSAPR NO_X Annual allowances allocated to the CSAPR NO_X Annual units at the source in accordance with § 97.412(b)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(k) By the date 15 days after the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (j) of this section, of CSAPR NO_X Annual allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.411 or § 97.412 or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

* * * * *

■ 69. Section 97.422 is amended by revising the section heading to read as follows:

§ 97.422 Submission of CSAPR NO_X Annual allowance transfers.

* * * * *

■ 70. Section 97.423 is amended by:
■ a. Revising the section heading; and
■ b. In paragraph (b), after the word "allocated" adding the words "or auctioned".

The revision reads as follows:

§ 97.423 Recordation of CSAPR NO_X Annual allowance transfers.

* * * * *

■ 71. Section 97.424 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. Revising paragraphs (c)(2)(i) and (ii); and
■ d. In paragraph (d), after the word "allocated" adding the words "or auctioned".

The revisions read as follows:

§ 97.424 Compliance with CSAPR NO_X Annual emissions limitation.

* * * * *

(c) * * *

(2) * * *

(i) Any CSAPR NO_X Annual allowances that were recorded in the compliance account pursuant to § 97.421 and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any other CSAPR NO_X Annual allowances that were transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

* * * * *

■ 72. Section 97.425 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. In paragraph (b)(2)(iii) introductory text, removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(1)(ii)";
■ d. In paragraph (b)(2)(iii)(B), after the words "availability of" adding the words "the calculations incorporating";
■ e. In paragraph (b)(4)(i), after the words "established for" removing the word "the"; and
■ f. In paragraph (b)(6)(iii)(B), after the word "appropriate" removing the word "at".

The revision reads as follows:

§ 97.425 Compliance with CSAPR NO_X Annual assurance provisions.

* * * * *

§ 97.426 [Amended]

■ 73. Section 97.426, paragraph (b) is amended by removing the text "97.427, or 97.428" and adding in its place the text "§ 97.427, or § 97.428".

§ 97.428 [Amended]

■ 74. Section 97.428, paragraph (b) is amended by removing the text "paragraph (a)(1)" and adding in its place the text "paragraph (a)".

■ 75. Section 97.430 is amended by:
■ a. Revising paragraph (b) introductory text and paragraphs (b)(1) and (2);
■ b. In paragraph (b)(3) introductory text, removing the text "§§ 75.4(e)(1) through (e)(4)" and adding in its place the text "§ 75.4(e)(1) through (4)"; and
■ c. In paragraph (b)(3)(iii), after the text "§ 75.66" adding the words "of this chapter".

The revisions read as follows:

§ 97.430 General monitoring, recordkeeping, and reporting requirements.

* * * * *

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator of a CSAPR NO_X Annual unit shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the later of the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the later of the following dates:

(1) January 1, 2015; or

(2) 180 calendar days after the date on which the unit commences commercial operation.

* * * * *

§ 97.431 [Amended]

■ 76. Section 97.431 is amended by:
■ a. Italicizing the headings of paragraphs (d)(1) through (3), (d)(3)(i) through (iv), (d)(3)(iv)(A) through (D), and (d)(3)(v); and
■ b. In paragraph (d)(3) introductory text, removing the text "§§ " and adding in its place the text "§ ".

■ 77. Section 97.434 is amended by:
■ a. In paragraph (b), after the words "comply with" adding the word "the"; and
■ b. Revising paragraphs (d)(1) and (3).

The revisions read as follows:

§ 97.434 Recordkeeping and reporting.

* * * * *

(d) * * *

(1) The designated representative shall report the NO_X mass emissions data and heat input data for a CSAPR NO_X Annual unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with the later of:

(i) The calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) The calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.430(b).

* * * * *

(3) For CSAPR NO_X Annual units that are also subject to the Acid Rain Program, CSAPR NO_X Ozone Season Group 1 Trading Program, CSAPR NO_X Ozone Season Group 2 Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

* * * * *

§ 97.435 [Amended]

■ 78. Section 97.435 is amended by redesignating paragraphs (b)(i) through (v) as paragraphs (b)(1) through (5).

Subpart BBBBB—CSAPR NO_X Ozone Season Group 1 Trading Program

■ 79. The heading of subpart BBBBB of part 97 is revised to read as set forth above.

§ 97.501 [Amended]

■ 80. Section 97.501 is amended by removing the text "Transport Rule (TR) NO_X Ozone Season Trading Program" and adding in its place the text "Cross-State Air Pollution Rule (CSAPR) NO_X Ozone Season Group 1 Trading Program".

§§ 97.502 through 97.508 and 97.511 through 97.535 [Amended]

■ 81. Sections 97.502 through 97.508 and 97.511 through 97.535 are amended by:

■ a. Removing the text "TR" wherever it appears and adding in its place the text "CSAPR"; and

■ b. After the words "Ozone Season" wherever they appear adding the text "Group 1".

■ 82. Section 97.502 is amended by:

■ a. Revising the introductory text and the definitions "Allowable NO_X emission rate" and "Allowance Management System";

■ b. In the definition "Allowance Management System account", removing the word "holding" and adding in its place the text "auction, holding";

■ c. Revising the definition "Allowance transfer deadline";

■ d. In the definition "Alternate designated representative", after the words "the alternate designated representative" removing the comma;

■ e. Adding in alphabetical order the definition "Auction";

■ f. In the definition "Cogeneration system", removing the words "steam turbine";

■ g. In the definition "Commence commercial operation", paragraph (2) introductory text, after the words "defined in" adding the word "the";

■ h. In the definition "Common designated representative's share", paragraph (2), removing the words "and of the total" and adding in their place the words "and the total";

■ i. Placing the newly amended definitions "CSAPR NO_X Annual Trading Program", "CSAPR NO_X Ozone Season allowance", "CSAPR NO_X Ozone Season allowance deduction or deduct CSAPR NO_X Ozone Season allowances", "CSAPR NO_X Ozone Season allowances held or hold CSAPR NO_X Ozone Season allowances", "CSAPR NO_X Ozone Season emissions limitation", "CSAPR NO_X Ozone Season source", "CSAPR NO_X Ozone Season Trading Program", "CSAPR NO_X Ozone Season unit", "CSAPR SO_2 Group 1 Trading Program", and "CSAPR SO_2 Group 2 Trading Program" in alphabetical order in the section;

■ j. Revising the newly amended definition "CSAPR NO_X Ozone Season Group 1 Trading Program";

■ k. Adding in alphabetical order the definitions "CSAPR NO_X Ozone Season Group 2 allowance" and "CSAPR NO_X Ozone Season Group 2 Trading Program";

■ l. Revising the newly amended definitions "CSAPR SO_2 Group 1 Trading Program" and "CSAPR SO_2 Group 2 Trading Program";

■ m. In the definition "Designated representative", after the words "the designated representative" removing the comma;

■ n. In the definition "Fossil fuel", paragraph (2), removing the text "§§ " and adding in its place the text "§ ";

■ o. Removing the definition "Gross electrical output";

■ p. Revising the definitions "Heat input", "Heat input rate", and "Heat rate";

■ q. In the definition heading "Maximum design heat input", after the words "heat input" adding the word "rate";

■ r. Revising the definition "Potential electrical output capacity";

■ s. In the definition "Sequential use of energy", paragraph (2), after the word "from" adding the word "a"; and

■ t. Revising the definition "State".

The revisions and additions read as follows:

§ 97.502 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows, provided that any term that includes the acronym "CSAPR" shall be considered synonymous with a term that is used in a SIP revision approved by the Administrator under § 52.38 or § 52.39 of this chapter and that is substantively identical except for the inclusion of the acronym "TR" in place of the acronym "CSAPR":

* * * * *

Allowable NO_X emission rate means, for a unit, the most stringent State or federal NO_X emission rate limit (in lb/MWh or, if in lb/mmBtu, converted to lb/MWh by multiplying it by the unit's heat rate in mmBtu/MWh) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, auctions, transfers, and deductions of CSAPR NO_X Ozone Season Group 1 allowances under the CSAPR NO_X Ozone Season Group 1 Trading Program. Such allowances are allocated, auctioned, recorded, held, transferred, or deducted only as whole allowances.

* * * * *

Allowance transfer deadline means, for a control period in 2015 or 2016, midnight of December 1, 2015 or December 1, 2016, respectively, or for a control period in any other given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a CSAPR NO_X Ozone Season Group 1 allowance transfer must be submitted for recordation in a CSAPR NO_X Ozone Season Group 1 source's compliance account in order to be available for use in complying with the source's CSAPR NO_X Ozone Season Group 1 emissions limitation for such control period in accordance with §§ 97.506 and 97.524.

* * * * *

Auction means, with regard to CSAPR NO_X Ozone Season Group 1 allowances, the sale to any person by a State or permitting authority, in accordance with a SIP revision submitted by the State and approved by the Administrator under § 52.38(b)(4) or (5) of this chapter, of such CSAPR NO_X Ozone Season Group 1 allowances to be initially recorded in an Allowance Management System account.

* * * * *

CSAPR NO_X Ozone Season Group 1 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with this subpart and § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

* * * * *

CSAPR NO_X Ozone Season Group 2 allowance means a limited authorization issued and allocated or auctioned by the Administrator under subpart EEEEE of this part or § 97.526(c), or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.38(b)(6), (7), (8), or (9) of this chapter, to emit one ton of NO_X during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the CSAPR NO_X Ozone Season Group 2 Trading Program.

CSAPR NO_X Ozone Season Group 2 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart EEEEE of this part and § 52.38(b)(1), (b)(2)(i) and (iii), (b)(6) through (11), and (b)(13) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(7) or (8) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(6) or (9) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart CCCCC of this part and § 52.39(a), (b), (d) through (f), and (j) through (l) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

CSAPR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart DDDDD of this part and § 52.39(a), (c), (g) through (k), and (m) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

* * * * *

Heat input means, for a unit for a specified period of unit operating time, the product (in mmBtu) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time) and unit operating time, as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the quotient (in mmBtu/hr) of the amount of heat input for a specified period of unit operating time (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the quotient (in mmBtu/unit of load) of the unit's maximum design heat input rate (in Btu/hr) divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

* * * * *

Potential electrical output capacity means, for a unit (in MWh/yr), 33 percent of the unit's maximum design heat input rate (in Btu/hr), divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

* * * * *

State means one of the States that is subject to the CSAPR NO_X Ozone Season Group 1 Trading Program pursuant to § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter.

* * * * *

§ 97.503 [Amended]

■ 83. Section 97.503 is amended by:
■ a. Adding in alphabetical order the list entry "CSAPR—Cross-State Air Pollution Rule";
■ b. Removing the list entry "kW—kilowatt electrical";
■ c. Removing the list entry "kWh—kilowatt hour" and adding in its place the entry "kWh—kilowatt-hour";
■ d. Removing the list entry "MWh—megawatt hour" and adding in its place the entry "MWh—megawatt-hour"; and
■ e. Adding in alphabetical order the list entries "SIP—State implementation plan" and "TR—Transport Rule".

§ 97.504 [Amended]

■ 84. Section 97.504 is amended by:
■ a. In paragraph (b)(1)(i)(B), removing the word "electric" and adding in its place the word "electrical";
■ b. In paragraph (b)(2)(ii), removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(2)(i)", and removing the text "NO_X" and adding in its place the text "NO_X"; and
■ c. Italicizing the headings of paragraphs (c)(1) and (2).

§ 97.505 [Amended]

■ 85. Section 97.505, paragraph (b) is amended by italicizing the heading.

§ 97.506 [Amended]

■ 86. Section 97.506 is amended by:
■ a. Italicizing the headings of paragraphs (c), (c)(1) and (2), and (c)(4) through (7);
■ b. In paragraph (c)(2)(ii), after the words "immediately after" adding the words "the year of";
■ c. In paragraph (c)(3)(i), after the paragraph designation "(i)" adding a space;
■ d. In paragraph (c)(4) heading, after the words "Vintage of" adding the text "CSAPR NO_X Ozone Season Group 1"; and
■ e. In paragraphs (c)(4)(i) and (ii), after the word "allocated" adding the words "or auctioned".

■ 87. Section 97.510 is amended by:
■ a. Revising the section heading;
■ b. Revising paragraph (a) introductory text;
■ c. In paragraphs (a)(1) through (25):
■ i. Removing the words "ozone season trading" wherever they appear and adding in their place the text "Ozone Season Group 1 trading";
■ ii. Removing the text "NO_X ozone season new" wherever it appears and adding in its place the word "new"; and
■ iii. Removing the text "NO_X ozone season Indian" wherever it appears and adding in its place the word "Indian";
■ d. Adding and reserving paragraphs (a)(2)(vi), (a)(13)(vi), (a)(17)(vi), and (a)(18)(vi);
■ e. Revising paragraph (b) introductory text;
■ f. In paragraphs (b)(1) through (25), removing the text "NO_X ozone season"; and
■ g. Revising paragraph (c).

The revisions read as follows:

§ 97.510 State NO_X Ozone Season Group 1 trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.

(a) The State NO_X Ozone Season Group 1 trading budgets, new unit set-asides, and Indian country new unit set-asides for allocations of CSAPR NO_X Ozone Season Group 1 allowances for the control periods in 2015 and thereafter are as follows:

* * * * *

(b) The States' variability limits for the State NO_X Ozone Season Group 1 trading budgets for the control periods in 2017 and thereafter are as follows:

* * * * *

(c) Each State NO_X Ozone Season Group 1 trading budget in this section includes any tons in a new unit set-aside or Indian country new unit set-aside but does not include any tons in a variability limit.

■ 88. Section 97.511 is amended by:
■ a. Revising the section heading;
■ b. Italicizing the headings of paragraphs (b)(1) and (2);
■ c. Revising paragraph (b)(1)(iii);
■ d. In paragraph (b)(1)(iv)(B), removing the words "the each" and adding in their place the word "each", and revising the second sentence;
■ e. Revising paragraph (b)(2)(iii);
■ f. In paragraph (b)(2)(iv)(B), removing the words "the each" and adding in

their place the word "each", revising the second sentence, and after the newly revised second sentence adding a paragraph break before the paragraph designation "(v)" for the following paragraph (b)(2)(v);

■ g. In paragraph (c)(1)(ii), removing the text "§ 52.38(b)(3), (4), or (5)" and adding in its place the text "§ 52.38(b)(4) or (5)", and removing the text "January 1" and adding in its place the text "May 1";

■ h. In paragraph (c)(5)(i)(B), after the text "§ 52.38(b)(4) or (5)" adding the words "of this chapter", and removing the word "Annual" and adding in its place the text "Ozone Season Group 1";

■ i. In paragraph (c)(5)(ii) introductory text, removing the words "this paragraph" and adding in their place the words "this section";

■ j. In paragraph (c)(5)(ii)(B), after the text "§ 52.38(b)(4) or (5)" adding the words "of this chapter"; and

■ k. In paragraph (c)(5)(iii), removing the words "this paragraph" and adding in their place the words "this section".

The revisions read as follows:

§ 97.511 Timing requirements for CSAPR NO_X Ozone Season Group 1 allowance allocations.

* * * * *

(b) * * *

(1) * * *

(iii)(A) If the new unit set-aside for the control period in 2015 or 2016 contains any CSAPR NO_X Ozone Season Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by September 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 1 units that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of the year of such control period.

(B) If the new unit set-aside for the control period in 2017 or any subsequent year contains any CSAPR NO_X Ozone Season Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 1 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period.

(iv) * * *

(B) * * * By November 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii)(A) of this section, or by February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii)(B) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of CSAPR NO_X Ozone Season Group 1 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

* * * * *

(2) * * *

(iii)(A) If the Indian country new unit set-aside for the control period in 2015 or 2016 contains any CSAPR NO_X Ozone Season Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by September 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 1 units that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of the year of such control period.

(B) If the Indian country new unit set-aside for the control period in 2017 or any subsequent year contains any CSAPR NO_X Ozone Season Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 1 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period.

(iv) * * *

(B) * * * By November 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(A) of this section, or by February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of CSAPR NO_X Ozone Season Group 1 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations.

* * * * *

■ 89. Section 97.512 is amended by:

■ a. Revising the section heading;

■ b. In paragraph (a)(2), removing the text "§§ " and adding in its place the text "§ ";

■ c. In paragraph (a)(4)(i), removing the text "paragraph (a)(1)(i) through (iii)" and adding in its place the text "paragraphs (a)(1)(i) through (iii)";

■ d. In paragraph (a)(4)(ii), after the text "paragraph (a)(4)(i)" adding the words "of this section";

■ e. Revising paragraph (a)(9)(i);

■ f. In paragraph (b)(4)(ii), after the text "paragraph (b)(4)(i)" adding the words "of this section";

■ g. Revising paragraph (b)(9)(i); and

■ h. In paragraph (b)(10)(ii), after the text "§ 52.38(b)(4) or (5)" adding the words "of this chapter".

The revisions read as follows:

§ 97.512 CSAPR NO_X Ozone Season Group 1 allowance allocations to new units.

(a) * * *

(9) * * *

(i)(A) For the control period in 2015 or 2016, the Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 1 allowances referenced in the notice of data availability required under § 97.511(b)(1)(ii) for the unit for such control period;

(B) For the control period in 2017 or any subsequent year, the Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 1 allowances referenced in the notice of data availability required under § 97.511(b)(1)(ii) for the unit for such control period;

* * * * *

(b) * * *

(9) * * *

(i)(A) For the control period in 2015 or 2016, the Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 1 allowances referenced in the notice of data availability required under § 97.511(b)(2)(ii) for the unit for such control period;

(B) For the control period in 2017 or any subsequent year, the Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 1 allowances referenced in the notice of data availability required under § 97.511(b)(2)(ii) for the unit for such control period;

* * * * *

■ 90. Section 97.516 is amended by:

■ a. In paragraph (a)(1), removing the word "Country" and adding in its place the word "country"; and

■ b. Adding paragraph (c).

The addition reads as follows:

§ 97.516 Certificate of representation.

* * * * *

(c) A certificate of representation under this section that complies with the provisions of paragraph (a) of this section except that it contains the phrase "TR NO_X Ozone Season" in place of the phrase "CSAPR NO_X Ozone Season Group 1" in the required certification statements will be considered a complete certificate of representation under this section, and the certification statements included in such certificate of representation will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 1" appeared in place of the phrase "TR NO_X Ozone Season".

■ 91. Section 97.520 is amended by:

■ a. Italicizing the headings of paragraphs (c)(1) through (6);

■ b. Adding paragraph (c)(1)(iv);

■ c. In paragraph (c)(2)(i) introductory text, removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ d. Adding paragraph (c)(2)(iv);

■ e. In paragraph (c)(4)(i), removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ f. In paragraph (c)(5)(iii)(D), removing the words "authorized representative" and adding in their place the words "authorized account representative"; and

■ g. In paragraph (c)(5)(v), removing the word "designated" two times and adding in its place the words "authorized account".

The additions read as follows:

§ 97.520 Establishment of compliance accounts, assurance accounts, and general accounts.

* * * * *

(c) * * *

(1) * * *

(iv) An application for a general account under paragraph (c)(1) of this section that complies with the provisions of such paragraph except that it contains the phrase "TR NO_X Ozone Season" in place of the phrase "CSAPR NO_X Ozone Season Group 1" in the required certification statement will be considered a complete application for a general account under such paragraph, and the certification statement included in such application for a general account will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 1" appeared in place of the phrase "TR NO_X Ozone Season".

(2) * * *

(iv) A certification statement submitted in accordance with paragraph (c)(2)(ii) of this section that contains the phrase "TR NO_X Ozone Season" will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 1" appeared in place of the phrase "TR NO_X Ozone Season".

* * * * *

■ 92. Section 97.521 is amended by:

■ a. Revising the section heading;

■ b. Revising paragraph (c);

■ c. In paragraphs (d) and (e), removing the word "period" and adding in its place the word "periods";

■ d. Revising paragraphs (i) and (j); and

■ e. Redesignating paragraph (k) as paragraph (l) and adding a new paragraph (k).

The revisions and additions read as follows:

§ 97.521 Recordation of CSAPR NO_X Ozone Season Group 1 allowance allocations and auction results.

* * * * *

(c) By January 9, 2017, the Administrator will record in each CSAPR NO_X Ozone Season Group 1 source's compliance account the CSAPR NO_X Ozone Season Group 1 allowances allocated to the CSAPR NO_X Ozone Season Group 1 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 1 allowances auctioned to CSAPR NO_X Ozone Season Group 1 units, in accordance with § 97.511(a), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control periods in 2017 and 2018.

* * * * *

(i)(1) By November 15, 2015 and November 15, 2016, the Administrator will record in each CSAPR NO_X Ozone Season Group 1 source's compliance account the CSAPR NO_X Ozone Season Group 1 allowances allocated to the CSAPR NO_X Ozone Season Group 1 units at the source in accordance with § 97.512(a)(9) through (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(2) By February 15, 2018 and February 15 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 1 source's compliance account the CSAPR NO_X Ozone Season Group 1 allowances allocated to the CSAPR NO_X Ozone Season Group 1 units at the source in accordance with § 97.512(a)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(j)(1) By November 15, 2015 and November 15, 2016, the Administrator will record in each CSAPR NO_X Ozone Season Group 1 source's compliance account the CSAPR NO_X Ozone Season Group 1 allowances allocated to the CSAPR NO_X Ozone Season Group 1 units at the source in accordance with § 97.512(b)(9) through (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(2) By February 15, 2018 and February 15 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 1 source's compliance account the CSAPR NO_X Ozone Season Group 1 allowances allocated to the CSAPR NO_X Ozone Season Group 1 units at the source in accordance with § 97.512(b)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(k) By the date 15 days after the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (j) of this section, of CSAPR NO_X Ozone Season Group 1 allowances

to a recipient is made by or are submitted to the Administrator in accordance with § 97.511 or § 97.512 or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

* * * * *

■ 93. Section 97.522 is amended by revising the section heading to read as follows:

§ 97.522 Submission of CSAPR NO_X Ozone Season Group 1 allowance transfers.

* * * * *

■ 94. Section 97.523 is amended by:
■ a. Revising the section heading; and
■ b. In paragraph (b), after the word "allocated" adding the words "or auctioned".

The revision reads as follows:

§ 97.523 Recordation of CSAPR NO_X Ozone Season Group 1 allowance transfers.

* * * * *

■ 95. Section 97.524 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. Revising paragraphs (c)(2)(i) and (ii); and
■ d. In paragraph (d), after the word "allocated" adding the words "or auctioned".

The revisions read as follows:

§ 97.524 Compliance with CSAPR NO_X Ozone Season Group 1 emissions limitation.

* * * * *

(c) * * *

(2) * * *

(i) Any CSAPR NO_X Ozone Season Group 1 allowances that were recorded in the compliance account pursuant to § 97.521 and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any other CSAPR NO_X Ozone Season Group 1 allowances that were transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

* * * * *

■ 96. Section 97.525 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. In paragraph (b)(2)(iii) introductory text, removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(1)(ii)";
■ d. In paragraph (b)(2)(iii)(B), after the words "availability of" adding the words "the calculations incorporating";
■ e. In paragraph (b)(4)(i), after the words "established for" removing the word "the"; and
■ f. In paragraph (b)(6)(iii)(B), after the word "appropriate" removing the word "at".

The revision reads as follows:

§ 97.525 Compliance with CSAPR NO_X Ozone Season Group 1 assurance provisions.

* * * * *

■ 97. Section 97.526 is amended by:
■ a. In paragraph (b), removing the text "§ 97.528" and adding in its place the text "§ 97.528 or removed under paragraph (c) of this section"; and
■ b. Adding paragraph (c).

The addition reads as follows:

§ 97.526 Banking.

* * * * *

(c) *Replacement of CSAPR NO_X Ozone Season Group 1 allowances with CSAPR NO_X Ozone Season Group 2 allowances.* Notwithstanding any other provision of this subpart or any provision of a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, the Administrator will remove CSAPR NO_X Ozone Season Group 1 allowances from compliance accounts and general accounts and allocate in their place amounts of CSAPR NO_X Ozone Season Group 2 allowances as provided in paragraphs (c)(1) through (5) of this section and will record CSAPR NO_X Ozone Season Group 2 allowances in lieu of initially recording CSAPR NO_X Ozone Season Group 1 allowances as provided in paragraph (c)(6) of this section.

(1) As soon as practicable after the completion of deductions under § 97.524 for the control period in 2016, but not later than March 1, 2018, the Administrator will temporarily suspend acceptance of CSAPR NO_X Ozone Season Group 1 allowance transfers submitted under § 97.522 and, before resuming acceptance of such transfers, will take the following actions with regard to every general account and every compliance account except a compliance account for a CSAPR NO_X Ozone Season Group 1 source located in a State listed in § 52.38(b)(2)(i) of this chapter or Indian country within the borders of such a State:

(i) The Administrator will remove all CSAPR NO_X Ozone Season Group 1 allowances allocated for the control periods in 2015 and 2016 from each such account.

(ii) The Administrator will determine a conversion factor equal to the greater of 1.0000 or the quotient, expressed to four decimal places, of the sum of all CSAPR NO_X Ozone Season Group 1 allowances removed from all such accounts under paragraph (c)(1)(i) of this section divided by the product of 1.5 times the sum of the variability limits for the control period in 2017 set forth in § 97.810(b) for all States except a State listed in § 52.38(b)(2)(i) of this chapter.

(iii) The Administrator will allocate to and record in each such account an amount of CSAPR NO_X Ozone Season Group 2 allowances for the control period in 2017, where such amount is determined as the quotient of the number of CSAPR NO_X Ozone Season Group 1 allowances removed from such account under paragraph (c)(1)(i) of this section divided by the conversion factor determined under paragraph (c)(1)(ii) of this section, rounded up to the nearest whole allowance, except as provided in paragraphs (c)(4) and (5) of this section.

(2) As soon as practicable after approval of a SIP revision under § 52.38(b)(6) of this chapter for a State listed in § 52.38(b)(2)(i) of this chapter, but not later than the allowance transfer deadline defined under § 97.802 for the initial control period described with regard to such SIP revision in § 52.38(b)(6)(ii)(A) of this chapter, the Administrator will temporarily suspend acceptance of CSAPR NO_X Ozone Season Group 1 allowance transfers submitted under § 97.522 and, before resuming acceptance of such transfers, will take the following actions with regard to every general account and every compliance account, unless otherwise provided in such approval of the SIP revision:

(i) The Administrator will remove from each such account all CSAPR NO_X Ozone Season Group 1 allowances for such initial control period and each subsequent control period that were allocated to units located in such State under this subpart or that were allocated or auctioned to any entity under a SIP revision for such State approved by the Administrator under § 52.38(b)(4) or (5) of this chapter, whether such CSAPR NO_X Ozone Season Group 1 allowances were initially recorded in such account or were transferred to such account from another account.

(ii) The Administrator will determine a conversion factor equal to the greater of 1.0000 or the quotient, expressed to four decimal places, of the NO_X Ozone Season Group 1 trading budget set forth for such State in § 97.510(a) divided by the NO_X Ozone Season Group 2 trading budget set forth for such State in § 97.810(a).

(iii) The Administrator will allocate to and record in each such account an amount of CSAPR NO_X Ozone Season Group 2 allowances for each control

period for which CSAPR NO_X Ozone Season Group 1 allowances were removed from such account, where each such amount is determined as the quotient of the number of CSAPR NO_X Ozone Season Group 1 allowances for such control period removed from such account under paragraph (c)(2)(i) of this section divided by the conversion factor determined under paragraph (c)(2)(ii) of this section, rounded up to the nearest whole allowance, except as provided in paragraphs (c)(4) and (5) of this section.

(3) As soon as practicable after approval of a SIP revision under § 52.38(b)(6) of this chapter for a State listed in § 52.38(b)(2)(i) of this chapter, but not before the completion of deductions under § 97.524 for the control period before the initial control period described with regard to such SIP revision in § 52.38(b)(6)(ii)(A) of this chapter and not later than the allowance transfer deadline defined under § 97.802 for such initial control period, the Administrator will temporarily suspend acceptance of CSAPR NO_X Ozone Season Group 1 allowance transfers submitted under § 97.522 and, before resuming acceptance of such transfers, will take the following actions with regard to every compliance account for a CSAPR NO_X Ozone Season Group 1 source located in such State, provided that if the provisions of § 52.38(b)(2)(i) of this chapter or a SIP revision approved under § 52.38(b)(5) of this chapter will no longer apply to any source in any State or Indian country within the borders of any State with regard to emissions occurring in such initial control period or any subsequent control period, the Administrator instead will permanently end acceptance of CSAPR NO_X Ozone Season Group 1 allowance transfers submitted under § 97.522 and will take the following actions with regard to every general account and every compliance account:

(i) The Administrator will remove from each such account all CSAPR NO_X Ozone Season Group 1 allowances allocated for all control periods before such initial control period.

(ii) The Administrator will determine a conversion factor equal to the greater of 1.0000 or the quotient, expressed to four decimal places, of the sum of all CSAPR NO_X Ozone Season Group 1 allowances removed from all such accounts under paragraph (c)(3)(i) of this section divided by the product of 1.5 times the variability limit for such initial control period set forth for such State in § 97.810(b).

(iii) The Administrator will allocate to and record in each such account an amount of CSAPR NO_X Ozone Season Group 2 allowances for such initial control period, where such amount is determined as the quotient of the number of CSAPR NO_X Ozone Season Group 1 allowances removed from such account under paragraph (c)(3)(i) of this section divided by the conversion factor determined under paragraph (c)(3)(ii) of this section, rounded up to the nearest whole allowance, except as provided in paragraphs (c)(4) and (5) of this section.

(4) Where, pursuant to paragraph (c)(1)(i), (c)(2)(i), or (c)(3)(i) of this section, the Administrator removes CSAPR NO_X Ozone Season Group 1 allowances from the compliance account for a source located in a State not listed in § 52.38(b)(2)(iii) of this chapter or Indian country within the borders of such a State, the Administrator will not record CSAPR NO_X Ozone Season Group 2 allowances in that account but instead will allocate to and record in another compliance account or general account CSAPR NO_X Ozone Season Group 2 allowances for the control periods and in the amounts determined in accordance with paragraph (c)(1)(iii), (c)(2)(iii), or (c)(3)(iii) of this section, respectively, provided that the designated representative for such source identifies such other account in a submission to the Administrator and further provided that any compliance account identified in such a submission is for a source located in a State listed in § 52.38(b)(2)(iii) of this chapter or Indian country within the borders of such a State.

(5)(i) In computing any amounts of CSAPR NO_X Ozone Season Group 2 allowances to be allocated to and recorded in general accounts under paragraph (c)(1)(iii), (c)(2)(iii), or (c)(3)(iii) of this section, the Administrator may group multiple general accounts whose ownership interests are held by the same or related persons or entities and treat the group of accounts as a single account for purposes of such computation.

(ii) Following a computation for a group of general accounts in accordance with paragraph (c)(5)(i) of this section, the Administrator will allocate to and record in each individual account in such group a proportional share of the quantity of CSAPR NO_X Ozone Season Group 2 allowances computed for such group, basing such shares on the respective quantities of CSAPR NO_X Ozone Season Group 1 allowances removed from such individual accounts under paragraph (c)(1)(i), (c)(2)(i), or (c)(3)(i) of this section, as applicable.

(iii) In determining the proportional shares under paragraph (c)(5)(ii) of this section, the Administrator may employ any reasonable adjustment methodology to truncate or round each such share up or down to a whole number and to cause the total of such whole numbers to equal the amount of CSAPR NO_X Ozone Season Group 2 allowances computed for such group of accounts in accordance with paragraph (c)(5)(i) of this section, even where such adjustments cause the numbers of CSAPR NO_X Ozone Season Group 2 allowances allocated to some individual accounts to equal zero.

(6) After the Administrator has carried out the procedures set forth in paragraph (c)(1), (2), or (3) of this section, upon any determination that would otherwise result in the initial recordation of any CSAPR NO_X Ozone Season Group 1 allowances in any account, where if such allowances had been recorded before the Administrator had carried out such procedures the allowances would have been removed from such account under paragraph (c)(1)(i), (c)(2)(i), or (c)(3)(i) of this section, respectively, the Administrator will not record such CSAPR NO_X Ozone Season Group 1 allowances but instead will record CSAPR NO_X Ozone Season Group 2 allowances for the control periods and in the amounts determined in accordance with paragraph (c)(1)(iii), (c)(2)(iii), or (c)(3)(iii) of this section, respectively, in such account or another account identified in accordance with paragraph (c)(4) of this section.

(7) Notwithstanding any other provision of this subpart or subpart EEEEE of this part, CSAPR NO_X Ozone Season Group 2 allowances may be used to satisfy requirements to hold CSAPR NO_X Ozone Season Group 1 allowances under this subpart as follows, provided that nothing in this paragraph alters the time as of which any such allowance holding requirement must be met or limits any consequence of a failure to timely meet any such allowance holding requirement:

(i) After the Administrator has carried out the procedures set forth in paragraph (c)(1) of this section, the owner or operator of a CSAPR NO_X Ozone Season Group 1 unit in a State listed in § 52.38(b)(2)(iii) of this chapter or Indian country within the borders of such a State may satisfy a requirement to hold a given number of CSAPR NO_X Ozone Season Group 1 allowances for the control period in 2015 or 2016 by holding instead, in a general account established for this sole purpose, an amount of CSAPR NO_X Ozone Season Group 2 allowances for the control period in 2017, where such amount of CSAPR NO_X Ozone Season Group 2 allowances is computed as the quotient of such given number of CSAPR NO_X

Ozone Season Group 1 allowances divided by the conversion factor determined under paragraph (c)(1)(ii) of this section, rounded up to the nearest whole allowance.

(ii) After the Administrator has carried out the procedures set forth in paragraph (c)(3) of this section, the owner or operator of a CSAPR NO_X Ozone Season Group 1 unit in a State listed in § 52.38(b)(2)(i) of this chapter may satisfy a requirement to hold a given number of CSAPR NO_X Ozone Season Group 1 allowances for a control period before the initial control period described with regard to the State's SIP revision in § 52.38(b)(6)(ii)(A) of this chapter by holding instead, in a general account established for this sole purpose, an amount of CSAPR NO_X Ozone Season Group 2 allowances for such initial control period or any previous control period, where such amount of CSAPR NO_X Ozone Season Group 2 allowances is computed as the quotient of such given number of CSAPR NO_X Ozone Season Group 1 allowances divided by the conversion factor determined under paragraph (c)(3)(ii) of this section, rounded up to the nearest whole allowance.

§ 97.528 [Amended]

■ 98. Section 97.528, paragraph (b) is amended by removing the text "paragraph (a)(1)" and adding in its place the text "paragraph (a)".

■ 99. Section 97.530 is amended by:

■ a. Revising paragraph (b) introductory text and paragraphs (b)(1) through (3);

■ b. In paragraph (b)(4) introductory text, removing the text "§§ 75.4 (e)(1) through (e)(4)" and adding in its place the text "§ 75.4 (e)(1) through (4)"; and

■ c. In paragraph (b)(4)(iii), after the text "§ 75.66" adding the words "of this chapter".

The revisions read as follows:

§ 97.530 General monitoring, recordkeeping, and reporting requirements.

* * * * *

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator of a CSAPR NO_X Ozone Season Group 1 unit shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the latest of the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the latest of the following dates:

(1) May 1, 2015;

(2) 180 calendar days after the date on which the unit commences commercial operation; or

(3) Where data for the unit are reported on a control period basis under § 97.534(d)(1)(ii)(B), and where the compliance date under paragraph (b)(2) of this section is not in a month from May through September, May 1 immediately after the compliance date under paragraph (b)(2) of this section.

* * * * *

§ 97.531 [Amended]

■ 100. Section 97.531 is amended by:

■ a. Italicizing the headings of paragraphs (d)(1) through (3), (d)(3)(i) through (iv), (d)(3)(iv)(A) through (D), and (d)(3)(v);

■ b. In paragraph (d)(3) introductory text, removing the text "§§ " and adding in its place the text "§ "; and

■ c. Redesignating paragraphs (d)(3)(v)(A)(1) through (5) as paragraphs (d)(3)(v)(A)(*1*) through (*5*).

■ 101. Section 97.534 is amended by:

■ a. In paragraph (b), after the words "comply with" adding the word "the";

■ b. Revising paragraphs (d)(1) and (2);

■ c. Redesignating paragraph (d)(6) as paragraph (d)(5)(ii); and

■ d. In paragraph (e)(3), removing the text "paragraph (d)(2)(ii)" and adding in its place the text "paragraph (d)(1)(ii)(B)".

The revisions read as follows:

§ 97.534 Recordkeeping and reporting.

* * * * *

(d) * * *

(1)(i) If a CSAPR NO_X Ozone Season Group 1 unit is subject to the Acid Rain Program or the CSAPR NO_X Annual Trading Program or if the owner or operator of such unit chooses to report on an annual basis under this subpart, then the designated representative shall meet the requirements of subpart H of part 75 of this chapter (concerning monitoring of NO_X mass emissions) for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit for the entire year.

(ii) If a CSAPR NO_X Ozone Season Group 1 unit is not subject to the Acid Rain Program or the CSAPR NO_X Annual Trading Program, then the designated representative shall either:

(A) Meet the requirements of subpart H of part 75 of this chapter for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit for the entire year in accordance with paragraph (d)(1)(i) of this section; or

(B) Meet the requirements of subpart H of part 75 of this chapter (including the requirements in § 75.74(c) of this chapter) for such unit for the control period and report the NO_X mass emissions data and heat input data (including the data described in § 75.74(c)(6) of this chapter) for such unit only for the control period of each year.

(2) The designated representative shall report the NO_X mass emissions data and heat input data for a CSAPR NO_X Ozone Season Group 1 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter indicated under paragraph (d)(1) of this section beginning by the latest of:

(i) The calendar quarter covering May 1, 2015 through June 30, 2015;

(ii) The calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.530(b); or

(iii) For a unit that reports on a control period basis under paragraph (d)(1)(ii)(B) of this section, if the calendar quarter under paragraph (d)(2)(ii) of this section does not include a month from May through September, the calendar quarter covering May 1 through June 30 immediately after the calendar quarter under paragraph (d)(2)(ii) of this section.

* * * * *

§ 97.535 [Amended]

■ 102. Section 97.535 is amended by:

■ a. Redesignating paragraphs (b)(i) through (v) as paragraphs (b)(1) through (5); and

■ b. In the newly redesignated paragraph (b)(4), removing the colon and adding in its place a semicolon.

Subpart CCCCC—CSAPR SO_2 Group 1 Trading Program

■ 103. The heading of subpart CCCCC of part 97 is revised to read as set forth above.

§ 97.601 [Amended]

■ 104. Section 97.601 is amended by removing the text "Transport Rule (TR) SO_2 Group 1 Trading Program" and adding in its place the text "Cross-State Air Pollution Rule (CSAPR) SO_2 Group 1 Trading Program".

§§ 97.602 through 97.635 [Amended]

■ 105. Sections 97.602 through 97.635 are amended by removing the text "TR" wherever it appears and adding in its place the text "CSAPR".

■ 106. Section 97.602 is amended by:

■ a. Revising the introductory text and the definitions "Allowable SO_2 emission rate" and "Allowance Management System";

■ b. In the definition "Allowance Management System account",

removing the word "holding" and adding in its place the text "auction, holding";
■ c. Revising the definition "Alternate designated representative";
■ d. Adding in alphabetical order the definition "Auction";
■ e. In the definition "Cogeneration system", removing the words "steam turbine";
■ f. In the definition "Commence commercial operation", paragraph (2) introductory text, after the words "defined in" adding the word "the";
■ g. In the definition "Common designated representative's share", paragraph (2), removing the words "and of the total" and adding in their place the words "and the total";
■ h. Placing the newly amended definitions "CSAPR NO_X Annual Trading Program", "CSAPR NO_X Ozone Season Trading Program", "CSAPR SO_2 Group 1 allowance", "CSAPR SO_2 Group 1 allowance deduction or deduct CSAPR SO_2 Group 1 allowances", "CSAPR SO_2 Group 1 allowances held or hold CSAPR SO_2 Group 1 allowances", "CSAPR SO_2 Group 1 emissions limitation", "CSAPR SO_2 Group 1 source", "CSAPR SO_2 Group 1 Trading Program", and "CSAPR SO_2 Group 1 unit" in alphabetical order in the section;
■ i. Removing the newly amended definition "CSAPR NO_X Ozone Season Trading Program";
■ j. Adding in alphabetical order the definitions "CSAPR NO_X Ozone Season Group 1 Trading Program" and "CSAPR NO_X Ozone Season Group 2 Trading Program";
■ k. Revising the newly amended definition "CSAPR SO_2 Group 1 Trading Program" and the definition "Designated representative";
■ l. In the definition "Fossil fuel", paragraph (2), removing the text "§§ " and adding in its place the text "§ ";
■ m. Removing the definition "Gross electrical output";
■ n. Revising the definitions "Heat input", "Heat input rate", and "Heat rate";
■ o. In the definition heading "Maximum design heat input", after the words "heat input" adding the word "rate";
■ p. Revising the definition "Potential electrical output capacity";
■ q. In the definition "Sequential use of energy", paragraph (2), after the word "from" adding the word "a"; and
■ r. Revising the definition "State".

The revisions and additions read as follows:

§ 97.602 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows, provided that any term that includes the acronym "CSAPR" shall be considered synonymous with a term that is used in a SIP revision approved by the Administrator under § 52.38 or § 52.39 of this chapter and that is substantively identical except for the inclusion of the acronym "TR" in place of the acronym "CSAPR":

* * * * *

Allowable SO_2 emission rate means, for a unit, the most stringent State or federal SO_2 emission rate limit (in lb/MWh or, if in lb/mmBtu, converted to lb/MWh by multiplying it by the unit's heat rate in mmBtu/MWh) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, auctions, transfers, and deductions of CSAPR SO_2 Group 1 allowances under the CSAPR SO_2 Group 1 Trading Program. Such allowances are allocated, auctioned, recorded, held, transferred, or deducted only as whole allowances.

* * * * *

Alternate designated representative means, for a CSAPR SO_2 Group 1 source and each CSAPR SO_2 Group 1 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the CSAPR SO_2 Group 1 Trading Program. If the CSAPR SO_2 Group 1 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative as defined in the respective program.

* * * * *

Auction means, with regard to CSAPR SO_2 Group 1 allowances, the sale to any person by a State or permitting authority, in accordance with a SIP revision submitted by the State and approved by the Administrator under § 52.39(e) or (f) of this chapter, of such CSAPR SO_2 Group 1 allowances to be initially recorded in an Allowance Management System account.

* * * * *

CSAPR NO_X Ozone Season Group 1 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR NO_X Ozone Season Group 2 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart EEEEE of this part and § 52.38(b)(1), (b)(2)(i) and (iii), (b)(6) through (11), and (b)(13) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(7) or (8) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(6) or (9) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

* * * * *

CSAPR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with this subpart and § 52.39(a), (b), (d) through (f), and (j) through (l) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

* * * * *

Designated representative means, for a CSAPR SO_2 Group 1 source and each CSAPR SO_2 Group 1 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the CSAPR SO_2 Group 1 Trading Program. If the CSAPR SO_2 Group 1 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative as defined in the respective program.

* * * * *

Heat input means, for a unit for a specified period of unit operating time, the product (in mmBtu) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time) and unit

operating time, as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the quotient (in mmBtu/hr) of the amount of heat input for a specified period of unit operating time (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the quotient (in mmBtu/unit of load) of the unit's maximum design heat input rate (in Btu/hr) divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

* * * * *

Potential electrical output capacity means, for a unit (in MWh/yr), 33 percent of the unit's maximum design heat input rate (in Btu/hr), divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

* * * * *

State means one of the States that is subject to the CSAPR SO_2 Group 1 Trading Program pursuant to § 52.39(a), (b), (d) through (f), and (j) through (l) of this chapter.

* * * * *

§ 97.603 [Amended]

■ 107. Section 97.603 is amended by:
■ a. Adding in alphabetical order the list entry "CSAPR—Cross-State Air Pollution Rule";
■ b. Removing the list entry "kW—kilowatt electrical";
■ c. Removing the list entry "kWh—kilowatt hour" and adding in its place the entry "kWh—kilowatt-hour";
■ d. Removing the list entry "MWh—megawatt hour" and adding in its place the entry "MWh—megawatt-hour"; and
■ e. Adding in alphabetical order the list entries "SIP—State implementation plan" and "TR—Transport Rule".

§ 97.604 [Amended]

■ 108. Section 97.604 is amended by:
■ a. In paragraph (b)(1)(i)(B), removing the word "electric" and adding in its place the word "electrical";
■ b. In paragraph (b)(2)(ii), removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(2)(i)"; and
■ c. Italicizing the headings of paragraphs (c)(1) and (2).

§ 97.605 [Amended]

■ 109. Section 97.605, paragraph (b) is amended by italicizing the heading.

§ 97.606 [Amended]

■ 110. Section 97.606 is amended by:
■ a. Italicizing the headings of paragraphs (c)(1) and (2) and (c)(4) through (7);
■ b. In paragraph (c)(2)(ii), after the words "immediately after" adding the words "the year of";
■ c. In paragraph (c)(4) heading, after the words "Vintage of" adding the text "CSAPR SO_2 Group 1";
■ d. In paragraphs (c)(4)(i) and (ii), after the word "allocated" adding the words "or auctioned"; and
■ e. In paragraph (d)(2), removing the text "subpart H" and adding in its place the text "subpart B".
■ 111. Section 97.610 is amended by:
■ a. Revising the section heading;
■ b. Revising paragraph (a) introductory text;
■ c. In paragraphs (a)(1) through (16):
■ i. Removing the word "trading" wherever it appears and adding in its place the text "Group 1 trading";
■ ii. Removing the text "SO_2 new" wherever it appears and adding in its place the word "new"; and
■ iii. Removing the text "SO_2 Indian" wherever it appears and adding in its place the word "Indian";
■ d. Adding and reserving paragraphs (a)(2)(vi) and (a)(11)(vi);
■ e. In paragraphs (b)(1) through (16), removing the text "SO_2"; and
■ f. Revising paragraph (c).

The revisions read as follows:

§ 97.610 State SO_2 Group 1 trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.

(a) The State SO_2 Group 1 trading budgets, new unit set-asides, and Indian country new unit set-asides for allocations of CSAPR SO_2 Group 1 allowances for the control periods in 2015 and thereafter are as follows:

* * * * *

(c) Each State SO_2 Group 1 trading budget in this section includes any tons in a new unit set-aside or Indian country new unit set-aside but does not include any tons in a variability limit.
■ 112. Section 97.611 is amended by:
■ a. Revising the section heading;
■ b. Italicizing the headings of paragraphs (b)(1) and (2);
■ c. In paragraphs (b)(1)(iii) and (b)(2)(iii), after the text "November 30 of" adding the word "the";
■ d. In paragraph (b)(2)(v), removing the text "NO_X Annual" and adding in its place the text "SO_2 Group 1";
■ e. In paragraph (c)(1)(ii), removing the text "§ 52.39(d), (e), or (f)" and adding in its place the text "§ 52.39(e) or (f)";
■ f. In paragraph (c)(5)(i)(B), after the text "§ 52.39(e) or (f)" adding the words "of this chapter";
■ g. In paragraph (c)(5)(ii) introductory text, removing the words "this paragraph" and adding in their place the words "this section";
■ h. In paragraph (c)(5)(ii)(B), after the text "§ 52.39(e) or (f)" adding the words "of this chapter"; and
■ i. In paragraph (c)(5)(iii), removing the words "this paragraph" and adding in their place the words "this section".

The revision reads as follows:

§ 97.611 Timing requirements for CSAPR SO_2 Group 1 allowance allocations.

* * * * *

■ 113. Section 97.612 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(2), removing the text "§§ " and adding in its place the text "§ ";
■ c. In paragraph (a)(4)(i), removing the text "paragraph (a)(1)(i) through (iii)" and adding in its place the text "paragraphs (a)(1)(i) through (iii)";
■ d. In paragraph (a)(4)(ii), after the text "paragraph (a)(4)(i)" adding the words "of this section";
■ e. In paragraph (a)(9)(i), after the text "November 30 of" adding the word "the";
■ f. In paragraph (b)(4)(ii), after the text "paragraph (b)(4)(i)" adding the words "of this section";
■ g. In paragraph (b)(9)(i), after the text "November 30 of" adding the word "the";
■ h. In paragraph (b)(10)(ii), removing the text "§ 52.39(d), (e), or (f)" and adding in its place the text "§ 52.39(e) or (f)"; and
■ i. In paragraph (b)(11), after the text "paragraphs (b)(9), (10) and (12)" adding the words "of this section".

The revision reads as follows:

§ 97.612 CSAPR SO_2 Group 1 allowance allocations to new units.

* * * * *

■ 114. Section 97.616 is amended by:
■ a. In paragraph (a)(1), removing the word "Country" and adding in its place the word "country"; and
■ b. Adding paragraph (c).

The additions read as follows:

§ 97.616 Certificate of representation.

* * * * *

(c) A certificate of representation under this section that complies with the provisions of paragraph (a) of this section except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification

statements will be considered a complete certificate of representation under this section, and the certification statements included in such certificate of representation will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

■ 115. Section 97.620 is amended by:

■ a. Italicizing the headings of paragraphs (c)(1) through (6);

■ b. Adding paragraph (c)(1)(iv);

■ c. In paragraph (c)(2)(i) introductory text, removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ d. Adding paragraph (c)(2)(iv);

■ e. In paragraph (c)(4)(i), removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ f. In paragraph (c)(5)(iii)(D), removing the words "authorized representative" and adding in their place the words "authorized account representative"; and

■ g. In paragraph (c)(5)(v), removing the word "designated" two times and adding in its place the words "authorized account".

The additions read as follows:

§ 97.620 Establishment of compliance accounts, assurance accounts, and general accounts.

* * * * *

(c) * * *

(1) * * *

(iv) An application for a general account under paragraph (c)(1) of this section that complies with the provisions of such paragraph except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification statement will be considered a complete application for a general account under such paragraph, and the certification statement included in such application for a general account will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

(2) * * *

(iv) A certification statement submitted in accordance with paragraph (c)(2)(ii) of this section that contains the acronym "TR" will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

* * * * *

■ 116. Section 97.621 is amended by:

■ a. Revising the section heading;

■ b. In paragraphs (c), (d), and (e), removing the word "period" and adding in its place the word "periods";

■ c. In paragraphs (f) and (g), removing the text "§ 52.39(e) and (f)" and adding in its place the text "§ 52.39(e) or (f)";

■ d. In paragraph (i), after the text "through (12)" removing the comma;

■ e. Revising paragraph (j); and

■ f. Redesignating paragraph (k) as paragraph (l) and adding a new paragraph (k).

The revisions and additions read as follows:

§ 97.621 Recordation of CSAPR SO_2 Group 1 allowance allocations and auction results.

* * * * *

(j) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each CSAPR SO_2 Group 1 source's compliance account the CSAPR SO_2 Group 1 allowances allocated to the CSAPR SO_2 Group 1 units at the source in accordance with § 97.612(b)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(k) By the date 15 days after the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (j) of this section, of CSAPR SO_2 Group 1 allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.611 or § 97.612 or with a SIP revision approved under § 52.39(e) or (f) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

* * * * *

■ 117. Section 97.622 is amended by revising the section heading to read as follows:

§ 97.622 Submission of CSAPR SO_2 Group 1 allowance transfers.

* * * * *

■ 118. Section 97.623 is amended by:

■ a. Revising the section heading; and

■ b. In paragraph (b), after the word "allocated" adding the words "or auctioned".

The revision reads as follows:

§ 97.623 Recordation of CSAPR SO_2 Group 1 allowance transfers.

* * * * *

■ 119. Section 97.624 is amended by:

■ a. Revising the section heading;

■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";

■ c. Revising paragraphs (c)(2)(i) and (ii); and

■ d. In paragraph (d), after the word "allocated" adding the words "or auctioned".

The revisions read as follows:

§ 97.624 Compliance with CSAPR SO_2 Group 1 emissions limitation.

* * * * *

(c) * * *

(2) * * *

(i) Any CSAPR SO_2 Group 1 allowances that were recorded in the compliance account pursuant to § 97.621 and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any other CSAPR SO_2 Group 1 allowances that were transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

* * * * *

■ 120. Section 97.625 is amended by:

■ a. Revising the section heading;

■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";

■ c. In paragraph (b)(2)(iii) introductory text, removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(1)(ii)"; and

■ d. In paragraph (b)(2)(iii)(B), after the words "availability of" adding the words "the calculations incorporating".

The revision reads as follows:

§ 97.625 Compliance with CSAPR SO_2 Group 1 assurance provisions.

* * * * *

§ 97.628 [Amended]

■ 121. Section 97.628, paragraph (b) is amended by removing the text "paragraph (a)(1)" and adding in its place the text "paragraph (a)".

■ 122. Section 97.630 is amended by:

■ a. Revising paragraph (b) introductory text and paragraphs (b)(1) and (2);

■ b. In paragraph (b)(3) introductory text, removing the text "§§ 75.4(e)(1) through (e)(4)" and adding in its place the text "§ 75.4(e)(1) through (4)"; and

■ c. In paragraph (b)(3)(iii), after the text "§ 75.66" adding the words "of this chapter".

The revisions read as follows:

§ 97.630 General monitoring, recordkeeping, and reporting requirements.

* * * * *

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator of a CSAPR SO_2 Group 1 unit shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the later of the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the later of the following dates:

(1) January 1, 2015; or

(2) 180 calendar days after the date on which the unit commences commercial operation.

* * * * *

§ 97.631 [Amended]

■ 123. Section 97.631 is amended by:
■ a. Italicizing the headings of paragraphs (d)(1) through (3), (d)(3)(i) through (iv), (d)(3)(iv)(A) through (D), and (d)(3)(v);
■ b. In paragraph (d)(3) introductory text, removing the text "§§ " and adding in its place the text "§ "; and
■ c. Redesignating paragraphs (d)(3)(v)(A)(1) through (3) as paragraphs (d)(3)(v)(A)(*1*) through (*3*).
■ 124. Section 97.634 is amended by:
■ a. In paragraph (b), after the words "comply with" adding the word "the"; and
■ b. Revising paragraphs (d)(1) and (3).

The revisions read as follows:

§ 97.634 Recordkeeping and reporting.

* * * * *

(d) * * *

(1) The designated representative shall report the SO_2 mass emissions data and heat input data for a CSAPR SO_2 Group 1 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with the later of:

(i) The calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) The calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.630(b).

* * * * *

(3) For CSAPR SO_2 Group 1 units that are also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

* * * * *

§ 97.635 [Amended]

■ 125. Section 97.635 is amended by redesignating paragraphs (b)(i) through (v) as paragraphs (b)(1) through (5).

Subpart DDDDD—CSAPR SO_2 Group 2 Trading Program

■ 126. The heading of subpart DDDDD of part 97 is revised to read as set forth above.

§ 97.701 [Amended]

■ 127. Section 97.701 is amended by removing the text "Transport Rule (TR) SO_2 Group 2 Trading Program" and adding in its place the text "Cross-State Air Pollution Rule (CSAPR) SO_2 Group 2 Trading Program".

§§ 97.702 through 97.735 [Amended]

■ 128. Sections 97.702 through 97.735 are amended by removing the text "TR" wherever it appears and adding in its place the text "CSAPR".
■ 129. Section 97.702 is amended by:
■ a. Revising the introductory text and the definitions "Allowable SO_2 emission rate" and "Allowance Management System";
■ b. In the definition "Allowance Management System account", removing the word "holding" and adding in its place the text "auction, holding";
■ c. Revising the definition "Alternate designated representative";
■ d. Adding in alphabetical order the definition "Auction";
■ e. In the definition "Cogeneration system", removing the words "steam turbine";
■ f. In the definition "Commence commercial operation", paragraph (2) introductory text, after the words "defined in" adding the word "the";
■ g. In the definition "Common designated representative's share", paragraph (2), removing the words "and of the total" and adding in their place the words "and the total";
■ h. Placing the newly amended definitions "CSAPR NO_X Annual Trading Program", "CSAPR NO_X Ozone Season Trading Program", "CSAPR SO_2 Group 2 allowance", "CSAPR SO_2 Group 2 allowance deduction or deduct CSAPR SO_2 Group 2 allowances", "CSAPR SO_2 Group 2 allowances held or hold CSAPR SO_2 Group 2 allowances", "CSAPR SO_2 Group 2 emissions limitation", "CSAPR SO_2 Group 2 source", "CSAPR SO_2 Group 2 Trading Program", and "CSAPR SO_2 Group 2 unit" in alphabetical order in the section;
■ i. Removing the newly amended definition "CSAPR NO_X Ozone Season Trading Program";
■ j. Adding in alphabetical order the definitions "CSAPR NO_X Ozone Season Group 1 Trading Program" and "CSAPR NO_X Ozone Season Group 2 Trading Program";
■ k. Italicizing the newly amended definition headings "CSAPR SO_2 Group 2 allowance deduction or deduct CSAPR SO_2 Group 2 allowances" and "CSAPR SO_2 Group 2 allowances held or hold CSAPR SO_2 Group 2 allowances";
■ l. Revising the newly amended definition "CSAPR SO_2 Group 2 Trading Program" and the definition "Designated representative";
■ m. In the definition "Fossil fuel", paragraph (2), removing the text "§§ " and adding in its place the text "§ ";
■ n. Removing the definition "Gross electrical output";
■ o. Revising the definitions "Heat input", "Heat input rate", and "Heat rate";
■ p. In the definition heading "Maximum design heat input", after the words "heat input" adding the word "rate";
■ q. Revising the definition "Potential electrical output capacity";
■ r. In the definition "Sequential use of energy", paragraph (2), after the word "from" adding the word "a"; and
■ s. Revising the definition "State".

The revisions and additions read as follows:

§ 97.702 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows, provided that any term that includes the acronym "CSAPR" shall be considered synonymous with a term that is used in a SIP revision approved by the Administrator under § 52.38 or § 52.39 of this chapter and that is substantively identical except for the inclusion of the acronym "TR" in place of the acronym "CSAPR":

* * * * *

Allowable SO_2 emission rate means, for a unit, the most stringent State or federal SO_2 emission rate limit (in lb/MWh or, if in lb/mmBtu, converted to lb/MWh by multiplying it by the unit's heat rate in mmBtu/MWh) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, auctions, transfers, and deductions of CSAPR SO_2 Group 2 allowances under the CSAPR SO_2 Group 2 Trading Program. Such allowances are allocated, auctioned, recorded, held, transferred, or deducted only as whole allowances.

* * * * *

Alternate designated representative means, for a CSAPR SO_2 Group 2 source and each CSAPR SO_2 Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the CSAPR SO_2 Group 2 Trading Program. If the CSAPR SO_2 Group 2 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season

Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative as defined in the respective program.

* * * * *

Auction means, with regard to CSAPR SO_2 Group 2 allowances, the sale to any person by a State or permitting authority, in accordance with a SIP revision submitted by the State and approved by the Administrator under § 52.39(h) or (i) of this chapter, of such CSAPR SO_2 Group 2 allowances to be initially recorded in an Allowance Management System account.

* * * * *

CSAPR NO_X Ozone Season Group 1 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR NO_X Ozone Season Group 2 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart EEEEE of this part and § 52.38(b)(1), (b)(2)(i) and (iii), (b)(6) through (11), and (b)(13) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(7) or (8) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(6) or (9) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

* * * * *

CSAPR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with this subpart and § 52.39(a), (c), (g) through (k), and (m) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

* * * * *

Designated representative means, for a CSAPR SO_2 Group 2 source and each CSAPR SO_2 Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the CSAPR SO_2 Group 2 Trading Program. If the CSAPR SO_2 Group 2 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative as defined in the respective program.

* * * * *

Heat input means, for a unit for a specified period of unit operating time, the product (in mmBtu) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time) and unit operating time, as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the quotient (in mmBtu/hr) of the amount of heat input for a specified period of unit operating time (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the quotient (in mmBtu/unit of load) of the unit's maximum design heat input rate (in Btu/hr) divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

* * * * *

Potential electrical output capacity means, for a unit (in MWh/yr), 33 percent of the unit's maximum design heat input rate (in Btu/hr), divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

* * * * *

State means one of the States that is subject to the CSAPR SO_2 Group 2 Trading Program pursuant to § 52.39(a), (c), (g) through (k), and (m) of this chapter.

* * * * *

§ 97.703 [Amended]

■ 130. Section 97.703 is amended by:

■ a. Adding in alphabetical order the list entry "CSAPR—Cross-State Air Pollution Rule";

■ b. Removing the list entry "kW—kilowatt electrical";

■ c. Removing the list entry "kWh—kilowatt hour" and adding in its place the entry "kWh—kilowatt-hour";

■ d. Removing the list entry "MWh—megawatt hour" and adding in its place the entry "MWh—megawatt-hour"; and

■ e. Adding in alphabetical order the list entries "SIP—State implementation plan" and "TR—Transport Rule".

§ 97.704 [Amended]

■ 131. Section 97.704 is amended by:

■ a. In paragraph (b)(1)(i)(B), removing the word "electric" and adding in its place the word "electrical";

■ b. In paragraph (b)(2)(ii), removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(2)(i)"; and

■ c. Italicizing the headings of paragraphs (c)(1) and (2).

§ 97.705 [Amended]

■ 132. Section 97.705, paragraph (b) is amended by italicizing the heading.

§ 97.706 [Amended]

■ 133. Section 97.706 is amended by:

■ a. Italicizing the headings of paragraphs (c)(1) and (2) and (c)(4) through (7);

■ b. In paragraph (c)(2)(ii), after the words "immediately after" adding the words "the year of";

■ c. In paragraph (c)(4) heading, after the words "Vintage of" adding the text "CSAPR SO_2 Group 2";

■ d. In paragraphs (c)(4)(i) and (ii), after the word "allocated" adding the words "or auctioned"; and

■ e. In paragraph (d)(2), removing the text "subpart H" and adding in its place the text "subpart B".

■ 134. Section 97.710 is amended by:

■ a. Revising the section heading;

■ b. Revising paragraph (a) introductory text;

■ c. In paragraphs (a)(1) through (7):

■ i. Removing the word "trading" wherever it appears and adding in its place the text "Group 2 trading";

■ ii. Removing the text "SO_2 new" wherever it appears and adding in its place the word "new"; and

■ iii. Removing the text "SO_2 Indian" wherever it appears and adding in its place the word "Indian";

■ d. In paragraphs (b)(1) through (7), removing the text "SO_2"; and

■ e. Revising paragraph (c).

The revisions read as follows:

§ 97.710 State SO_2 Group 2 trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.

(a) The State SO_2 Group 2 trading budgets, new unit set-asides, and Indian

country new unit set-asides for allocations of CSAPR SO_2 Group 1 allowances for the control periods in 2015 and thereafter are as follows:

* * * * *

(c) Each State SO_2 Group 2 trading budget in this section includes any tons in a new unit set-aside or Indian country new unit set-aside but does not include any tons in a variability limit.

■ 135. Section 97.711 is amended by:

■ a. Revising the section heading;

■ b. Italicizing the headings of paragraphs (b)(1) and (2);

■ c. In paragraph (b)(1)(iii), after the text "November 30 of" adding the word "the";

■ d. In paragraph (b)(1)(iv)(B), removing the words "the each" and adding in their place the word "each";

■ e. In paragraph (b)(2)(iii), after the text "November 30 of" adding the word "the";

■ f. In paragraph (b)(2)(iv)(B), removing the words "the each" and adding in their place the word "each";

■ g. In paragraph (c)(1) introductory text, removing the word "approved" two times and adding in its place the words "approved under";

■ h. In paragraph (c)(1)(ii), removing the text "§ 52.39(g), (h), or (i)" and adding in its place the text "§ 52.39(h) or (i)";

■ i. In paragraph (c)(5)(i)(B), after the text "§ 52.39(h) or (i)" adding the words "of this chapter";

■ j. In paragraph (c)(5)(ii) introductory text, removing the words "this paragraph" and adding in their place the words "this section";

■ k. In paragraph (c)(5)(ii)(B), after the text "§ 52.39(h) or (i)" adding the words "of this chapter"; and

■ l. In paragraph (c)(5)(iii), removing the words "this paragraph" and adding in their place the words "this section".

The revision reads as follows:

§ 97.711 Timing requirements for CSAPR SO_2 Group 2 allowance allocations.

* * * * *

■ 136. Section 97.712 is amended by:

■ a. Revising the section heading;

■ b. In paragraph (a)(2), removing the text "§§ " and adding in its place the text "§ ";

■ c. In paragraph (a)(4)(i), removing the text "paragraph (a)(1)(i) through (iii)" and adding in its place the text "paragraphs (a)(1)(i) through (iii)";

■ d. In paragraph (a)(4)(ii), after the text "paragraph (a)(4)(i)" adding the words "of this section";

■ e. In paragraph (a)(9)(i), after the text "November 30 of" adding the word "the";

■ f. In paragraph (b)(4)(ii), after the text "paragraph (b)(4)(i)" adding the words "of this section";

■ g. In paragraph (b)(9)(i), after the text "November 30 of" adding the word "the"; and

■ h. In paragraph (b)(10)(ii), removing the text "§ 52.39(g), (h), or (i)" and adding in its place the text "§ 52.39(h) or (i)".

The revision reads as follows:

§ 97.712 CSAPR SO_2 Group 2 allowance allocations to new units.

* * * * *

■ 137. Section 97.716 is amended by:

■ a. In paragraph (a)(1), removing the word "Country" and adding in its place the word "country"; and

■ b. Adding paragraph (c).

The additions read as follows:

§ 97.716 Certificate of representation.

* * * * *

(c) A certificate of representation under this section that complies with the provisions of paragraph (a) of this section except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification statements will be considered a complete certificate of representation under this section, and the certification statements included in such certificate of representation will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

■ 138. Section 97.720 is amended by:

■ a. Italicizing the headings of paragraphs (c)(1) through (6);

■ b. Adding paragraph (c)(1)(iv);

■ c. In paragraph (c)(2)(i) introductory text, removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ d. Adding paragraph (c)(2)(iv);

■ e. In paragraph (c)(4)(i), removing the text "paragraph (b)(1)" and adding in its place the text "paragraph (c)(1)";

■ f. In paragraph (c)(5)(iii)(D), removing the words "authorized representative" and adding in their place the words "authorized account representative"; and

■ g. In paragraph (c)(5)(v), removing the word "designated" two times and adding in its place the words "authorized account".

The additions read as follows:

§ 97.720 Establishment of compliance accounts, assurance accounts, and general accounts.

* * * * *

(c) * * *

(1) * * *

(iv) An application for a general account under paragraph (c)(1) of this section that complies with the provisions of such paragraph except that it contains the acronym "TR" in place of the acronym "CSAPR" in the required certification statement will be considered a complete application for a general account under such paragraph, and the certification statement included in such application for a general account will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

(2) * * *

(iv) A certification statement submitted in accordance with paragraph (c)(2)(ii) of this section that contains the acronym "TR" will be interpreted as if the acronym "CSAPR" appeared in place of the acronym "TR".

* * * * *

■ 139. Section 97.721 is amended by:

■ a. Revising the section heading;

■ b. In paragraphs (c), (d), and (e), removing the word "period" and adding in its place the word "periods'";

■ c. In paragraphs (f) and (g), removing the text "§ 52.39(h) and (i)" and adding in its place the text "§ 52.39(h) or (i)";

■ d. In paragraph (i), after the text "through (12)" removing the comma;

■ e. Revising paragraph (j); and

■ f. Redesignating paragraph (k) as paragraph (l) and adding a new paragraph (k).

The revisions and additions read as follows:

§ 97.721 Recordation of CSAPR SO_2 Group 2 allowance allocations and auction results.

* * * * *

(j) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each CSAPR SO_2 Group 2 source's compliance account the CSAPR SO_2 Group 2 allowances allocated to the CSAPR SO_2 Group 2 units at the source in accordance with § 97.712(b)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(k) By the date 15 days after the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (j) of this section, of CSAPR SO_2 Group 2 allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.711 or § 97.712 or with a SIP revision approved under § 52.39(h) or (i) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

* * * * *

■ 140. Section 97.722 is amended by revising the section heading to read as follows:

§ 97.722 Submission of CSAPR SO_2 Group 2 allowance transfers.

* * * * *

■ 141. Section 97.723 is amended by:
■ a. Revising the section heading; and
■ b. In paragraph (b), after the word "allocated" adding the words "or auctioned".

The revision reads as follows:

§ 97.723 Recordation of CSAPR SO_2 Group 2 allowance transfers.

* * * * *

■ 142. Section 97.724 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. Revising paragraphs (c)(2)(i) and (ii); and
■ d. In paragraph (d), after the word "allocated" adding the words "or auctioned".

The revisions read as follows:

§ 97.724 Compliance with CSAPR SO_2 Group 2 emissions limitation.

* * * * *

(c) * * *

(2) * * *

(i) Any CSAPR SO_2 Group 2 allowances that were recorded in the compliance account pursuant to § 97.721 and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any other CSAPR SO_2 Group 2 allowances that were transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

* * * * *

■ 143. Section 97.725 is amended by:
■ a. Revising the section heading;
■ b. In paragraph (a)(1), after the word "allocated" adding the words "or auctioned";
■ c. In paragraph (b)(2)(iii) introductory text, removing the text "paragraph (b)(1)(i)" and adding in its place the text "paragraph (b)(1)(ii)";
■ d. In paragraph (b)(2)(iii)(B), after the words "availability of" adding the words "the calculations incorporating"; and
■ e. In paragraph (b)(6)(iii)(B), after the word "appropriate" removing the word "at".

The revision reads as follows:

§ 97.725 Compliance with CSAPR SO_2 Group 2 assurance provisions.

* * * * *

§ 97.728 [Amended]

■ 144. Section 97.728, paragraph (b) is amended by removing the text "paragraph (a)(1)" and adding in its place the text "paragraph (a)".
■ 145. Section 97.730 is amended by:
■ a. Italicizing the heading of paragraph (a);
■ b. Revising paragraph (b) introductory text and paragraphs (b)(1) and (2);
■ c. In paragraph (b)(3) introductory text, removing the text "§§ 75.4(e)(1) through (e)(4)" and adding in its place the text "§ 75.4(e)(1) through (4)"; and
■ d. In paragraph (b)(3)(iii), after the text "§ 75.66" adding the words "of this chapter".

The revisions read as follows:

§ 97.730 General monitoring, recordkeeping, and reporting requirements.

* * * * *

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator of a CSAPR SO_2 Group 2 unit shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the later of the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the later of the following dates:

(1) January 1, 2015; or

(2) 180 calendar days after the date on which the unit commences commercial operation.

* * * * *

§ 97.731 [Amended]

■ 146. Section 97.731 is amended by:
■ a. Italicizing the headings of paragraphs (d)(1) through (3), (d)(3)(i) through (iv), (d)(3)(iv)(A) through (D), and (d)(3)(v);
■ b. In paragraph (d)(3) introductory text, removing the text "§§ " and adding in its place the text "§ "; and
■ c. Redesignating paragraphs (d)(3)(v)(A)(1) through (3) as paragraphs (d)(3)(v)(A)(*1*) through (*3*).
■ 147. Section 97.734 is amended by:
■ a. In paragraph (b), after the words "comply with" adding the word "the"; and
■ b. Revising paragraphs (d)(1) and (3).

The revisions read as follows:

§ 97.734 Recordkeeping and reporting.

* * * * *

(d) * * *

(1) The designated representative shall report the SO_2 mass emissions data and heat input data for a CSAPR SO_2 Group 2 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with the later of:

(i) The calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) The calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.730(b).

* * * * *

(3) For CSAPR SO_2 Group 2 units that are also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR NO_X Ozone Season Group 1 Trading Program, or CSAPR NO_X Ozone Season Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

* * * * *

§ 97.735 [Amended]

■ 148. Section 97.735 is amended by redesignating paragraphs (b)(i) through (v) as paragraphs (b)(1) through (5).
■ 149. Part 97 is amended by adding subpart EEEEE, consisting of §§ 97.801 through 97.835, to read as follows:

Subpart EEEEE—CSAPR NO_X Ozone Season Group 2 Trading Program

Sec.

97.801 Purpose.
97.802 Definitions.
97.803 Measurements, abbreviations, and acronyms.
97.804 Applicability.
97.805 Retired unit exemption.
97.806 Standard requirements.
97.807 Computation of time.
97.808 Administrative appeal procedures.
97.809 [Reserved]
97.810 State NO_X Ozone Season Group 2 trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.
97.811 Timing requirements for CSAPR NO_X Ozone Season Group 2 allowance allocations.
97.812 CSAPR NO_X Ozone Season Group 2 allowance allocations to new units.
97.813 Authorization of designated representative and alternate designated representative.
97.814 Responsibilities of designated representative and alternate designated representative.
97.815 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.
97.816 Certificate of representation.
97.817 Objections concerning designated representative and alternate designated representative.
97.818 Delegation by designated representative and alternate designated representative.
97.819 [Reserved]
97.820 Establishment of compliance accounts, assurance accounts, and general accounts.
97.821 Recordation of CSAPR NO_X Ozone Season Group 2 allowance allocations and auction results.
97.822 Submission of CSAPR NO_X Ozone Season Group 2 allowance transfers.
97.823 Recordation of CSAPR NO_X Ozone Season Group 2 allowance transfers.
97.824 Compliance with CSAPR NO_X Ozone Season Group 2 emissions limitation.

97.825 Compliance with CSAPR NO_X Ozone Season Group 2 assurance provisions.
97.826 Banking.
97.827 Account error.
97.828 Administrator's action on submissions.
97.829 [Reserved]
97.830 General monitoring, recordkeeping, and reporting requirements.
97.831 Initial monitoring system certification and recertification procedures.
97.832 Monitoring system out-of-control periods.
97.833 Notifications concerning monitoring.
97.834 Recordkeeping and reporting.
97.835 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

Subpart EEEEE—CSAPR NO_X Ozone Season Group 2 Trading Program

§ 97.801 Purpose.

This subpart sets forth the general, designated representative, allowance, and monitoring provisions for the Cross-State Air Pollution Rule (CSAPR) NO_X Ozone Season Group 2 Trading Program, under section 110 of the Clean Air Act and § 52.38 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

§ 97.802 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows, provided that any term that includes the acronym "CSAPR" shall be considered synonymous with a term that is used in a SIP revision approved by the Administrator under § 52.38 or § 52.39 of this chapter and that is substantively identical except for the inclusion of the acronym "TR" in place of the acronym "CSAPR":

Acid Rain Program means a multi-state SO_2 and NO_X air pollution control and emission reduction program established by the Administrator under title IV of the Clean Air Act and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Director of the Clean Air Markets Division (or its successor determined by the Administrator) of the United States Environmental Protection Agency, the Administrator's duly authorized representative under this subpart.

Allocate or *allocation* means, with regard to CSAPR NO_X Ozone Season Group 2 allowances, the determination by the Administrator, State, or permitting authority, in accordance with this subpart, § 97.526(c), and any SIP revision submitted by the State and approved by the Administrator under § 52.38(b)(6), (7), (8), or (9) of this chapter, of the amount of such CSAPR NO_X Ozone Season Group 2 allowances to be initially credited, at no cost to the recipient, to:

(1) A CSAPR NO_X Ozone Season Group 2 unit;

(2) A new unit set-aside;

(3) An Indian country new unit set-aside; or

(4) An entity not listed in paragraphs (1) through (3) of this definition;

(5) Provided that, if the Administrator, State, or permitting authority initially credits, to a CSAPR NO_X Ozone Season Group 2 unit qualifying for an initial credit, a credit in the amount of zero CSAPR NO_X Ozone Season Group 2 allowances, the CSAPR NO_X Ozone Season Group 2 unit will be treated as being allocated an amount (*i.e.*, zero) of CSAPR NO_X Ozone Season Group 2 allowances.

Allowable NO_X emission rate means, for a unit, the most stringent State or federal NO_X emission rate limit (in lb/MWh or, if in lb/mmBtu, converted to lb/MWh by multiplying it by the unit's heat rate in mmBtu/MWh) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, auctions, transfers, and deductions of CSAPR NO_X Ozone Season Group 2 allowances under the CSAPR NO_X Ozone Season Group 2 Trading Program. Such allowances are allocated, auctioned, recorded, held, transferred, or deducted only as whole allowances.

Allowance Management System account means an account in the Allowance Management System established by the Administrator for purposes of recording the allocation, auction, holding, transfer, or deduction of CSAPR NO_X Ozone Season Group 2 allowances.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a CSAPR NO_X Ozone Season Group 2 allowance transfer must be submitted for recordation in a CSAPR NO_X Ozone Season Group 2 source's compliance account in order to be available for use in complying with the source's CSAPR NO_X Ozone Season Group 2 emissions limitation for such control period in accordance with §§ 97.806 and 97.824.

Alternate designated representative means, for a CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the CSAPR NO_X Ozone Season Group 2 Trading Program. If the CSAPR NO_X Ozone Season Group 2 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative as defined in the respective program.

Assurance account means an Allowance Management System account, established by the Administrator under § 97.825(b)(3) for certain owners and operators of a group of one or more base CSAPR NO_X Ozone Season Group 2 sources and units in a given State (and Indian country within the borders of such State), in which are held CSAPR NO_X Ozone Season Group 2 allowances available for use for a control period in a given year in complying with the CSAPR NO_X Ozone Season Group 2 assurance provisions in accordance with §§ 97.806 and 97.825.

Auction means, with regard to CSAPR NO_X Ozone Season Group 2 allowances, the sale to any person by a State or permitting authority, in accordance with a SIP revision submitted by the State and approved by the Administrator under § 52.38(b)(6), (8), or (9) of this chapter, of such CSAPR NO_X Ozone Season Group 2 allowances to be initially recorded in an Allowance Management System account.

Authorized account representative means, for a general account, the natural person who is authorized, in accordance with this subpart, to transfer and otherwise dispose of CSAPR NO_X Ozone Season Group 2 allowances held in the general account and, for a CSAPR NO_X Ozone Season Group 2 source's compliance account, the designated representative of the source.

Automated data acquisition and handling system or *DAHS* means the component of the continuous emission monitoring system, or other emissions monitoring system approved for use under this subpart, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured

parameters in the measurement units required by this subpart.

Base CSAPR NO_X Ozone Season Group 2 source means a source that includes one or more base CSAPR NO_X Ozone Season Group 2 units.

Base CSAPR NO_X Ozone Season Group 2 unit means a CSAPR NO_X Ozone Season Group 2 unit, provided that any unit that would not be a CSAPR NO_X Ozone Season Group 2 unit under § 97.804(a) and (b) is not a base CSAPR NO_X Ozone Season Group 2 unit notwithstanding the provisions of any SIP revision approved by the Administrator under § 52.38(b)(6), (8), or (9) of this chapter.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other material that is nonmerchantable for other purposes, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle unit means a unit in which the energy input to the unit is first used to produce useful thermal energy, where at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

Business day means a day that does not fall on a weekend or a federal holiday.

Certifying official means a natural person who is:

(1) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy- or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401, *et seq.*

Coal means "coal" as defined in § 72.2 of this chapter.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Cogeneration system means an integrated group, at a source, of equipment (including a boiler, or combustion turbine, and a generator) designed to produce useful thermal energy for industrial, commercial, heating, or cooling purposes and electricity through the sequential use of energy.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a topping-cycle unit or a bottoming-cycle unit:

(1) Operating as part of a cogeneration system; and

(2) Producing on an annual average basis—

(i) For a topping-cycle unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle unit, useful power not less than 45 percent of total energy input;

(3) Provided that the requirements in paragraph (2) of this definition shall not apply to a calendar year referenced in paragraph (2) of this definition during which the unit did not operate at all;

(4) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel, except biomass if the unit is a boiler; and

(5) Provided that, if, throughout its operation during the 12-month period or a calendar year referenced in paragraph (2) of this definition, a unit is operated as part of a cogeneration system and the cogeneration system meets on a system-wide basis the requirement in paragraph (2)(i)(B) or (2)(ii) of this definition, the unit shall be deemed to meet such requirement during that 12-month period or calendar year.

Combustion turbine means an enclosed device comprising:

(1) If the device is simple cycle, a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the device is combined cycle, the equipment described in paragraph (1) of this definition and any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.805.

(i) For a unit that is a CSAPR NO_X Ozone Season Group 2 unit under § 97.804 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that subsequently undergoes a physical change or is moved to a new location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CSAPR NO_X Ozone Season Group 2 unit under § 97.804 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.805, for a unit that is not a CSAPR NO_X Ozone Season Group 2 unit under § 97.804 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CSAPR NO_X Ozone Season Group 2 unit under § 97.804.

(i) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that subsequently undergoes a physical change or is moved to a different location or source, such date shall remain the date of commencement of commercial operation of the unit,

which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common designated representative means, with regard to a control period in a given year, a designated representative where, as of April 1 immediately after the allowance transfer deadline for such control period, the same natural person is authorized under §§ 97.813(a) and 97.815(a) as the designated representative for a group of one or more base CSAPR NO_X Ozone Season Group 2 sources and units located in a State (and Indian country within the borders of such State).

Common designated representative's assurance level means, with regard to a specific common designated representative and a State (and Indian country within the borders of such State) and control period in a given year for which the State assurance level is exceeded as described in § 97.806(c)(2)(iii), the common designated representative's share of the State NO_X Ozone Season Group 2 trading budget with the variability limit for the State for such control period.

Common designated representative's share means, with regard to a specific common designated representative for a control period in a given year:

(1) With regard to a total amount of NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units in a State (and Indian country within the borders of such State) during such control period, the total tonnage of NO_X emissions during such control period from a group of one or more base CSAPR NO_X Ozone Season Group 2 units located in such State (and such Indian country) and having the common designated representative for such control period;

(2) With regard to a State NO_X Ozone Season Group 2 trading budget with the variability limit for such control period, the amount (rounded to the nearest allowance) equal to the sum of the total amount of CSAPR NO_X Ozone Season Group 2 allowances allocated for such control period to a group of one or more base CSAPR NO_X Ozone Season Group 2 units located in the State (and Indian country within the borders of such State) and having the common designated representative for such control period and the total amount of CSAPR NO_X Ozone Season Group 2 allowances purchased by an owner or operator of such base CSAPR NO_X Ozone Season Group 2 units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance accounts for such base CSAPR NO_X Ozone Season Group 2 units in accordance with the CSAPR NO_X Ozone Season Group 2 allowance auction provisions in a SIP revision approved by the Administrator under § 52.38(b)(6), (8), or (9) of this chapter, multiplied by the sum of the State NO_X Ozone Season Group 2 trading budget under § 97.810(a) and the State's variability limit under § 97.810(b) for such control period and divided by the greater of such State NO_X Ozone Season Group 2 trading budget or the sum of all amounts of CSAPR NO_X Ozone Season Group 2 allowances for such control period treated for purposes of this definition as having been allocated to or purchased in the State's auction for all such base CSAPR NO_X Ozone Season Group 2 units, provided that—

(i) The allocations of CSAPR NO_X Ozone Season Group 2 allowances for any control period taken into account for purposes of this definition exclude any CSAPR NO_X Ozone Season Group 2 allowances allocated for such control period under § 97.526(c)(1) or (3), or under § 97.526(c)(4) or (5) pursuant to an exception under § 97.526(c)(1) or (3);

(ii) In the case of the base CSAPR NO_X Ozone Season Group 2 units at a base CSAPR NO_X Ozone Season Group 2 source in a State with regard to which CSAPR NO_X Ozone Season Group 2 allowances have been allocated under § 97.526(c)(2) for a given control period, the units at each such source will be treated, solely for purposes of this definition, as having been allocated under § 97.526(c)(2), or under § 97.526(c)(4) or (5) pursuant to an exception under § 97.526(c)(2), an amount of CSAPR NO_X Ozone Season Group 2 allowances for such control period equal to the sum of the total amount of CSAPR NO_X Ozone Season Group 1 allowances allocated for such control period to such units and the total amount of CSAPR NO_X Ozone Season Group 1 allowances purchased by an owner or operator of such units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance account for such source in accordance with the CSAPR NO_X Ozone Season Group 1 allowance auction provisions in a SIP revision approved by the Administrator under § 52.38(b)(4) or (5) of this chapter, divided by the conversion factor determined under § 97.526(c)(2)(ii) with regard to the State's SIP revision under § 52.38(b)(6) of this chapter, and rounded up to the nearest whole allowance; and

(iii) In the case of a base CSAPR NO_X Ozone Season Group 2 unit that operates during, but has no amount of CSAPR NO_X Ozone Season Group 2 allowances allocated under §§ 97.811 and 97.812 for, such control period, the unit shall be treated, solely for purposes of this definition, as being allocated an amount (rounded to the nearest allowance) of CSAPR NO_X Ozone Season Group 2 allowances for such control period equal to the unit's allowable NO_X emission rate applicable to such control period, multiplied by a capacity factor of 0.92 (if the unit is a boiler combusting any amount of coal or coal-derived fuel during such control period), 0.32 (if the unit is a simple combustion turbine during such control period), 0.71 (if the unit is a combined cycle turbine during such control period), 0.73 (if the unit is an integrated coal gasification combined cycle unit during such control period), or 0.44 (for any other unit), multiplied by the unit's maximum hourly load as reported in accordance with this subpart and by 3,672 hours/control period, and divided by 2,000 lb/ton.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means an Allowance Management System account, established by the Administrator for a CSAPR NO_X Ozone Season Group 2 source under this subpart, in which any CSAPR NO_X Ozone Season Group 2 allowance allocations to the CSAPR NO_X Ozone Season Group 2 units at the source are recorded and in which are held any CSAPR NO_X Ozone Season Group 2 allowances available for use for a control period in a given year in complying with the source's CSAPR NO_X Ozone Season Group 2 emissions limitation in accordance with §§ 97.806 and 97.824.

Continuous emission monitoring system or *CEMS* means the equipment required under this subpart to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes and using an automated data acquisition and handling system (DAHS), a permanent record of NO_X emissions, stack gas volumetric flow rate, stack gas moisture

content, and O_2 or CO_2 concentration (as applicable), in a manner consistent with part 75 of this chapter and §§ 97.830 through 97.835. The following systems are the principal types of continuous emission monitoring systems:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A NO_X concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A NO_X emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A CO_2 monitoring system, consisting of a CO_2 pollutant concentration monitor (or an O_2 monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An O_2 monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period starting May 1 of a calendar year, except as provided in § 97.806(c)(3), and ending on September 30 of the same year, inclusive.

CSAPR NO_X Annual Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart AAAAA of this part and § 52.38(a) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(a)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(a)(5) of this chapter), as a means of mitigating interstate transport of fine particulates and NO_X.

CSAPR NO_X Ozone Season Group 1 allowance means a limited authorization issued and allocated or auctioned by the Administrator under subpart BBBBB of this part, or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.38(b)(3), (4), or (5) of this chapter, to emit one ton of NO_X during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the CSAPR NO_X Ozone Season Group 1 Trading Program.

CSAPR NO_X Ozone Season Group 1 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b)(1), (b)(2)(i) and (ii), (b)(3) through (5), and (b)(10) through (12) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR NO_X Ozone Season Group 2 allowance means a limited authorization issued and allocated or auctioned by the Administrator under this subpart or § 97.526(c), or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.38(b)(6), (7), (8), or (9) of this chapter, to emit one ton of NO_X during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the CSAPR NO_X Ozone Season Group 2 Trading Program.

CSAPR NO_X Ozone Season Group 2 allowance deduction or *deduct CSAPR NO_X Ozone Season Group 2 allowances* means the permanent withdrawal of CSAPR NO_X Ozone Season Group 2 allowances by the Administrator from a compliance account (*e.g.*, in order to account for compliance with the CSAPR NO_X Ozone Season Group 2 emissions limitation) or from an assurance account (*e.g.*, in order to account for compliance with the assurance provisions under §§ 97.806 and 97.825).

CSAPR NO_X Ozone Season Group 2 allowances held or *hold CSAPR NO_X Ozone Season Group 2 allowances* means the CSAPR NO_X Ozone Season Group 2 allowances treated as included in an Allowance Management System account as of a specified point in time because at that time they:

(1) Have been recorded by the Administrator in the account or transferred into the account by a correctly submitted, but not yet recorded, CSAPR NO_X Ozone Season Group 2 allowance transfer in accordance with this subpart; and

(2) Have not been transferred out of the account by a correctly submitted, but not yet recorded, CSAPR NO_X Ozone Season Group 2 allowance transfer in accordance with this subpart.

CSAPR NO_X Ozone Season Group 2 emissions limitation means, for a CSAPR NO_X Ozone Season Group 2 source, the tonnage of NO_X emissions authorized in a control period in a given year by the CSAPR NO_X Ozone Season Group 2 allowances available for deduction for the source under § 97.824(a) for such control period.

CSAPR NO_X Ozone Season Group 2 source means a source that includes one or more CSAPR NO_X Ozone Season Group 2 units.

CSAPR NO_X Ozone Season Group 2 Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with this subpart and § 52.38(b)(1), (b)(2)(i) and (iii), (b)(6) through (11), and (b)(13) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(7) or (8) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(6) or (9) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

CSAPR NO_X Ozone Season Group 2 unit means a unit that is subject to the CSAPR NO_X Ozone Season Group 2 Trading Program.

CSAPR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart CCCCC of this part and § 52.39 (a), (b), (d) through (f), and (j) through (l) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

CSAPR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart DDDDD of this part and § 52.39(a), (c), (g) through (k), and (m) of this chapter (including such a program that is revised in a SIP revision approved by

the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

Designated representative means, for a CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the CSAPR NO_X Ozone Season Group 2 Trading Program. If the CSAPR NO_X Ozone Season Group 2 source is also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative as defined in the respective program.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative, and as modified by the Administrator:

(1) In accordance with this subpart; and

(2) With regard to a period before the unit or source is required to measure, record, and report such air pollutants in accordance with this subpart, in accordance with part 75 of this chapter.

Excess emissions means any ton of emissions from the CSAPR NO_X Ozone Season Group 2 units at a CSAPR NO_X Ozone Season Group 2 source during a control period in a given year that exceeds the CSAPR NO_X Ozone Season Group 2 emissions limitation for the source for such control period.

Fossil fuel means—

(1) Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material; or

(2) For purposes of applying the limitation on "average annual fuel consumption of fossil fuel" in § 97.804(b)(2)(i)(B) and (b)(2)(ii), natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in 2005 or any calendar year thereafter.

General account means an Allowance Management System account, established under this subpart, that is not a compliance account or an assurance account.

Generator means a device that produces electricity.

Heat input means, for a unit for a specified period of unit operating time, the product (in mmBtu) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time) and unit operating time, as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the quotient (in mmBtu/hr) of the amount of heat input for a specified period of unit operating time (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the quotient (in mmBtu/unit of load) of the unit's maximum design heat input rate (in Btu/hr) divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

Indian country means "Indian country" as defined in 18 U.S.C. 1151.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input rate means, for a unit, the maximum amount of fuel per hour (in Btu/hr) that the unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of this subpart, including a continuous emission monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe, rounded to the nearest tenth) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount (in MWe, rounded to the nearest tenth) as of such completion as specified by the person conducting the physical change.

Natural gas means "natural gas" as defined in § 72.2 of this chapter.

Newly affected CSAPR NO_X Ozone Season Group 2 unit means a unit that was not a CSAPR NO_X Ozone Season Group 2 unit when it began operating but that thereafter becomes a CSAPR NO_X Ozone Season Group 2 unit.

Operate or *operation* means, with regard to a unit, to combust fuel.

Operator means, for a CSAPR NO_X Ozone Season Group 2 source or a CSAPR NO_X Ozone Season Group 2 unit at a source respectively, any person who operates, controls, or supervises a CSAPR NO_X Ozone Season Group 2 unit at the source or the CSAPR NO_X Ozone Season Group 2 unit and shall include, but not be limited to, any holding company, utility system, or plant manager of such source or unit.

Owner means, for a CSAPR NO_X Ozone Season Group 2 source or a CSAPR NO_X Ozone Season Group 2 unit at a source respectively, any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a CSAPR NO_X Ozone Season Group 2 unit at the source or the CSAPR NO_X Ozone Season Group 2 unit;

(2) Any holder of a leasehold interest in a CSAPR NO_X Ozone Season Group 2 unit at the source or the CSAPR NO_X Ozone Season Group 2 unit, provided that, unless expressly provided for in a leasehold agreement, "owner" shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly)

on the revenues or income from such CSAPR NO_X Ozone Season Group 2 unit; and

(3) Any purchaser of power from a CSAPR NO_X Ozone Season Group 2 unit at the source or the CSAPR NO_X Ozone Season Group 2 unit under a life-of-the-unit, firm power contractual arrangement.

Permanently retired means, with regard to a unit, a unit that is unavailable for service and that the unit's owners and operators do not expect to return to service in the future.

Permitting authority means "permitting authority" as defined in §§ 70.2 and 71.2 of this chapter.

Potential electrical output capacity means, for a unit (in MWh/yr), 33 percent of the unit's maximum design heat input rate (in Btu/hr), divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or *receipt of* means, when referring to the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to CSAPR NO_X Ozone Season Group 2 allowances, the moving of CSAPR NO_X Ozone Season Group 2 allowances by the Administrator into, out of, or between Allowance Management System accounts, for purposes of allocation, auction, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent retirement and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or retired unit (the replaced unit).

Sequential use of energy means:

(1) The use of reject heat from electricity production in a useful thermal energy application or process; or

(2) The use of reject heat from a useful thermal energy application or process in electricity production.

Serial number means, for a CSAPR NO_X Ozone Season Group 2 allowance, the unique identification number assigned to each CSAPR NO_X Ozone Season Group 2 allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a "solid waste incineration unit" as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. This definition does not change or otherwise affect the definition of "major source", "stationary source", or "source" as set forth and implemented in a title V operating permit program or any other program under the Clean Air Act.

State means one of the States that is subject to the CSAPR NO_X Ozone Season Group 2 Trading Program pursuant to § 52.38(b)(1), (2)(i) and (iii), (6) through (11), and (13) of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery;

(4) Provided that compliance with any "submission" or "service" deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Topping-cycle unit means a unit in which the energy input to the unit is first used to produce useful power, including electricity, where at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, for a unit, total energy of all forms supplied to the unit, excluding energy produced by the unit. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55 (W + 9H)$$

where:

LHV = lower heating value of the form of energy in Btu/lb,

HHV = higher heating value of the form of energy in Btu/lb,

W = weight % of moisture in the form of energy, and

H = weight % of hydrogen in the form of energy.

Total energy output means, for a unit, the sum of useful power and useful thermal energy produced by the unit.

Unit means a stationary, fossil-fuel-fired boiler, stationary, fossil-fuel-fired combustion turbine, or other stationary, fossil-fuel-fired combustion device. A unit that undergoes a physical change or is moved to a different location or source shall continue to be treated as the same unit. A unit (the replaced unit) that is replaced by another unit (the replacement unit) at the same or a different source shall continue to be treated as the same unit, and the replacement unit shall be treated as a separate unit.

Unit operating day means, with regard to a unit, a calendar day in which the unit combusts any fuel.

Unit operating hour or *hour of unit operation* means, with regard to a unit, an hour in which the unit combusts any fuel.

Useful power means, with regard to a unit, electricity or mechanical energy that the unit makes available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.,* space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.,* in an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

§ 97.803 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
CSAPR—Cross-State Air Pollution Rule
H_2O—water
hr—hour
kWh—kilowatt-hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt-hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SIP—State implementation plan
SO_2—sulfur dioxide
TR—Transport Rule
yr—year

§ 97.804 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State (and Indian country within the borders of such State) shall be CSAPR NO_X Ozone Season Group 2 units, and any source that includes one or more such units shall be a CSAPR NO_X Ozone Season Group 2 source, subject to the requirements of this subpart: Any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CSAPR NO_X Ozone Season Group 2 unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CSAPR NO_X Ozone Season Group 2 unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) Any unit in a State (and Indian country within the borders of such State) that otherwise is a CSAPR NO_X Ozone Season Group 2 unit under paragraph (a) of this section and that meets the requirements set forth in paragraph (b)(1)(i) or (b)(2)(i) of this section shall not be a CSAPR NO_X Ozone Season Group 2 unit:

(1)(i) Any unit:

(A) Qualifying as a cogeneration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) Not supplying in 2005 or any calendar year thereafter more than one-third of the unit's potential electrical output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If, after qualifying under paragraph (b)(1)(i) of this section as not being a CSAPR NO_X Ozone Season Group 2 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a CSAPR NO_X Ozone Season Group 2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section. The unit shall thereafter continue to be a CSAPR NO_X Ozone Season Group 2 unit.

(2)(i) Any unit:

(A) Qualifying as a solid waste incineration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a solid waste incineration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) With an average annual fuel consumption of fossil fuel for the first 3 consecutive calendar years of operation starting no earlier than 2005 of less than 20 percent (on a Btu basis) and an average annual fuel consumption of fossil fuel for any 3 consecutive calendar years thereafter of less than 20 percent (on a Btu basis).

(ii) If, after qualifying under paragraph (b)(2)(i) of this section as not being a CSAPR NO_X Ozone Season Group 2 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(2)(i) of this section, the unit shall become a CSAPR NO_X Ozone Season Group 2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 2005 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more. The unit shall thereafter continue to be a CSAPR NO_X Ozone Season Group 2 unit.

(c) A certifying official of an owner or operator of any unit or other equipment may submit a petition (including any supporting documents) to the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section or a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, of the CSAPR NO_X Ozone Season Group 2 Trading Program to the unit or other equipment.

(1) *Petition content.* The petition shall be in writing and include the identification of the unit or other equipment and the relevant facts about the unit or other equipment. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: "I am authorized to make this submission on behalf of the owners and operators of the unit or other equipment for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(2) *Response.* The Administrator will issue a written response to the petition and may request supplemental information determined by the Administrator to be relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CSAPR NO_X Ozone Season Group 2 Trading Program to the unit or other equipment shall be binding on any State or permitting authority unless the Administrator determines that the petition or other documents or information provided in connection with the petition contained significant, relevant errors or omissions.

§ 97.805 Retired unit exemption.

(a)(1) Any CSAPR NO_X Ozone Season Group 2 unit that is permanently retired shall be exempt from § 97.806(b) and (c)(1), § 97.824, and §§ 97.830 through 97.835.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CSAPR NO_X Ozone Season Group 2 unit is permanently retired. Within 30 days of the unit's permanent retirement, the designated representative shall submit a statement to the Administrator. The statement shall state, in a format prescribed by the Administrator, that the unit was permanently retired on a specified date and will comply with the requirements of paragraph (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any NO_X, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under paragraph (a) of this section shall

comply with the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under this subpart, as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.806 Standard requirements.

(a) *Designated representative requirements.* The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§ 97.813 through 97.818.

(b) *Emissions monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the designated representative, of each CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§ 97.830 through 97.835.

(2) The emissions data determined in accordance with §§ 97.830 through 97.835 shall be used to calculate allocations of CSAPR NO_X Ozone Season Group 2 allowances under §§ 97.811(a)(2) and (b) and 97.812 and to determine compliance with the CSAPR NO_X Ozone Season Group 2 emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§ 97.830 through 97.835 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) *NO_X emissions requirements*—(1) *CSAPR NO_X Ozone Season Group 2 emissions limitation.* (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall hold, in the source's compliance account, CSAPR NO_X Ozone Season Group 2 allowances available for deduction for such control period under § 97.824(a) in an amount not less than the tons of total NO_X emissions for such control period from all CSAPR NO_X Ozone Season Group 2 units at the source.

(ii) If total NO_X emissions during a control period in a given year from the CSAPR NO_X Ozone Season Group 2 units at a CSAPR NO_X Ozone Season Group 2 source are in excess of the CSAPR NO_X Ozone Season Group 2 emissions limitation set forth in paragraph (c)(1)(i) of this section, then:

(A) The owners and operators of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall hold the CSAPR NO_X Ozone Season Group 2 allowances required for deduction under § 97.824(d); and

(B) The owners and operators of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(2) *CSAPR NO_X Ozone Season Group 2 assurance provisions.* (i) If total NO_X emissions during a control period in a given year from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_X emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) CSAPR NO_X Ozone Season Group 2 allowances available for deduction for such control period under § 97.825(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with § 97.825(b), of multiplying—

(A) The quotient of the amount by which the common designated representative's share of such NO_X emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such NO_X emissions exceeds the respective common designated representative's assurance level; and

(B) The amount by which total NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in the State (and Indian country within the borders of such State) for such control period exceed the State assurance level.

(ii) The owners and operators shall hold the CSAPR NO_X Ozone Season Group 2 allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after the year of such control period.

(iii) Total NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total NO_X emissions exceed the sum, for such control period, of the State NO_X Ozone Season Group 2 trading budget under § 97.810(a) and the State's variability limit under § 97.810(b).

(iv) It shall not be a violation of this subpart or of the Clean Air Act if total NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total NO_X emissions from the base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.

(v) To the extent the owners and operators fail to hold CSAPR NO_X Ozone Season Group 2 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,

(A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B) Each CSAPR NO_X Ozone Season Group 2 allowance that the owners and operators fail to hold for such control

period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(3) *Compliance periods.* (i) A CSAPR NO_X Ozone Season Group 2 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.830(b) and for each control period thereafter.

(ii) A base CSAPR NO_X Ozone Season Group 2 unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.830(b) and for each control period thereafter.

(4) *Vintage of CSAPR NO_X Ozone Season Group 2 allowances held for compliance.* (i) A CSAPR NO_X Ozone Season Group 2 allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a CSAPR NO_X Ozone Season Group 2 allowance that was allocated or auctioned for such control period or a control period in a prior year.

(ii) A CSAPR NO_X Ozone Season Group 2 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (c)(2)(i) through (iii) of this section for a control period in a given year must be a CSAPR NO_X Ozone Season Group 2 allowance that was allocated or auctioned for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) *Allowance Management System requirements.* Each CSAPR NO_X Ozone Season Group 2 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.

(6) *Limited authorization.* A CSAPR NO_X Ozone Season Group 2 allowance is a limited authorization to emit one ton of NO_X during the control period in one year. Such authorization is limited in its use and duration as follows:

(i) Such authorization shall only be used in accordance with the CSAPR NO_X Ozone Season Group 2 Trading Program; and

(ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) *Property right.* A CSAPR NO_X Ozone Season Group 2 allowance does not constitute a property right.

(d) *Title V permit requirements.* (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of CSAPR NO_X Ozone Season Group 2 allowances in accordance with this subpart.

(2) A description of whether a unit is required to monitor and report NO_X emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under § 75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§ 97.830 through 97.835 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§ 70.7(e)(2) and 71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§ 70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.

(e) *Additional recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of each CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i) The certificate of representation under § 97.816 for the designated representative for the source and each CSAPR NO_X Ozone Season Group 2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under § 97.816 changing the designated representative.

(ii) All emissions monitoring information, in accordance with this subpart.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the CSAPR NO_X Ozone Season Group 2 Trading Program.

(2) The designated representative of a CSAPR NO_X Ozone Season Group 2 source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall make all submissions required under the CSAPR NO_X Ozone Season Group 2 Trading Program, except as provided in § 97.818. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71 of this chapter.

(f) *Liability.* (1) Any provision of the CSAPR NO_X Ozone Season Group 2 Trading Program that applies to a CSAPR NO_X Ozone Season Group 2 source or the designated representative of a CSAPR NO_X Ozone Season Group 2 source shall also apply to the owners and operators of such source and of the CSAPR NO_X Ozone Season Group 2 units at the source.

(2) Any provision of the CSAPR NO_X Ozone Season Group 2 Trading Program that applies to a CSAPR NO_X Ozone Season Group 2 unit or the designated representative of a CSAPR NO_X Ozone Season Group 2 unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities.* No provision of the CSAPR NO_X Ozone Season Group 2 Trading Program or exemption under § 97.805 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a CSAPR NO_X Ozone Season Group 2 source or CSAPR NO_X Ozone Season Group 2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

§ 97.807 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CSAPR NO_X Ozone Season Group 2 Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CSAPR NO_X Ozone Season Group 2 Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the

CSAPR NO_X Ozone Season Group 2 Trading Program, is not a business day, the time period shall be extended to the next business day.

§ 97.808 Administrative appeal procedures.

The administrative appeal procedures for decisions of the Administrator under the CSAPR NO_X Ozone Season Group 2 Trading Program are set forth in part 78 of this chapter.

§ 97.809 [Reserved]

§ 97.810 State NO_X Ozone Season Group 2 trading budgets, new unit set-asides, Indian country new unit set-asides, and variability limits.

(a) The State NO_X Ozone Season Group 2 trading budgets, new unit set-asides, and Indian country new unit set-asides for allocations of CSAPR NO_X Ozone Season Group 2 allowances for the control periods in 2017 and thereafter are as follows:

(1) *Alabama.* (i) The NO_X Ozone Season Group 2 trading budget is 13,211 tons.

(ii) The new unit set-aside is 255 tons.

(iii) The Indian country new unit set-aside is 13 tons.

(2) *Arkansas.* (i) The NO_X Ozone Season Group 2 trading budget for 2017 is 12,048 tons and for 2018 and thereafter is 9,210 tons.

(ii) The new unit set-aside for 2017 is 240 tons and for 2018 and thereafter is 185 tons.

(iii) [Reserved]

(3) *Georgia.* (i) The NO_X Ozone Season Group 2 trading budget is 8,481 tons.

(ii) The new unit set-aside is 168 tons.

(iii) [Reserved]

(4) *Illinois.* (i) The NO_X Ozone Season Group 2 trading budget is 14,601 tons.

(ii) The new unit set-aside is 302 tons.

(iii) [Reserved]

(5) *Indiana.* (i) The NO_X Ozone Season Group 2 trading budget is 23,303 tons.

(ii) The new unit set-aside is 468 tons.

(iii) [Reserved]

(6) *Iowa.* (i) The NO_X Ozone Season Group 2 trading budget is 11,272 tons.

(ii) The new unit set-aside is 324 tons.

(iii) The Indian country new unit set-aside is 11 tons.

(7) *Kansas.* (i) The NO_X Ozone Season Group 2 trading budget is 8,027 tons.

(ii) The new unit set-aside is 148 tons.

(iii) The Indian country new unit set-aside is 8 tons.

(8) *Kentucky.* (i) The NO_X Ozone Season Group 2 trading budget is 21,115 tons.

(ii) The new unit set-aside is 426 tons.

(iii) [Reserved]

(9) *Louisiana.* (i) The NO_X Ozone Season Group 2 trading budget is 18,639 tons.

(ii) The new unit set-aside is 352 tons.

(iii) The Indian country new unit set-aside is 19 tons.

(10) *Maryland.* (i) The NO_X Ozone Season Group 2 trading budget is 3,828 tons.

(ii) The new unit set-aside is 152 tons.

(iii) [Reserved]

(11) *Michigan.* (i) The NO_X Ozone Season Group 2 trading budget is 17,023 tons.

(ii) The new unit set-aside is 665 tons.

(iii) The Indian country new unit set-aside is 17 tons.

(12) *Mississippi.* (i) The NO_X Ozone Season Group 2 trading budget is 6,315 tons.

(ii) The new unit set-aside is 120 tons.

(iii) The Indian country new unit set-aside is 6 tons.

(13) *Missouri.* (i) The NO_X Ozone Season Group 2 trading budget is 15,780 tons.

(ii) The new unit set-aside is 324 tons.

(iii) [Reserved]

(14) *New Jersey.* (i) The NO_X Ozone Season Group 2 trading budget is 2,062 tons.

(ii) The new unit set-aside is 192 tons.

(iii) [Reserved]

(15) *New York.* (i) The NO_X Ozone Season Group 2 trading budget is 5,135 tons.

(ii) The new unit set-aside is 252 tons.

(iii) The Indian country new unit set-aside is 5 tons.

(16) *Ohio.* (i) The NO_X Ozone Season Group 2 trading budget is 19,522 tons.

(ii) The new unit set-aside is 401 tons.

(iii) [Reserved]

(17) *Oklahoma.* (i) The NO_X Ozone Season Group 2 trading budget is 11,641 tons.

(ii) The new unit set-aside is 221 tons.

(iii) The Indian country new unit set-aside is 12 tons.

(18) *Pennsylvania.* (i) The NO_X Ozone Season Group 2 trading budget is 17,952 tons.

(ii) The new unit set-aside is 541 tons.

(iii) [Reserved]

(19) *Tennessee.* (i) The NO_X Ozone Season Group 2 trading budget is 7,736 tons.

(ii) The new unit set-aside is 156 tons.

(iii) [Reserved]

(20) *Texas.* (i) The NO_X Ozone Season Group 2 trading budget is 52,301 tons.

(ii) The new unit set-aside is 998 tons.

(iii) The Indian country new unit set-aside is 52 tons.

(21) *Virginia.* (i) The NO_X Ozone Season Group 2 trading budget is 9,223 tons.

(ii) The new unit set-aside is 562 tons.

(iii) [Reserved]

(22) *West Virginia.* (i) The NO_X Ozone Season Group 2 trading budget is 17,815 tons.

(ii) The new unit set-aside is 356 tons.

(iii) [Reserved]

(23) *Wisconsin.* (i) The NO_X Ozone Season Group 2 trading budget is 7,915 tons.

(ii) The new unit set-aside is 151 tons.

(iii) The Indian country new unit set-aside is 8 tons.

(b) The States' variability limits for the State NO_X Ozone Season Group 2 trading budgets for the control periods in 2017 and thereafter are as follows:

(1) The variability limit for Alabama is 2,774 tons.

(2) The variability limit for Arkansas for 2017 is 2,530 tons and for 2018 and thereafter is 1,934 tons.

(3) The variability limit for Georgia is 1,781 tons.

(4) The variability limit for Illinois is 3,066 tons.

(5) The variability limit for Indiana is 4,894 tons.

(6) The variability limit for Iowa is 2,367 tons.

(7) The variability limit for Kansas is 1,686 tons.

(8) The variability limit for Kentucky is 4,434 tons.

(9) The variability limit for Louisiana is 3,914 tons.

(10) The variability limit for Maryland is 804 tons.

(11) The variability limit for Michigan is 3,575 tons.

(12) The variability limit for Mississippi is 1,326 tons.

(13) The variability limit for Missouri is 3,314 tons.

(14) The variability limit for New Jersey is 433 tons.

(15) The variability limit for New York is 1,078 tons.

(16) The variability limit for Ohio is 4,100 tons.

(17) The variability limit for Oklahoma is 2,445 tons.

(18) The variability limit for Pennsylvania is 3,770 tons.

(19) The variability limit for Tennessee is 1,625 tons.

(20) The variability limit for Texas is 10,983 tons.

(21) The variability limit for Virginia is 1,937 tons.

(22) The variability limit for West Virginia is 3,741 tons.

(23) The variability limit for Wisconsin is 1,662 tons.

(c) Each State NO_X Ozone Season Group 2 trading budget in this section includes any tons in a new unit set-aside or Indian country new unit set-aside but does not include any tons in a variability limit.

§ 97.811 Timing requirements for CSAPR NO_X Ozone Season Group 2 allowance allocations.

(a) *Existing units.* (1) CSAPR NO_X Ozone Season Group 2 allowances are

allocated, for the control periods in 2017 and each year thereafter, as provided in a notice of data availability issued by the Administrator. Providing an allocation to a unit in such notice does not constitute a determination that the unit is a CSAPR NO_X Ozone Season Group 2 unit, and not providing an allocation to a unit in such notice does not constitute a determination that the unit is not a CSAPR NO_X Ozone Season Group 2 unit.

(2) Notwithstanding paragraph (a)(1) of this section, if a unit provided an allocation in the notice of data availability issued under paragraph (a)(1) of this section does not operate, starting after 2016, during the control period in two consecutive years, such unit will not be allocated the CSAPR NO_X Ozone Season Group 2 allowances provided in such notice for the unit for the control periods in the fifth year after the first such year and in each year after that fifth year. All CSAPR NO_X Ozone Season Group 2 allowances that would otherwise have been allocated to such unit will be allocated to the new unit set-aside for the State where such unit is located and for the respective years involved. If such unit resumes operation, the Administrator will allocate CSAPR NO_X Ozone Season Group 2 allowances to the unit in accordance with paragraph (b) of this section.

(b) *New units*—(1) *New unit set-asides.* (i) By June 1, 2017 and June 1 of each year thereafter, the Administrator will calculate the CSAPR NO_X Ozone Season Group 2 allowance allocation to each CSAPR NO_X Ozone Season Group 2 unit in a State, in accordance with § 97.812(a)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the CSAPR NO_X Ozone Season Group 2 units) are in accordance with § 97.812(a)(2) through (7) and (12) and §§ 97.806(b)(2) and 97.830 through 97.835.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(1)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.812(a)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) If the new unit set-aside for such control period contains any CSAPR NO_X Ozone Season Group 2 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 2 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period.

(iv) For each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of CSAPR NO_X Ozone Season Group 2 units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(iii) of this section and shall be limited to addressing whether the identification of CSAPR NO_X Ozone Season Group 2 units in such notice is in accordance with paragraph (b)(1)(iii) of this section.

(B) The Administrator will adjust the identification of CSAPR NO_X Ozone Season Group 2 units in each notice of data availability required in paragraph (b)(1)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(1)(iii) of this section and will calculate the CSAPR NO_X Ozone Season Group 2 allowance allocation to each CSAPR NO_X Ozone Season Group 2 unit in accordance with § 97.812(a)(9), (10), and (12) and §§ 97.806(b)(2) and 97.830 through 97.835. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of CSAPR NO_X Ozone Season Group 2 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any CSAPR NO_X Ozone Season Group 2 allowances are added to the new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(1)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such CSAPR NO_X Ozone Season Group 2 allowances in accordance with § 97.812(a)(10).

(2) *Indian country new unit set-asides.* (i) By June 1, 2017 and June 1 of each year thereafter, the Administrator will calculate the CSAPR NO_X Ozone Season Group 2 allowance allocation to each CSAPR NO_X Ozone Season Group 2 unit in Indian country within the borders of a State, in accordance with § 97.812(b)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the CSAPR NO_X Ozone Season Group 2 units) are in accordance with § 97.812(b)(2) through (7) and (12) and §§ 97.806(b)(2) and 97.830 through 97.835.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.812(b)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(ii)(A) of this section.

(iii) If the Indian country new unit set-aside for such control period contains any CSAPR NO_X Ozone Season

Group 2 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any CSAPR NO_X Ozone Season Group 2 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period.

(iv) For each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of CSAPR NO_X Ozone Season Group 2 units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(iii) of this section and shall be limited to addressing whether the identification of CSAPR NO_X Ozone Season Group 2 units in such notice is in accordance with paragraph (b)(2)(iii) of this section.

(B) The Administrator will adjust the identification of CSAPR NO_X Ozone Season Group 2 units in each notice of data availability required in paragraph (b)(2)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(2)(iii) of this section and will calculate the CSAPR NO_X Ozone Season Group 2 allowance allocation to each CSAPR NO_X Ozone Season Group 2 unit in accordance with § 97.812(b)(9), (10), and (12) and §§ 97.806(b)(2) and 97.830 through 97.835. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of CSAPR NO_X Ozone Season Group 2 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any CSAPR NO_X Ozone Season Group 2 allowances are added to the Indian country new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(2)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such CSAPR NO_X Ozone Season Group 2 allowances in accordance with § 97.812(b)(10).

(c) *Units incorrectly allocated CSAPR NO_X Ozone Season Group 2 allowances.* (1) For each control period in 2017 and thereafter, if the Administrator determines that CSAPR NO_X Ozone Season Group 2 allowances were allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.38(b)(6), (7), (8), or (9) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(i) of this section or were allocated under § 97.812(a)(2) through (7), (9), and (12) and (b)(2) through (7), (9), and (12), or under a provision of a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(ii) of this section, then the Administrator will notify the designated representative of the recipient and will act in accordance with the procedures set forth in paragraphs (c)(2) through (5) of this section:

(i)(A) The recipient is not actually a CSAPR NO_X Ozone Season Group 2 unit under § 97.804 as of May 1, 2017 and is allocated CSAPR NO_X Ozone Season Group 2 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.38(b)(6), (7), (8), or (9) of this chapter, the recipient is not actually a CSAPR NO_X Ozone Season Group 2 unit as of May 1, 2017 and is allocated CSAPR NO_X Ozone Season Group 2 allowances for such control period that the SIP revision provides should be allocated only to recipients that are CSAPR NO_X Ozone Season Group 2 units as of May 1, 2017; or

(B) The recipient is not located as of May 1 of the control period in the State from whose NO_X Ozone Season Group 2 trading budget the CSAPR NO_X Ozone Season Group 2 allowances allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.38(b)(6), (7), (8), or (9) of this chapter, were allocated for such control period.

(ii) The recipient is not actually a CSAPR NO_X Ozone Season Group 2 unit under § 97.804 as of May 1 of such control period and is allocated CSAPR NO_X Ozone Season Group 2 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, the recipient is not actually a CSAPR NO_X Ozone Season Group 2 unit as of May 1 of such control period and is allocated CSAPR NO_X Ozone Season Group 2 allowances for such control period that the SIP revision provides should be allocated only to recipients that are CSAPR NO_X Ozone Season Group 2 units as of May 1 of such control period.

(2) Except as provided in paragraph (c)(3) or (4) of this section, the Administrator will not record such CSAPR NO_X Ozone Season Group 2 allowances under § 97.821.

(3) If the Administrator already recorded such CSAPR NO_X Ozone Season Group 2 allowances under § 97.821 and if the Administrator makes the determination under paragraph (c)(1) of this section before making deductions for the source that includes such recipient under § 97.824(b) for such control period, then the Administrator will deduct from the account in which such CSAPR NO_X Ozone Season Group 2 allowances were recorded an amount of CSAPR NO_X Ozone Season Group 2 allowances allocated for the same or a prior control period equal to the amount of such already recorded CSAPR NO_X Ozone Season Group 2 allowances. The authorized account representative shall ensure that there are sufficient CSAPR NO_X Ozone Season Group 2 allowances in such account for completion of the deduction.

(4) If the Administrator already recorded such CSAPR NO_X Ozone Season Group 2 allowances under § 97.821 and if the Administrator makes the determination under paragraph (c)(1) of this section after making deductions for the source that includes such recipient under § 97.824(b) for such control period, then the Administrator will not make any deduction to take account of such already recorded CSAPR NO_X Ozone Season Group 2 allowances.

(5)(i) With regard to the CSAPR NO_X Ozone Season Group 2 allowances that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(i) of this section, the Administrator will:

(A) Transfer such CSAPR NO_X Ozone Season Group 2 allowances to the new unit set-aside for such control period for the State from whose NO_X Ozone Season Group 2 trading budget the CSAPR NO_X Ozone Season Group 2 allowances were allocated; or

(B) If the State has a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter covering such control period, include such CSAPR NO_X Ozone Season Group 2 allowances in the portion of the State NO_X Ozone Season Group 2 trading budget that may

be allocated for such control period in accordance with such SIP revision.

(ii) With regard to the CSAPR NO_X Ozone Season Group 2 allowances that were not allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this section, the Administrator will:

(A) Transfer such CSAPR NO_X Ozone Season Group 2 allowances to the new unit set-aside for such control period; or

(B) If the State has a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter covering such control period, include such CSAPR NO_X Ozone Season Group 2 allowances in the portion of the State NO_X Ozone Season Group 2 trading budget that may be allocated for such control period in accordance with such SIP revision.

(iii) With regard to the CSAPR NO_X Ozone Season Group 2 allowances that were allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this section, the Administrator will transfer such CSAPR NO_X Ozone Season Group 2 allowances to the Indian country new unit set-aside for such control period.

§ 97.812 CSAPR NO_X Ozone Season Group 2 allowance allocations to new units.

(a) For each control period in 2017 and thereafter and for the CSAPR NO_X Ozone Season Group 2 units in each State, the Administrator will allocate CSAPR NO_X Ozone Season Group 2 allowances to the CSAPR NO_X Ozone Season Group 2 units as follows:

(1) The CSAPR NO_X Ozone Season Group 2 allowances will be allocated to the following CSAPR NO_X Ozone Season Group 2 units, except as provided in paragraph (a)(10) of this section:

(i) CSAPR NO_X Ozone Season Group 2 units that are not allocated an amount of CSAPR NO_X Ozone Season Group 2 allowances in the notice of data availability issued under § 97.811(a)(1);

(ii) CSAPR NO_X Ozone Season Group 2 units whose allocation of an amount of CSAPR NO_X Ozone Season Group 2 allowances for such control period in the notice of data availability issued under § 97.811(a)(1) is covered by § 97.811(c)(2) or (3);

(iii) CSAPR NO_X Ozone Season Group 2 units that are allocated an amount of CSAPR NO_X Ozone Season Group 2 allowances for such control period in the notice of data availability issued under § 97.811(a)(1), which allocation is terminated for such control period pursuant to § 97.811(a)(2), and that operate during the control period immediately preceding such control period; or

(iv) For purposes of paragraph (a)(9) of this section, CSAPR NO_X Ozone Season Group 2 units under § 97.811(c)(1)(ii) whose allocation of an amount of CSAPR NO_X Ozone Season Group 2 allowances for such control period in the notice of data availability issued under § 97.811(b)(1)(ii)(B) is covered by § 97.811(c)(2) or (3).

(2) The Administrator will establish a separate new unit set-aside for the State for each such control period. Each such new unit set-aside will be allocated CSAPR NO_X Ozone Season Group 2 allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.810(a) and will be allocated additional CSAPR NO_X Ozone Season Group 2 allowances (if any) in accordance with § 97.811(a)(2) and (c)(5) and paragraph (b)(10) of this section.

(3) The Administrator will determine, for each CSAPR NO_X Ozone Season Group 2 unit described in paragraph (a)(1) of this section, an allocation of CSAPR NO_X Ozone Season Group 2 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2017;

(ii) The first control period after the control period in which the CSAPR NO_X Ozone Season Group 2 unit commences commercial operation;

(iii) For a unit described in paragraph (a)(1)(ii) of this section, the first control period in which the CSAPR NO_X Ozone Season Group 2 unit operates in the State after operating in another jurisdiction and for which the unit is not already allocated one or more CSAPR NO_X Ozone Season Group 2 allowances; and

(iv) For a unit described in paragraph (a)(1)(iii) of this section, the first control period after the control period in which the unit resumes operation.

(4)(i) The allocation to each CSAPR NO_X Ozone Season Group 2 unit described in paragraphs (a)(1)(i) through (iii) of this section and for each control period described in paragraph (a)(3) of this section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (a)(4)(i) of this section in accordance with paragraphs (a)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the CSAPR NO_X Ozone Season Group 2 allowances determined for all such CSAPR NO_X Ozone Season Group 2 units under paragraph (a)(4)(i) of this section in the State for such control period.

(6) If the amount of CSAPR NO_X Ozone Season Group 2 allowances in the new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (a)(5) of this section, then the Administrator will allocate the amount of CSAPR NO_X Ozone Season Group 2 allowances determined for each such CSAPR NO_X Ozone Season Group 2 unit under paragraph (a)(4)(i) of this section.

(7) If the amount of CSAPR NO_X Ozone Season Group 2 allowances in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(5) of this section, then the Administrator will allocate to each such CSAPR NO_X Ozone Season Group 2 unit the amount of the CSAPR NO_X Ozone Season Group 2 allowances determined under paragraph (a)(4)(i) of this section for the unit, multiplied by the amount of CSAPR NO_X Ozone Season Group 2 allowances in the new unit set-aside for such control period, divided by the sum under paragraph (a)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.811(b)(1)(i) and (ii), of the amount of CSAPR NO_X Ozone Season Group 2 allowances allocated under paragraphs (a)(2) through (7) and (12) of this section for such control period to each CSAPR NO_X Ozone Season Group 2 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (a)(5) through (8) of this section for such control period, any unallocated CSAPR NO_X Ozone Season Group 2 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate such CSAPR NO_X Ozone Season Group 2 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 2 allowances referenced in the notice of data availability required under

§ 97.811(b)(1)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (a)(9)(i) of this section;

(iii) If the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (a)(9)(ii) of this section, then the Administrator will allocate the amount of CSAPR NO_X Ozone Season Group 2 allowances determined for each such CSAPR NO_X Ozone Season Group 2 unit under paragraph (a)(9)(i) of this section; and

(iv) If the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(9)(ii) of this section, then the Administrator will allocate to each such CSAPR NO_X Ozone Season Group 2 unit the amount of the CSAPR NO_X Ozone Season Group 2 allowances determined under paragraph (a)(9)(i) of this section for the unit, multiplied by the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the new unit set-aside for such control period, divided by the sum under paragraph (a)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (a)(9) and (12) of this section for such control period, any unallocated CSAPR NO_X Ozone Season Group 2 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate to each CSAPR NO_X Ozone Season Group 2 unit that is in the State, is allocated an amount of CSAPR NO_X Ozone Season Group 2 allowances in the notice of data availability issued under § 97.811(a)(1), and continues to be allocated CSAPR NO_X Ozone Season Group 2 allowances for such control period in accordance with § 97.811(a)(2), an amount of CSAPR NO_X Ozone Season Group 2 allowances equal to the following: The total amount of such remaining unallocated CSAPR NO_X Ozone Season Group 2 allowances in such new unit set-aside, multiplied by the unit's allocation under § 97.811(a) for such control period, divided by the remainder of the amount of tons in the applicable State NO_X Ozone Season Group 2 trading budget minus the sum of the amounts of tons in such new unit set-aside and the Indian country new unit set-aside for the State for such control period, and rounded to the nearest allowance.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.811(b)(1)(iii), (iv), and (v), of the amount of CSAPR NO_X Ozone Season Group 2 allowances allocated under paragraphs (a)(9), (10), and (12) of this section for such control period to each CSAPR NO_X Ozone Season Group 2 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (a)(2) through (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraph (a)(7) of this section, paragraphs (a)(6) and (a)(9)(iv) of this section, or paragraphs (a)(6), (a)(9)(iii), and (a)(10) of this section would otherwise result in total allocations of such new unit set-aside exceeding the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(7), (a)(9)(iv), or (a)(10) of this section, as applicable, as follows. The Administrator will list the CSAPR NO_X Ozone Season Group 2 units in descending order based on the amount of such units' allocations under paragraph (a)(7), (a)(9)(iv), or (a)(10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (a)(7), (a)(9)(iv), or (a)(10) of this section, as applicable, by one CSAPR NO_X Ozone Season Group 2 allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (a)(10) and (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraphs (a)(6), (a)(9)(iii), and (a)(10) of this section would otherwise result in a total allocations of such new unit set-aside less than the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(10) of this section, as follows. The Administrator will list the CSAPR NO_X Ozone Season Group 2 units in descending order based on the amount of such units' allocations under paragraph (a)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (a)(10) of this section by one CSAPR NO_X Ozone Season Group 2 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(b) For each control period in 2017 and thereafter and for the CSAPR NO_X Ozone Season Group 2 units located in Indian country within the borders of each State, the Administrator will allocate CSAPR NO_X Ozone Season Group 2 allowances to the CSAPR NO_X Ozone Season Group 2 units as follows:

(1) The CSAPR NO_X Ozone Season Group 2 allowances will be allocated to the following CSAPR NO_X Ozone Season Group 2 units, except as provided in paragraph (b)(10) of this section:

(i) CSAPR NO_X Ozone Season Group 2 units that are not allocated an amount of CSAPR NO_X Ozone Season Group 2 allowances in the notice of data availability issued under § 97.811(a)(1); or

(ii) For purposes of paragraph (b)(9) of this section, CSAPR NO_X Ozone Season Group 2 units under § 97.811(c)(1)(ii) whose allocation of an amount of CSAPR NO_X Ozone Season Group 2 allowances for such control period in the notice of data availability issued under § 97.811(b)(2)(ii)(B) is covered by § 97.811(c)(2) or (3).

(2) The Administrator will establish a separate Indian country new unit set-aside for the State for each such control period. Each such Indian country new unit set-aside will be allocated CSAPR NO_X Ozone Season Group 2 allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.810(a) and will be allocated additional CSAPR NO_X Ozone Season Group 2 allowances (if any) in accordance with § 97.811(c)(5).

(3) The Administrator will determine, for each CSAPR NO_X Ozone Season Group 2 unit described in paragraph (b)(1) of this section, an allocation of CSAPR NO_X Ozone Season Group 2 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2017; and

(ii) The first control period after the control period in which the CSAPR NO_X Ozone Season Group 2 unit commences commercial operation.

(4)(i) The allocation to each CSAPR NO_X Ozone Season Group 2 unit described in paragraph (b)(1)(i) of this section and for each control period described in paragraph (b)(3) of this

section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (b)(4)(i) of this section in accordance with paragraphs (b)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the CSAPR NO_X Ozone Season Group 2 allowances determined for all such CSAPR NO_X Ozone Season Group 2 units under paragraph (b)(4)(i) of this section in Indian country within the borders of the State for such control period.

(6) If the amount of CSAPR NO_X Ozone Season Group 2 allowances in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (b)(5) of this section, then the Administrator will allocate the amount of CSAPR NO_X Ozone Season Group 2 allowances determined for each such CSAPR NO_X Ozone Season Group 2 unit under paragraph (b)(4)(i) of this section.

(7) If the amount of CSAPR NO_X Ozone Season Group 2 allowances in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(5) of this section, then the Administrator will allocate to each such CSAPR NO_X Ozone Season Group 2 unit the amount of the CSAPR NO_X Ozone Season Group 2 allowances determined under paragraph (b)(4)(i) of this section for the unit, multiplied by the amount of CSAPR NO_X Ozone Season Group 2 allowances in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.811(b)(2)(i) and (ii), of the amount of CSAPR NO_X Ozone Season Group 2 allowances allocated under paragraphs (b)(2) through (7) and (12) of this section for such control period to each CSAPR NO_X Ozone Season Group 2 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (b)(5) through (8) of this section for such control period, any unallocated CSAPR NO_X Ozone Season Group 2 allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will allocate such CSAPR NO_X Ozone Season Group 2 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of the year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of CSAPR NO_X Ozone Season Group 2 allowances referenced in the notice of data availability required under § 97.811(b)(2)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (b)(9)(i) of this section;

(iii) If the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (b)(9)(ii) of this section, then the Administrator will allocate the amount of CSAPR NO_X Ozone Season Group 2 allowances determined for each such CSAPR NO_X Ozone Season Group 2 unit under paragraph (b)(9)(i) of this section; and

(iv) If the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(9)(ii) of this section, then the Administrator will allocate to each such CSAPR NO_X Ozone Season Group 2 unit the amount of the CSAPR NO_X Ozone Season Group 2 allowances determined under paragraph (b)(9)(i) of this section for the unit, multiplied by the amount of unallocated CSAPR NO_X Ozone Season Group 2 allowances remaining in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (b)(9) and (12) of this section for such control period, any unallocated CSAPR NO_X Ozone Season Group 2 allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will:

(i) Transfer such unallocated CSAPR NO_X Ozone Season Group 2 allowances to the new unit set-aside for the State for such control period; or

(ii) If the State has a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter covering such control period, include such unallocated CSAPR NO_X Ozone Season Group 2 allowances in the portion of the State NO_X Ozone Season Group 2 trading budget that may be allocated for such control period in accordance with such SIP revision.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.811(b)(2)(iii), (iv), and (v), of the amount of CSAPR NO_X Ozone Season Group 2 allowances allocated under paragraphs (b)(9), (10), and (12) of this section for such control period to each CSAPR NO_X Ozone Season Group 2 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (b)(2) through (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraph (b)(7) of this section, paragraphs (b)(6) and (b)(9)(iv) of this section, or paragraphs (b)(6), (b)(9)(iii), and (b)(10) of this section would otherwise result in total allocations of such Indian country new unit set-aside exceeding the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(7), (b)(9)(iv), or (b)(10) of this section, as applicable, as follows. The Administrator will list the CSAPR NO_X Ozone Season Group 2 units in descending order based on the amount of such units' allocations under paragraph (b)(7), (b)(9)(iv), or (b)(10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (b)(7), (b)(9)(iv), or (b)(10) of this section, as applicable, by one CSAPR NO_X Ozone Season Group 2 allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (b)(10) and (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraphs (b)(6), (b)(9)(iii), and (b)(10) of this section would otherwise result in a total allocations of such Indian country new unit set-aside less than the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(10) of this section, as follows. The Administrator will list the CSAPR NO_X Ozone Season Group 2 units in descending order based on the amount of such units' allocations under

paragraph (b)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (b)(10) of this section by one CSAPR NO_X Ozone Season Group 2 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

§ 97.813 Authorization of designated representative and alternate designated representative.

(a) Except as provided under § 97.815, each CSAPR NO_X Ozone Season Group 2 source, including all CSAPR NO_X Ozone Season Group 2 units at the source, shall have one and only one designated representative, with regard to all matters under the CSAPR NO_X Ozone Season Group 2 Trading Program.

(1) The designated representative shall be selected by an agreement binding on the owners and operators of the source and all CSAPR NO_X Ozone Season Group 2 units at the source and shall act in accordance with the certification statement in § 97.816(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.816:

(i) The designated representative shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source in all matters pertaining to the CSAPR NO_X Ozone Season Group 2 Trading Program, notwithstanding any agreement between the designated representative and such owners and operators; and

(ii) The owners and operators of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall be bound by any decision or order issued to the designated representative by the Administrator regarding the source or any such unit.

(b) Except as provided under § 97.815, each CSAPR NO_X Ozone Season Group 2 source may have one and only one alternate designated representative, who may act on behalf of the designated representative. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) The alternate designated representative shall be selected by an agreement binding on the owners and operators of the source and all CSAPR NO_X Ozone Season Group 2 units at the source and shall act in accordance with the certification statement in § 97.816(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.816,

(i) The alternate designated representative shall be authorized;

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative; and

(iii) The owners and operators of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source shall be bound by any decision or order issued to the alternate designated representative by the Administrator regarding the source or any such unit.

(c) Except in this section, § 97.802, and §§ 97.814 through 97.818, whenever the term "designated representative" (as distinguished from the term "common designated representative") is used in this subpart, the term shall be construed to include the designated representative or any alternate designated representative.

§ 97.814 Responsibilities of designated representative and alternate designated representative.

(a) Except as provided under § 97.818 concerning delegation of authority to make submissions, each submission under the CSAPR NO_X Ozone Season Group 2 Trading Program shall be made, signed, and certified by the designated representative or alternate designated representative for each CSAPR NO_X Ozone Season Group 2 source and CSAPR NO_X Ozone Season Group 2 unit for which the submission is made. Each such submission shall include the following certification statement by the designated representative or alternate designated representative: "I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(b) The Administrator will accept or act on a submission made for a CSAPR NO_X Ozone Season Group 2 source or a CSAPR NO_X Ozone Season Group 2 unit only if the submission has been made, signed, and certified in accordance with paragraph (a) of this section and § 97.818.

§ 97.815 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.

(a) *Changing designated representative.* The designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.816. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new designated representative and the owners and operators of the CSAPR NO_X Ozone Season Group 2 source and the CSAPR NO_X Ozone Season Group 2 units at the source.

(b) *Changing alternate designated representative.* The alternate designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.816. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate designated representative, the designated representative, and the owners and operators of the CSAPR NO_X Ozone Season Group 2 source and the CSAPR NO_X Ozone Season Group 2 units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CSAPR NO_X Ozone Season Group 2 source or a CSAPR NO_X Ozone Season Group 2 unit at the source is not included in the list of owners and operators in the certificate of representation under § 97.816, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of

the source or unit, and the decisions and orders of the Administrator, as if the owner or operator were included in such list.

(2) Within 30 days after any change in the owners and operators of a CSAPR NO_X Ozone Season Group 2 source or a CSAPR NO_X Ozone Season Group 2 unit at the source, including the addition or removal of an owner or operator, the designated representative or any alternate designated representative shall submit a revision to the certificate of representation under § 97.816 amending the list of owners and operators to reflect the change.

(d) *Changes in units at the source.* Within 30 days of any change in which units are located at a CSAPR NO_X Ozone Season Group 2 source (including the addition or removal of a unit), the designated representative or any alternate designated representative shall submit a certificate of representation under § 97.816 amending the list of units to reflect the change.

(1) If the change is the addition of a unit that operated (other than for purposes of testing by the manufacturer before initial installation) before being located at the source, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity from whom the unit was purchased or otherwise obtained (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was purchased or otherwise obtained, and the date on which the unit became located at the source.

(2) If the change is the removal of a unit, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity to which the unit was sold or that otherwise obtained the unit (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was sold or otherwise obtained, and the date on which the unit became no longer located at the source.

§ 97.816 Certificate of representation.

(a) A complete certificate of representation for a designated representative or an alternate designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CSAPR NO_X Ozone Season Group 2 source, and each CSAPR NO_X Ozone Season Group 2 unit at the source, for which the certificate of representation is submitted, including source name, source category and NAICS code (or, in the absence of a NAICS code, an equivalent code), State, plant code, county, latitude and longitude, unit identification number and type, identification number and nameplate capacity (in MWe, rounded to the nearest tenth) of each generator served by each such unit, actual or projected date of commencement of commercial operation, and a statement of whether such source is located in Indian country. If a projected date of commencement of commercial operation is provided, the actual date of commencement of commercial operation shall be provided when such information becomes available.

(2) The name, address, email address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the CSAPR NO_X Ozone Season Group 2 source and of each CSAPR NO_X Ozone Season Group 2 unit at the source.

(4) The following certification statements by the designated representative and any alternate designated representative—

(i) "I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CSAPR NO_X Ozone Season Group 2 unit at the source."

(ii) "I certify that I have all the necessary authority to carry out my duties and responsibilities under the CSAPR NO_X Ozone Season Group 2 Trading Program on behalf of the owners and operators of the source and of each CSAPR NO_X Ozone Season Group 2 unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the source or unit."

(iii) "Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CSAPR NO_X Ozone Season Group 2 unit, or where a utility or industrial customer purchases power from a CSAPR NO_X Ozone Season Group 2 unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CSAPR NO_X Ozone Season Group 2 unit at the source; and CSAPR NO_X Ozone Season Group 2 allowances and proceeds of transactions involving CSAPR NO_X Ozone Season Group 2 allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CSAPR NO_X Ozone Season Group 2 allowances by contract, CSAPR NO_X Ozone Season Group 2 allowances and proceeds of transactions involving CSAPR NO_X Ozone Season Group 2 allowances will be deemed to be held or distributed in accordance with the contract."

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(b) Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(c) A certificate of representation under this section or § 97.516 that complies with the provisions of paragraph (a) of this section except that it contains the phrase "TR NO_X Ozone Season" in place of the phrase "CSAPR NO_X Ozone Season Group 2" in the required certification statements will be considered a complete certificate of representation under this section, and the certification statements included in such certificate of representation will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 2" appeared in place of the phrase "TR NO_X Ozone Season".

§ 97.817 Objections concerning designated representative and alternate designated representative.

(a) Once a complete certificate of representation under § 97.816 has been submitted and received, the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.816 is received by the Administrator.

(b) Except as provided in paragraph (a) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of a designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative or the finality of any decision or order by the Administrator under the CSAPR NO_X Ozone Season Group 2 Trading Program.

(c) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative, including private legal disputes concerning the proceeds of CSAPR NO_X Ozone Season Group 2 allowance transfers.

§ 97.818 Delegation by designated representative and alternate designated representative.

(a) A designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(b) An alternate designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(c) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the designated representative or alternate designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, email address, telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative;

(2) The name, address, email address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an "agent");

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such designated representative or alternate designated representative:

(i) "I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.818(d) shall be deemed to be an electronic submission by me."

(ii) "Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.818(d), I agree to maintain an email account and to notify the Administrator immediately of any change in my email address unless all delegation of authority by me under 40 CFR 97.818 is terminated.".

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such designated representative or alternate designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

(f) A notice of delegation submitted under paragraph (c) of this section or § 97.518(c) that complies with the provisions of paragraph (c) of this section except that it contains the terms "40 CFR 97.518(d)" and "40 CFR 97.518" in place of the terms "40 CFR 97.818(d)" and "40 CFR 97.818", respectively, in the required certification statements will be considered a valid notice of delegation submitted under paragraph (c) of this section, and the certification statements included in such notice of delegation will be interpreted for purposes of this subpart as if the terms "40 CFR 97.818(d)" and "40 CFR 97.818" appeared in place of the terms "40 CFR 97.518(d)" and "40 CFR 97.518", respectively.

§ 97.819 [Reserved]

§ 97.820 Establishment of compliance accounts, assurance accounts, and general accounts.

(a) *Compliance accounts.* Upon receipt of a complete certificate of representation under § 97.816, the Administrator will establish a compliance account for the CSAPR NO_X Ozone Season Group 2 source for which the certificate of representation was submitted, unless the source already has a compliance account. The designated representative and any alternate designated representative of the source shall be the authorized account representative and the alternate authorized account representative respectively of the compliance account.

(b) *Assurance accounts.* The Administrator will establish assurance accounts for certain owners and operators and States in accordance with § 97.825(b)(3).

(c) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account, for the purpose of holding and transferring CSAPR NO_X Ozone Season Group 2 allowances, by submitting to the Administrator a complete application for a general account. Such application shall designate one and only one authorized account representative and may designate one and only one alternate authorized account representative who may act on behalf of the authorized account representative.

(A) The authorized account representative and alternate authorized account representative shall be selected by an agreement binding on the persons who have an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances held in the general account.

(B) The agreement by which the alternate authorized account representative is selected shall include a procedure for authorizing the alternate authorized account representative to act in lieu of the authorized account representative.

(ii) A complete application for a general account shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, email address (if any), telephone number, and facsimile transmission number (if any) of the authorized account representative and any alternate authorized account representative;

(B) An identifying name for the general account;

(C) A list of all persons subject to a binding agreement for the authorized account representative and any alternate authorized account representative to represent their ownership interest with respect to the CSAPR NO_X Ozone Season Group 2 allowances held in the general account;

(D) The following certification statement by the authorized account representative and any alternate authorized account representative: "I certify that I was selected as the authorized account representative or the alternate authorized account

representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CSAPR NO_X Ozone Season Group 2 Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the general account."

(E) The signature of the authorized account representative and any alternate authorized account representative and the dates signed.

(iii) Unless otherwise required by the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(iv) An application for a general account under paragraph (c)(1) of this section or § 97.520(c)(1) that complies with the provisions of paragraph (c)(1) of this section except that it contains the phrase "TR NO_X Ozone Season" in place of the phrase "CSAPR NO_X Ozone Season Group 2" in the required certification statement will be considered a complete application for a general account under paragraph (c)(1) of this section, and the certification statement included in such application for a general account will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 2" appeared in place of the phrase "TR NO_X Ozone Season".

(2) *Authorization of authorized account representative and alternate authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (c)(1) of this section, the Administrator will establish a general account for the person or persons for whom the application is submitted, and upon and after such receipt by the Administrator:

(A) The authorized account representative of the general account shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances held in the general account in all matters pertaining to the CSAPR NO_X Ozone Season Group 2 Trading Program, notwithstanding any agreement between the authorized account representative and such person.

(B) Any alternate authorized account representative shall be authorized, and any representation, action, inaction, or submission by any alternate authorized account representative shall be deemed to be a representation, action, inaction, or submission by the authorized account representative.

(C) Each person who has an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances held in the general account shall be bound by any decision or order issued to the authorized account representative or alternate authorized account representative by the Administrator regarding the general account.

(ii) Except as provided in paragraph (c)(5) of this section concerning delegation of authority to make submissions, each submission concerning the general account shall be made, signed, and certified by the authorized account representative or any alternate authorized account representative for the persons having an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances held in the general account. Each such submission shall include the following certification statement by the authorized account representative or any alternate authorized account representative: "I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CSAPR NO_X Ozone Season Group 2 allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(iii) Except in this section, whenever the term "authorized account representative" is used in this subpart, the term shall be construed to include the authorized account representative or any alternate authorized account representative.

(iv) A certification statement submitted in accordance with paragraph (c)(2)(ii) of this section that contains the phrase "TR NO_X Ozone Season" will be interpreted for purposes of this subpart as if the phrase "CSAPR NO_X Ozone Season Group 2" appeared in place of the phrase "TR NO_X Ozone Season".

(3) *Changing authorized account representative and alternate authorized account representative; changes in persons with ownership interest.* (i) The authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new authorized account representative and the persons with an ownership interest with respect to the CSAPR NO_X Ozone Season Group 2 allowances in the general account.

(ii) The alternate authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate authorized account representative, the authorized account representative, and the persons with an ownership interest with respect to the CSAPR NO_X Ozone Season Group 2 allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CSAPR NO_X Ozone Season Group 2 allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the authorized account representative and any alternate authorized account representative of the account, and the decisions and orders of the Administrator, as if the person were included in such list.

(B) Within 30 days after any change in the persons having an ownership interest with respect to NO_X Ozone Season Group 2 allowances in the general account, including the addition or removal of a person, the authorized account representative or any alternate authorized account representative shall

submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CSAPR NO_X Ozone Season Group 2 allowances in the general account to include the change.

(4) *Objections concerning authorized account representative and alternate authorized account representative.* (i) Once a complete application for a general account under paragraph (c)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (c)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (c)(4)(i) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account shall affect any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative or the finality of any decision or order by the Administrator under the CSAPR NO_X Ozone Season Group 2 Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account, including private legal disputes concerning the proceeds of CSAPR NO_X Ozone Season Group 2 allowance transfers.

(5) *Delegation by authorized account representative and alternate authorized account representative.* (i) An authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(ii) An alternate authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(iii) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (c)(5)(i) or (ii) of this section, the authorized account representative or alternate authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, email address, telephone number, and facsimile transmission number (if any) of such authorized account representative or alternate authorized account representative;

(B) The name, address, email address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an "agent");

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (c)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such authorized account representative or alternate authorized account representative: "I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am an authorized account representative or alternate authorized account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.820(c)(5)(iv) shall be deemed to be an electronic submission by me."; and

(E) The following certification statement by such authorized account representative or alternate authorized account representative: "Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.820(c)(5)(iv), I agree to maintain an email account and to notify the Administrator immediately of any change in my email address unless all delegation of authority by me under 40 CFR 97.820(c)(5) is terminated.".

(iv) A notice of delegation submitted under paragraph (c)(5)(iii) of this section shall be effective, with regard to the authorized account representative or alternate authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such authorized account representative or alternate authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (c)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (c)(5)(iv) of this section shall be deemed to be an electronic submission by the authorized account representative or alternate authorized account representative submitting such notice of delegation.

(vi) A notice of delegation submitted under paragraph (c)(5)(iii) of this section or § 97.520(c)(5)(iii) that complies with the provisions of paragraph (c)(5)(iii) of this section except that it contains the terms "40 CFR 97.520(c)(5)(iv)" and "40 CFR 97.520(c)(5)" in place of the terms "40 CFR 97.820(c)(5)(iv)" and "40 CFR 97.820(c)(5)", respectively, in the required certification statements will be considered a valid notice of delegation submitted under paragraph (c)(5)(iii) of this section, and the certification statements included in such notice of delegation will be interpreted for purposes of this subpart as if the terms "40 CFR 97.820(c)(5)(iv)" and "40 CFR 97.820(c)(5)" appeared in place of the terms "40 CFR 97.520(c)(5)(iv)" and "40 CFR 97.520(c)(5)", respectively.

(6) *Closing a general account.* (i) The authorized account representative or alternate authorized account representative of a general account may submit to the Administrator a request to close the account. Such request shall include a correctly submitted CSAPR NO_X Ozone Season Group 2 allowance transfer under § 97.822 for any CSAPR NO_X Ozone Season Group 2 allowances in the account to one or more other Allowance Management System accounts.

(ii) If a general account has no CSAPR NO_X Ozone Season Group 2 allowance transfers to or from the account for a 12-month period or longer and does not contain any CSAPR NO_X Ozone Season Group 2 allowances, the Administrator may notify the authorized account representative for the account that the account will be closed after 30 days after the notice is sent. The account will be closed after the 30-day period unless, before the end of the 30-day period, the Administrator receives a correctly submitted CSAPR NO_X Ozone Season Group 2 allowance transfer under § 97.822 to the account or a statement submitted by the authorized account representative or alternate authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

(d) *Account identification.* The Administrator will assign a unique identifying number to each account

established under paragraph (a), (b), or (c) of this section.

(e) *Responsibilities of authorized account representative and alternate authorized account representative.* After the establishment of a compliance account or general account, the Administrator will accept or act on a submission pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CSAPR NO_X Ozone Season Group 2 allowances in the account, only if the submission has been made, signed, and certified in accordance with §§ 97.814(a) and 97.818 or paragraphs (c)(2)(ii) and (c)(5) of this section.

§ 97.821 Recordation of CSAPR NO_X Ozone Season Group 2 allowance allocations and auction results.

(a) By January 9, 2017, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.811(a) for the control period in 2017.

(b) By January 9, 2017, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.811(a) for the control period in 2018, unless the State in which the source is located notifies the Administrator in writing by December 27, 2016 of the State's intent to submit to the Administrator a complete SIP revision by April 1, 2017 meeting the requirements of § 52.38(b)(7)(i) through (iv) of this chapter.

(1) If, by April 1, 2017 the State does not submit to the Administrator such complete SIP revision, the Administrator will record by April 15, 2017 in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.811(a) for the control period in 2018.

(2) If the State submits to the Administrator by April 1, 2017 and the Administrator approves by October 1, 2017 such complete SIP revision, the Administrator will record by October 1, 2017 in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source as provided in such approved, complete SIP revision for the control period in 2018.

(3) If the State submits to the Administrator by April 1, 2017 and the Administrator does not approve by October 1, 2017 such complete SIP revision, the Administrator will record by October 1, 2017 in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.811(a) for the control period in 2018.

(c) By July 1, 2018, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 2 allowances auctioned to CSAPR NO_X Ozone Season Group 2 units, in accordance with § 97.811(a), or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, for the control periods in 2019 and 2020.

(d) By July 1, 2019, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 2 allowances auctioned to CSAPR NO_X Ozone Season Group 2 units, in accordance with § 97.811(a), or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, for the control periods in 2021 and 2022.

(e) By July 1, 2020, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 2 allowances auctioned to CSAPR NO_X Ozone Season Group 2 units, in accordance with § 97.811(a), or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, for the control periods in 2023 and 2024.

(f) By July 1, 2021 and July 1 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 2 allowances auctioned to CSAPR NO_X Ozone Season Group 2 units, in accordance with § 97.811(a), or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, for the control period in the fourth year after the year of the applicable recordation deadline under this paragraph.

(g) By August 1, 2017 and August 1 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source, or in each appropriate Allowance Management System account the CSAPR NO_X Ozone Season Group 2 allowances auctioned to CSAPR NO_X Ozone Season Group 2 units, in accordance with § 97.812(a)(2) through (8) and (12), or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, for the control period in the year of the applicable recordation deadline under this paragraph.

(h) By August 1, 2017 and August 1 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.812(b)(2) through (8) and (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(i) By February 15, 2018 and February 15 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.812(a)(9) through (12) for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(j) By February 15, 2018 and February 15 of each year thereafter, the Administrator will record in each CSAPR NO_X Ozone Season Group 2 source's compliance account the CSAPR NO_X Ozone Season Group 2 allowances allocated to the CSAPR NO_X Ozone Season Group 2 units at the source in accordance with § 97.812(b)(9) through (12) for the control period in the year before the year of the applicable

recordation deadline under this paragraph.

(k) By the date 15 days after the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (j) of this section, of CSAPR NO_X Ozone Season Group 2 allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.811 or § 97.812 or with a SIP revision approved under § 52.38(b)(6), (8), or (9) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

(l) When recording the allocation or auction of CSAPR NO_X Ozone Season Group 2 allowances to a CSAPR NO_X Ozone Season Group 2 unit or other entity in an Allowance Management System account, the Administrator will assign each CSAPR NO_X Ozone Season Group 2 allowance a unique identification number that will include digits identifying the year of the control period for which the CSAPR NO_X Ozone Season Group 2 allowance is allocated or auctioned.

§ 97.822 Submission of CSAPR NO_X Ozone Season Group 2 allowance transfers.

(a) An authorized account representative seeking recordation of a CSAPR NO_X Ozone Season Group 2 allowance transfer shall submit the transfer to the Administrator.

(b) A CSAPR NO_X Ozone Season Group 2 allowance transfer shall be correctly submitted if:

(1) The transfer includes the following elements, in a format prescribed by the Administrator:

(i) The account numbers established by the Administrator for both the transferor and transferee accounts;

(ii) The serial number of each CSAPR NO_X Ozone Season Group 2 allowance that is in the transferor account and is to be transferred; and

(iii) The name and signature of the authorized account representative of the transferor account and the date signed; and

(2) When the Administrator attempts to record the transfer, the transferor account includes each CSAPR NO_X Ozone Season Group 2 allowance identified by serial number in the transfer.

§ 97.823 Recordation of CSAPR NO_X Ozone Season Group 2 allowance transfers.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a CSAPR NO_X Ozone Season Group 2 allowance transfer that is correctly submitted under § 97.822, the Administrator will record a CSAPR NO_X Ozone Season Group 2 allowance transfer by moving each CSAPR NO_X Ozone Season Group 2 allowance from the transferor account to the transferee account as specified in the transfer.

(b) A CSAPR NO_X Ozone Season Group 2 allowance transfer to or from a compliance account that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CSAPR NO_X Ozone Season Group 2 allowances allocated or auctioned for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions from such compliance account under § 97.824 for the control period immediately before such allowance transfer deadline.

(c) Where a CSAPR NO_X Ozone Season Group 2 allowance transfer is not correctly submitted under § 97.822, the Administrator will not record such transfer.

(d) Within 5 business days of recordation of a CSAPR NO_X Ozone Season Group 2 allowance transfer under paragraphs (a) and (b) of the section, the Administrator will notify the authorized account representatives of both the transferor and transferee accounts.

(e) Within 10 business days of receipt of a CSAPR NO_X Ozone Season Group 2 allowance transfer that is not correctly submitted under § 97.822, the Administrator will notify the authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

§ 97.824 Compliance with CSAPR NO_X Ozone Season Group 2 emissions limitation.

(a) *Availability for deduction for compliance.* CSAPR NO_X Ozone Season Group 2 allowances are available to be deducted for compliance with a source's CSAPR NO_X Ozone Season Group 2 emissions limitation for a control period in a given year only if the CSAPR NO_X Ozone Season Group 2 allowances:

(1) Were allocated or auctioned for such control period or a control period in a prior year; and

(2) Are held in the source's compliance account as of the allowance transfer deadline for such control period.

(b) *Deductions for compliance.* After the recordation, in accordance with § 97.823, of CSAPR NO_X Ozone Season Group 2 allowance transfers submitted by the allowance transfer deadline for a control period in a given year, the Administrator will deduct from each source's compliance account CSAPR NO_X Ozone Season Group 2 allowances available under paragraph (a) of this section in order to determine whether the source meets the CSAPR NO_X Ozone Season Group 2 emissions limitation for such control period, as follows:

(1) Until the amount of CSAPR NO_X Ozone Season Group 2 allowances deducted equals the number of tons of total NO_X emissions from all CSAPR NO_X Ozone Season Group 2 units at the source for such control period; or

(2) If there are insufficient CSAPR NO_X Ozone Season Group 2 allowances to complete the deductions in paragraph (b)(1) of this section, until no more CSAPR NO_X Ozone Season Group 2 allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of CSAPR NO_X Ozone Season Group 2 allowances by serial number.* The authorized account representative for a source's compliance account may request that specific CSAPR NO_X Ozone Season Group 2 allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in a given year in accordance with paragraph (b) or (d) of this section. In order to be complete, such request shall be submitted to the Administrator by the allowance transfer deadline for such control period and include, in a format prescribed by the Administrator, the identification of the CSAPR NO_X Ozone Season Group 2 source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CSAPR NO_X Ozone Season Group 2 allowances under paragraph (b) or (d) of this section from the source's compliance account in accordance with a complete request under paragraph (c)(1) of this section or, in the absence of such request or in the case of identification of an insufficient amount of CSAPR NO_X Ozone Season Group 2 allowances in such request, on a first-in, first-out accounting basis in the following order:

(i) Any CSAPR NO_X Ozone Season Group 2 allowances that were recorded in the compliance account pursuant to § 97.821 and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any other CSAPR NO_X Ozone Season Group 2 allowances that were transferred to and recorded in the compliance account pursuant to this subpart or that were recorded in the

compliance account pursuant to § 97.526(c), in the order of recordation.

(d) *Deductions for excess emissions.* After making the deductions for compliance under paragraph (b) of this section for a control period in a year in which the CSAPR NO_X Ozone Season Group 2 source has excess emissions, the Administrator will deduct from the source's compliance account an amount of CSAPR NO_X Ozone Season Group 2 allowances, allocated or auctioned for a control period in a prior year or the control period in the year of the excess emissions or in the immediately following year, equal to two times the number of tons of the source's excess emissions.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section.

§ 97.825 Compliance with CSAPR NO_X Ozone Season Group 2 assurance provisions.

(a) *Availability for deduction.* CSAPR NO_X Ozone Season Group 2 allowances are available to be deducted for compliance with the CSAPR NO_X Ozone Season Group 2 assurance provisions for a control period in a given year by the owners and operators of a group of one or more base CSAPR NO_X Ozone Season Group 2 sources and units in a State (and Indian country within the borders of such State) only if the CSAPR NO_X Ozone Season Group 2 allowances:

(1) Were allocated or auctioned for a control period in a prior year or the control period in the given year or in the immediately following year; and

(2) Are held in the assurance account, established by the Administrator for such owners and operators of such group of base CSAPR NO_X Ozone Season Group 2 sources and units in such State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, as of the deadline established in paragraph (b)(4) of this section.

(b) *Deductions for compliance.* The Administrator will deduct CSAPR NO_X Ozone Season Group 2 allowances available under paragraph (a) of this section for compliance with the CSAPR NO_X Ozone Season Group 2 assurance provisions for a State for a control period in a given year in accordance with the following procedures:

(1) By June 1, 2018 and June 1 of each year thereafter, the Administrator will:

(i) Calculate, for each State (and Indian country within the borders of such State), the total NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in the State (and Indian country within the borders of such State) during the control period in the year before the year of this calculation deadline and the amount, if any, by which such total NO_X emissions exceed the State assurance level as described in § 97.806(c)(2)(iii); and

(ii) Promulgate a notice of data availability of the results of the calculations required in paragraph (b)(1)(i) of this section, including separate calculations of the NO_X emissions from each base CSAPR NO_X Ozone Season Group 2 source.

(2) For each notice of data availability required in paragraph (b)(1)(ii) of this section and for any State (and Indian country within the borders of such State) identified in such notice as having base CSAPR NO_X Ozone Season Group 2 units with total NO_X emissions exceeding the State assurance level for a control period in a given year, as described in § 97.806(c)(2)(iii):

(i) By July 1 immediately after the promulgation of such notice, the designated representative of each base CSAPR NO_X Ozone Season Group 2 source in each such State (and Indian country within the borders of such State) shall submit a statement, in a format prescribed by the Administrator, providing for each base CSAPR NO_X Ozone Season Group 2 unit (if any) at the source that operates during, but is not allocated an amount of CSAPR NO_X Ozone Season Group 2 allowances for, such control period, the unit's allowable NO_X emission rate for such control period and, if such rate is expressed in lb per mmBtu, the unit's heat rate.

(ii) By August 1 immediately after the promulgation of such notice, the Administrator will calculate, for each such State (and Indian country within the borders of such State) and such control period and each common designated representative for such control period for a group of one or more base CSAPR NO_X Ozone Season Group 2 sources and units in the State (and Indian country within the borders of such State), the common designated representative's share of the total NO_X emissions from all base CSAPR NO_X Ozone Season Group 2 units at base CSAPR NO_X Ozone Season Group 2 sources in the State (and Indian country within the borders of such State), the common designated representative's assurance level, and the amount (if any) of CSAPR NO_X Ozone Season Group 2 allowances that the owners and operators of such group of sources and units must hold in accordance with the calculation formula in § 97.806(c)(2)(i) and will promulgate a notice of data availability of the results of these calculations.

(iii) The Administrator will provide an opportunity for submission of objections to the calculations referenced by the notice of data availability required in paragraph (b)(2)(ii) of this section and the calculations referenced by the relevant notice of data availability required in paragraph (b)(1)(ii) of this section.

(A) Objections shall be submitted by the deadline specified in such notice and shall be limited to addressing whether the calculations referenced in the relevant notice required under paragraph (b)(1)(ii) of this section and referenced in the notice required under paragraph (b)(2)(ii) of this section are in accordance with § 97.806(c)(2)(iii), §§ 97.806(b) and 97.830 through 97.835, the definitions of "common designated representative", "common designated representative's assurance level", and "common designated representative's share" in § 97.802, and the calculation formula in § 97.806(c)(2)(i).

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(iii)(A) of this section. By October 1 immediately after the promulgation of such notice, the Administrator will promulgate a notice of data availability of the calculations incorporating any adjustments that the Administrator determines to be necessary and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iii)(A) of this section.

(3) For any State (and Indian country within the borders of such State) referenced in each notice of data availability required in paragraph (b)(2)(iii)(B) of this section as having base CSAPR NO_X Ozone Season Group 2 units with total NO_X emissions exceeding the State assurance level for a control period in a given year, the Administrator will establish one assurance account for each set of owners and operators referenced, in the notice of data availability required under paragraph (b)(2)(iii)(B) of this section, as all of the owners and operators of a group of base CSAPR NO_X Ozone Season Group 2 sources and units in the State (and Indian country within the borders of such State) having a common designated representative for such control period and as being required to hold CSAPR NO_X Ozone Season Group 2 allowances.

(4)(i) As of midnight of November 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the owners and operators described in

paragraph (b)(3) of this section shall hold in the assurance account established for them and for the appropriate base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section a total amount of CSAPR NO_X Ozone Season Group 2 allowances, available for deduction under paragraph (a) of this section, equal to the amount such owners and operators are required to hold with regard to such sources, units and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in such notice.

(ii) Notwithstanding the allowance-holding deadline specified in paragraph (b)(4)(i) of this section, if November 1 is not a business day, then such allowance-holding deadline shall be midnight of the first business day thereafter.

(5) After November 1 (or the date described in paragraph (b)(4)(ii) of this section) immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section and after the recordation, in accordance with § 97.823, of CSAPR NO_X Ozone Season Group 2 allowance transfers submitted by midnight of such date, the Administrator will determine whether the owners and operators described in paragraph (b)(3) of this section hold, in the assurance account for the appropriate base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) established under paragraph (b)(3) of this section, the amount of CSAPR NO_X Ozone Season Group 2 allowances available under paragraph (a) of this section that the owners and operators are required to hold with regard to such sources, units, and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in the notice required in paragraph (b)(2)(iii)(B) of this section.

(6) Notwithstanding any other provision of this subpart and any revision, made by or submitted to the Administrator after the promulgation of the notice of data availability required in paragraph (b)(2)(iii)(B) of this section for a control period in a given year, of any data used in making the calculations referenced in such notice, the amounts of CSAPR NO_X Ozone Season Group 2 allowances that the owners and operators are required to hold in accordance with § 97.806(c)(2)(i) for such control period shall continue to be such amounts as calculated by the Administrator and referenced in such notice required in paragraph (b)(2)(iii)(B) of this section, except as follows:

(i) If any such data are revised by the Administrator as a result of a decision in or settlement of litigation concerning such data on appeal under part 78 of this chapter of such notice, or on appeal under section 307 of the Clean Air Act of a decision rendered under part 78 of this chapter on appeal of such notice, then the Administrator will use the data as so revised to recalculate the amounts of CSAPR NO_X Ozone Season Group 2 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.806(c)(2)(i) for such control period with regard to the base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) involved, provided that such litigation under part 78 of this chapter, or the proceeding under part 78 of this chapter that resulted in the decision appealed in such litigation under section 307 of the Clean Air Act, was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(ii) If any such data are revised by the owners and operators of a base CSAPR NO_X Ozone Season Group 2 source and base CSAPR NO_X Ozone Season Group 2 unit whose designated representative submitted such data under paragraph (b)(2)(i) of this section, as a result of a decision in or settlement of litigation concerning such submission, then the Administrator will use the data as so revised to recalculate the amounts of CSAPR NO_X Ozone Season Group 2 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.806(c)(2)(i) for such control period with regard to the base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) involved, provided that such litigation was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(iii) If the revised data are used to recalculate, in accordance with paragraphs (b)(6)(i) and (ii) of this section, the amount of CSAPR NO_X Ozone Season Group 2 allowances that the owners and operators are required to hold for such control period with regard to the base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) involved—

(A) Where the amount of CSAPR NO_X Ozone Season Group 2 allowances that the owners and operators are required to hold increases as a result of the use of all such revised data, the Administrator will establish a new, reasonable deadline on which the owners and operators shall hold the additional amount of CSAPR NO_X Ozone Season Group 2 allowances in the assurance account established by the Administrator for the appropriate base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section. The owners' and operators' failure to hold such additional amount, as required, before the new deadline shall not be a violation of the Clean Air Act. The owners' and operators' failure to hold such additional amount, as required, as of the new deadline shall be a violation of the Clean Air Act. Each CSAPR NO_X Ozone Season Group 2 allowance that the owners and operators fail to hold as required as of the new deadline, and each day in such control period, shall be a separate violation of the Clean Air Act.

(B) For the owners and operators for which the amount of CSAPR NO_X Ozone Season Group 2 allowances required to be held decreases as a result of the use of all such revised data, the Administrator will record, in all accounts from which CSAPR NO_X Ozone Season Group 2 allowances were transferred by such owners and operators for such control period to the assurance account established by the Administrator for the appropriate base CSAPR NO_X Ozone Season Group 2 sources, base CSAPR NO_X Ozone Season Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, a total amount of the CSAPR NO_X Ozone Season Group 2 allowances held in such assurance account equal to the amount of the decrease. If CSAPR NO_X Ozone Season Group 2 allowances were transferred to such assurance account from more than one account, the amount of CSAPR NO_X Ozone Season Group 2 allowances recorded in each such transferor account will be in proportion to the percentage of the total amount of CSAPR NO_X Ozone Season Group 2 allowances transferred to such assurance account for such control period from such transferor account.

(C) Each CSAPR NO_X Ozone Season Group 2 allowance held under

paragraph (b)(6)(iii)(A) of this section as a result of recalculation of requirements under the CSAPR NO_X Ozone Season Group 2 assurance provisions for such control period must be a CSAPR NO_X Ozone Season Group 2 allowance allocated for a control period in a year before or the year immediately following, or in the same year as, the year of such control period.

§ 97.826 Banking.

(a) A CSAPR NO_X Ozone Season Group 2 allowance may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CSAPR NO_X Ozone Season Group 2 allowance that is held in a compliance account or a general account will remain in such account unless and until the CSAPR NO_X Ozone Season Group 2 allowance is deducted or transferred under § 97.811(c), § 97.823, § 97.824, § 97.825, § 97.827, or § 97.828.

§ 97.827 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Management System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 97.828 Administrator's action on submissions.

(a) The Administrator may review and conduct independent audits concerning any submission under the CSAPR NO_X Ozone Season Group 2 Trading Program and make appropriate adjustments of the information in the submission.

(b) The Administrator may deduct CSAPR NO_X Ozone Season Group 2 allowances from or transfer CSAPR NO_X Ozone Season Group 2 allowances to a compliance account or an assurance account, based on the information in a submission, as adjusted under paragraph (a) of this section, and record such deductions and transfers.

§ 97.829 [Reserved]

§ 97.830 General monitoring, recordkeeping, and reporting requirements.

The owners and operators, and to the extent applicable, the designated representative, of a CSAPR NO_X Ozone Season Group 2 unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and subpart H of part 75 of this chapter. For purposes of applying such requirements, the definitions in § 97.802 and in § 72.2 of this chapter shall apply, the terms "affected unit," "designated representative," and "continuous emission monitoring system" (or "CEMS") in part 75 of this chapter shall be deemed to refer to the terms "CSAPR NO_X Ozone Season Group 2 unit," "designated representative," and "continuous emission monitoring system" (or "CEMS") respectively as defined in § 97.802, and the term "newly affected unit" shall be deemed to mean "newly affected CSAPR NO_X Ozone Season Group 2 unit". The owner or operator of a unit that is not a CSAPR NO_X Ozone Season Group 2 unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CSAPR NO_X Ozone Season Group 2 unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CSAPR NO_X Ozone Season Group 2 unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 97.831 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the latest of the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the latest of the following dates:

(1) May 1, 2017;

(2) 180 calendar days after the date on which the unit commences commercial operation; or

(3) Where data for the unit are reported on a control period basis under § 97.834(d)(1)(ii)(B), and where the compliance date under paragraph (b)(2) of this section is not in a month from May through September, May 1 immediately after the compliance date under paragraph (b)(2) of this section.

(4) The owner or operator of a CSAPR NO_X Ozone Season Group 2 unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), or (3) of this section shall meet the requirements of § 75.4(e)(1) through (4) of this chapter, except that:

(i) Such requirements shall apply to the monitoring systems required under § 97.830 through § 97.835, rather than the monitoring systems required under part 75 of this chapter;

(ii) NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas volumetric flow rate, and O_2 or CO_2 concentration data shall be determined and reported, rather than the data listed in § 75.4(e)(2) of this chapter; and

(iii) Any petition for another procedure under § 75.4(e)(2) of this chapter shall be submitted under § 97.835, rather than § 75.66 of this chapter.

(c) *Reporting data.* The owner or operator of a CSAPR NO_X Ozone Season Group 2 unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.835.

(2) No owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall operate the unit so as to discharge, or allow to be discharged, NO_X to the atmosphere without accounting for all such NO_X in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission

monitoring method, and thereby avoid monitoring and recording NO_X mass discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.805 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.831(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CSAPR NO_X Ozone Season Group 2 unit is subject to the applicable provisions of § 75.4(d) of this chapter concerning units in long-term cold storage.

§ 97.831 Initial monitoring system certification and recertification procedures.

(a) The owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.830(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendices B, D, and E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.830(a)(1) that is exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the designated representative shall resubmit the petition to the Administrator under § 97.835 to determine whether the approval applies under the CSAPR NO_X Ozone Season Group 2 Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.,* a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 97.830(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under § 97.830(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.830(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.830(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: Replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 97.830(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* For initial certification of a continuous monitoring system under § 97.830(a)(1), paragraphs (d)(3)(i) through (v) of this section apply. For recertifications of such monitoring systems, paragraphs (d)(3)(i) through (iv) of this section and the procedures in § 75.20(b)(5) and (g)(7) of this chapter (in lieu of the procedures in paragraph (d)(3)(v) of this section) apply, provided that in applying paragraphs (d)(3)(i) through (iv) of this section, the words "certification" and "initial certification" are replaced by the word "recertification" and the word "certified" is replaced by with the word "recertified".

(i) *Notification of certification.* The designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.833.

(ii) *Certification application.* The designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CSAPR NO_X Ozone Season Group 2 Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of

provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) *Certification application approval process.* The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CSAPR NO_X Ozone Season Group 2 Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by which the designated representative must submit the additional information required to complete the certification application. If the designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter).

(D) *Audit decertification.* The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.832(b).

(v) *Procedures for loss of certification.* If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(B) The designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) The designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.832 Monitoring system out-of-control periods.

(a) *General provisions.* Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.831 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Administrator or any State or permitting authority. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification

procedures in § 97.831 for each disapproved monitoring system.

§ 97.833 Notifications concerning monitoring.

The designated representative of a CSAPR NO_X Ozone Season Group 2 unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.834 Recordkeeping and reporting.

(a) *General provisions.* The designated representative shall comply with all recordkeeping and reporting requirements in paragraphs (b) through (e) of this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 97.814(a).

(b) *Monitoring plans.* The owner or operator of a CSAPR NO_X Ozone Season Group 2 unit shall comply with the requirements of § 75.73(c) and (e) of this chapter.

(c) *Certification applications.* The designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.831, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The designated representative shall submit quarterly reports, as follows:

(1)(i) If a CSAPR NO_X Ozone Season Group 2 unit is subject to the Acid Rain Program or the CSAPR NO_X Annual Trading Program or if the owner or operator of such unit chooses to report on an annual basis under this subpart, then the designated representative shall meet the requirements of subpart H of part 75 of this chapter (concerning monitoring of NO_X mass emissions) for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit for the entire year.

(ii) If a CSAPR NO_X Ozone Season Group 2 unit is not subject to the Acid Rain Program or the CSAPR NO_X Annual Trading Program, then the designated representative shall either:

(A) Meet the requirements of subpart H of part 75 of this chapter for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit for the entire year in accordance with paragraph (d)(1)(i) of this section; or

(B) Meet the requirements of subpart H of part 75 of this chapter (including the requirements in § 75.74(c) of this chapter) for such unit for the control period and report the NO_X mass emissions data and heat input data (including the data described in § 75.74(c)(6) of this chapter) for such unit only for the control period of each year.

(2) The designated representative shall report the NO_X mass emissions data and heat input data for a CSAPR NO_X Ozone Season Group 2 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter indicated under paragraph (d)(1) of this section beginning by the latest of:

(i) The calendar quarter covering May 1, 2017 through June 30, 2017;

(ii) The calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.830(b); or

(iii) For a unit that reports on a control period basis under paragraph (d)(1)(ii)(B) of this section, if the calendar quarter under paragraph (d)(2)(ii) of this section does not include a month from May through September, the calendar quarter covering May 1 through June 30 immediately after the calendar quarter under paragraph (d)(2)(ii) of this section.

(3) The designated representative shall submit each quarterly report to the Administrator within 30 days after the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(4) For CSAPR NO_X Ozone Season Group 2 units that are also subject to the Acid Rain Program, CSAPR NO_X Annual Trading Program, CSAPR SO_2 Group 1 Trading Program, or CSAPR SO_2 Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(5) The Administrator may review and conduct independent audits of any quarterly report in order to determine whether the quarterly report meets the requirements of this subpart and part 75 of this chapter, including the requirement to use substitute data.

(i) The Administrator will notify the designated representative of any determination that the quarterly report fails to meet any such requirements and specify in such notification any corrections that the Administrator believes are necessary to make through resubmission of the quarterly report and a reasonable time period within which the designated representative must respond. Upon request by the designated representative, the Administrator may specify reasonable extensions of such time period. Within the time period (including any such extensions) specified by the Administrator, the designated representative shall resubmit the quarterly report with the corrections specified by the Administrator, except to the extent the designated representative provides information demonstrating that a specified correction is not necessary because the quarterly report already meets the requirements of this subpart and part 75 of this chapter that are relevant to the specified correction.

(ii) Any resubmission of a quarterly report shall meet the requirements applicable to the submission of a quarterly report under this subpart and part 75 of this chapter, except for the deadline set forth in paragraph (d)(3) of this section.

(e) *Compliance certification.* The designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications;

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions; and

(3) For a unit that is reporting on a control period basis under paragraph (d)(1)(ii)(B) of this section, the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

§ 97.835 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

(a) The designated representative of a CSAPR NO_X Ozone Season Group 2 unit may submit a petition under § 75.66 of

this chapter to the Administrator, requesting approval to apply an alternative to any requirement of §§ 97.830 through 97.834.

(b) A petition submitted under paragraph (a) of this section shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(1) Identification of each unit and source covered by the petition;

(2) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(3) A description and diagram of any equipment and procedures used in the proposed alternative;

(4) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed and with the purposes of this subpart and part 75 of this chapter and that any adverse effect of approving the alternative will be *de minimis;* and

(5) Any other relevant information that the Administrator may require.

(c) Use of an alternative to any requirement referenced in paragraph (a) of this section is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator and that such use is in accordance with such approval.

Appendices A through D to Part 97 [Redesignated]

■ 150. Appendices A, B, C, and D to part 97 are redesignated as appendices A, B, C, and D to subpart E of part 97.

[FR Doc. 2016–22240 Filed 10–25–16; 8:45 am]

BILLING CODE 6560–50–P

Tab D:

Legal Authority to Adopt and Implement the Plan

State's Legal Authority to Adopt and Implement the Plan

The State's legal authority to adopt and implement this State Implementation Plan revision can be found in Arkansas Code Annotated (Ark. Code Ann.) §§ 8-1-203(b)(1), 8-4-311(a)(1), 8-4-317.

8-1-203. Powers and responsibilities of the Arkansas Pollution Control and Ecology Commission.

(a) The Arkansas Pollution Control and Ecology Commission shall meet regularly in publicly noticed open meetings to discuss and rule upon matters of environmental concern.

(b) The commission's powers and duties shall be as follows:

(1) (A) Promulgation of rules and regulations implementing the substantive statutes charged to the Arkansas Department of Environmental Quality for administration.

(B) In promulgation of such rules and regulations, prior to the submittal to public comment and review of any rule, regulation, or change to any rule or regulation that is more stringent than the federal requirements, the commission shall duly consider the economic impact and the environmental benefit of such rule or regulation on the people of the State of Arkansas, including those entities that will be subject to the regulation.

(C) The commission shall promptly initiate rulemaking proceedings to further implement the analysis required under subdivision (b)(1)(B) of this section.

(D) The extent of the analysis required under subdivision (b)(1)(B) of this section shall be defined in the commission's rulemaking required under subdivision (b)(1)(C) of this section. It will include a written report which shall be available for public review along with the proposed rule in the public comment period.

(E) Upon completion of the public comment period, the commission shall compile a rulemaking record or response to comments demonstrating a reasoned evaluation of the relative impact and benefits of the more stringent regulation;

(2) Promulgation of rules, regulations, and procedures not otherwise governed by applicable law that the commission deems necessary to secure public participation in environmental decision-making processes;

(3) Promulgation of rules and regulations governing administrative procedures for challenging or contesting department actions;

(4) In the case of permitting or grants decisions, providing the right to appeal a permitting or grants decision rendered by the Director of the Arkansas Department of Environmental Quality or his or her delegatee;

(5) In the case of an administrative enforcement or emergency action, providing the right to contest any such action initiated by the director;

(6) Instruct the director to prepare such reports or perform such studies as will advance the cause of environmental protection in the state;

(7) Make recommendations to the director regarding overall policy and administration of the department. However, the director shall always remain within the plenary authority of the Governor; and

(8) Upon a majority vote, initiate review of any director's decision.

(c) (1) In providing for adjudicatory review as contemplated by subdivisions (b)(4) and (5) of this section, the commission may appoint one (1) or more administrative hearing officers. The administrative hearing officers shall at all times serve as agents of the commission.

(2) In hearings upon appeals of permitting or grants decisions by the director or contested administrative enforcement or emergency actions initiated by the director, the administrative hearing officer shall administer the hearing in accordance with procedures adopted by the commission and, after due deliberation, submit his or her recommended decision to the commission.

(3) (A) (i) Commission review of any appealed or contested matter shall be upon the record compiled by the administrative hearing officer and his or her recommended decision.

(ii) Commission review shall be de novo. However, no additional evidence need be received unless the commission so decides in accordance with established administrative procedures.

(B) The commission may afford the opportunity for oral argument to all parties of the adjudicatory hearing.

(C) (i) By the majority vote of a quorum, the commission may affirm, reverse and dismiss, or reverse and remand to the director.

(ii) If the commission votes to affirm or reverse, such decision shall constitute final agency action for purposes of appeal.

(4) Any party aggrieved by the commission decision may appeal as provided by applicable

law.

(d) The chair of the Arkansas Pollution Control and Ecology Commission may appoint one (1) or more committees composed of commission members to act in an advisory capacity to the full commission.

HISTORY: Acts 1991, No. 1230, § 1; 1993, No. 163, § 7; 1993, No. 165, § 7; 1993, No. 1264, § 2; 1995, No. 117, § 1.

Ark. Code Ann. § 8-4-311

8-4-311. Powers generally.

(a) The Arkansas Department of Environmental Quality or its successor shall have the power to:

(1) Develop and effectuate a comprehensive program for the prevention and control of all sources of pollution of the air of this state;

(2) Advise, consult, and cooperate with other agencies of the state, political subdivisions, industries, other states, the federal government, and with affected groups in the furtherance of the purposes of this chapter;

(3) Encourage and conduct studies, investigations, and research relating to air pollution and its causes, prevention, control, and abatement as it may deem advisable and necessary;

(4) Collect and disseminate information relative to air pollution and its prevention and control;

(5) Consider complaints and make investigations;

(6) Encourage voluntary cooperation by the people, municipalities, counties, industries, and others in preserving and restoring the purity of the air within the state;

(7) Administer and enforce all laws and regulations relating to pollution of the air;

(8) Represent the state in all matters pertaining to plans, procedures, or negotiations for interstate compacts in relation to air pollution control;

(9) (A) Cooperate with and receive moneys from the federal government or any other source for the study and control of air pollution.

(B) The department is designated as the official state air pollution control agency for such purposes;

(10) Make, issue, modify, revoke, and enforce orders prohibiting, controlling, or abating air pollution and requiring the adoption of remedial measures to prevent, control, or abate air pollution;

(11) Institute court proceedings to compel compliance with the provisions of this chapter and rules, regulations, and orders issued pursuant to this chapter;

(12) Exercise all of the powers in the control of air pollution granted to the department for the control of water pollution under §§ 8-4-101 -- 8-4-106 and 8-4-201 -- 8-4-229; and

(13) Develop and implement state implementation plans provided that the commission shall retain all powers and duties regarding promulgation of rules and regulations under this chapter.

(b) The Arkansas Pollution Control and Ecology Commission shall have the power to:

(1) (A) Promulgate rules and regulations for implementing the substantive statutes charged to the department for administration.

(B) In promulgation of such rules and regulations, prior to the submittal to public comment and review of any rule, regulation, or change to any rule or regulation that is more stringent than federal requirements, the commission shall duly consider the economic impact and the environmental benefit of such rule or regulation on the people of the State of Arkansas, including those entities that will be subject to the regulation.

(C) The commission shall promptly initiate rulemaking to further implement the analysis required under subdivision (b)(1)(B) of this section.

(D) The extent of the analysis required under subdivision (b)(1)(B) of this section shall be defined in the commission's rulemaking required under subdivision (b)(1)(C) of this section. It will include a written report that shall be available for public review along with the proposed rule in the public comment period.

(E) Upon completion of the public comment period, the commission shall compile a rulemaking record or response to comments demonstrating a reasoned evaluation of the relative impact and benefits of the more stringent regulation;

(2) Promulgate rules, regulations, and procedures not otherwise governed by applicable law that the commission deems necessary to secure public participation in environmental decision-making processes;

(3) Promulgate rules and regulations governing administrative procedures for challenging or contesting department actions;

(4) In the case of permitting or grants decisions, provide the right to appeal a permitting or grants decision rendered by the Director of the Arkansas Department of Environmental Quality or his or her delegatee;

(5) In the case of an administrative enforcement or emergency action, providing the right to contest any such action initiated by the director;

(6) Instruct the director to prepare such reports or perform such studies as will advance the cause of environmental protection in the state;

(7) Make recommendations to the director regarding overall policy and administration of the department, provided, however, that the director shall always remain within the plenary authority of the Governor;

(8) Upon a majority vote, initiate review of any director's decision;

(9) Adopt, after notice and public hearing, reasonable and nondiscriminatory rules and regulations requiring the registration of and the filing of reports by persons engaged in operations that may result in air pollution;

(10) (A) Adopt, after notice and public hearing, reasonable and nondiscriminatory rules and regulations, including requiring a permit or other regulatory authorization from the department, before any equipment causing the issuance of air contaminants may be built, erected, altered, replaced, used, or operated, except in the case of repairs or maintenance of equipment for which a permit has been previously used, and revoke or modify any permit issued under this chapter or deny any permit when it is necessary, in the opinion of the department, to prevent, control, or abate air pollution.

(B) A permit shall be issued for the operation or use of any equipment or any facility in existence upon the effective date of any rule or regulation requiring a permit if proper application is made for the permit.

(C) No such permit shall be modified or revoked without prior notice and hearing as provided in this section.

(D) Any person that is denied a permit by the department or that has such permit revoked or modified shall be afforded an opportunity for a hearing in connection therewith upon written application made within thirty (30) days after service of notice of such denial, revocation, or modification.

(E) The operation of any existing equipment or facility for which a proper permit application has been made shall not be interrupted pending final action thereon.

(F) (i) An applicant or permit holder that has had a complete application for a permit or for a modification of a permit pending longer than the time specified in the state regulations promulgated pursuant to Title V of the Clean Air Act Amendments of 1990, or any person that participated in the public participation process, and any other person that could obtain judicial review of such actions under state laws, may petition the commission for relief from department inaction.

(ii) The commission will either deny or grant the petition within forty-five (45) days of its submittal.

(iii) For the purposes of judicial review, either a commission denial or the failure of the department to render a final decision within thirty (30) days after the commission has granted a petition shall constitute final agency action;

(11) (A) Establish through its rulemaking authority, either alone or in conjunction with the appropriate state or local agencies, a system for the banking and trading of air emissions designed to maintain both the state's attainment status with the national ambient air quality standards mandated by the Clean Air Act and the overall air quality of the state.

(B) The commission may consider differential valuation of emission credits as necessary to achieve primary and secondary national ambient air quality standards, and may consider establishing credits for air pollutants other than those designated as criteria air pollutants by the United States Environmental Protection Agency.

(C) Any regulation proposed pursuant to this authorization shall be reported to the House Interim Committee on Public Health, Welfare, and Labor and the Senate Interim Committee on Public Health, Welfare, and Labor or appropriate subcommittees thereof prior to its final promulgation; and

(12) In the case of a state implementation plan, provide the right to appeal a final decision rendered by the Director of the Arkansas Department of Environmental Quality or his or her delegate under § 8-4-317.

HISTORY: Acts 1949, No. 472, [Part 2], § 5, as added by Acts 1965, No. 183, § 7; A.S.A. 1947, § 82-1935; Acts 1993, No. 994, § 1; 1995, No. 895, § 4; 1997, No. 179, § 1; 1997, No. 1219, § 6; 1999, No. 1164, § 31; 2013, No. 1302, §§ 2, 3.

8-4-317. State implementation plans generally.

(a) In developing and implementing a state implementation plan, the Arkansas Department of Environmental Quality shall consider and take into account the factors specified in § 8-4-312 and the Clean Air Act, 42 U.S.C. § 7401 et seq., as applicable.

(b) (1) (A) Whenever the department proposes to finalize a state implementation plan submittal for review and approval by the United States Environmental Protection Agency, it shall cause notice of its proposed action to be published in a newspaper of general circulation in the state.

(B) The notice required under subdivision (b)(1)(A) of this section shall afford any interested party at least thirty (30) calendar days in which to submit comments on the proposed state implementation plan submittal in its entirety.

(C) (i) In the case of any emission limit, work practice or operational standard, environmental standard, analytical method, air dispersion modeling requirement, or monitoring requirement that is incorporated as an element of the proposed state implementation plan submittal, the record of the proposed action shall include a written explanation of the rationale for the proposal, demonstrating the reasoned consideration of the factors in § 8-4-312 as applicable, the need for each measure in attaining or maintaining the National Ambient Air Quality Standards, and that any requirements or standards are based upon generally accepted scientific knowledge and engineering practices.

(ii) For any standard or requirement that is identical to an applicable federal regulation, the demonstration required under subdivision (b)(1)(C)(i) of this section may be satisfied by reference to the regulation. In all other cases, the department shall provide its own justification with appropriate reference to the scientific and engineering literature considered or the written studies conducted by the department.

(2) (A) At the conclusion of the public comment period and before transmittal to the Governor for submittal to the United States Environmental Protection Agency, the department shall provide written notice of its final decision regarding the state implementation plan submittal to all persons who submitted public comments.

(B) (i) The department's final decision shall include a response to each issue raised in any public comments received during the public comment period. The response shall manifest reasoned consideration of the issues raised by the public comments and shall be supported by appropriate legal, scientific, or practical reasons for accepting or rejecting the substance of the

comment in the department's final decision.

(ii) For the purposes of this section, response to comments by the department should serve the roles of both developing the record for possible judicial review of a state implementation plan decision and serving as a record for the public's review of the department's technical and legal interpretations on long-range regulatory issues.

(iii) This section does not limit the department's authority to raise all relevant issues of regulatory concern upon adjudicatory review by the Arkansas Pollution Control and Ecology Commission of a particular state implementation plan decision.

(c) (1) Only those persons that submit comments on the record during the public comment period have standing to appeal the final decision of the department to the commission upon written application made within thirty (30) days after service of the notice under subdivision (b)(2)(A) of this section.

(2) An appeal under subdivision (c)(1) of this section shall be processed as a permit appeal under § 8-4-205. However, the decision of the Director of the Arkansas Department of Environmental Quality shall remain in effect during the appeal.

HISTORY: Acts 2013, No. 1302, § 4.

Tab E

Consultations and Public Participation

FLM Consultation:
-Notification of proposed SIP Revision
-Response to Comments

Consultation with States
-Notification of proposed SIP Revision and Public Hearing
-Response to Comments

Public Participation:
-Public Notice Information and Public Hearing Documentation
-Public Comments and Responsive Summary

From:	Treece, Tricia
To:	"Tim_Allen@fws.gov"
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 11:31:00 AM
Attachments:	US Fish and Wildlife Service Air Quality FLM.pdf Preproposal RH SIP_EGU_NOx_Only.docx Draft_Public Notice.docx
Importance:	High

Tim,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Tim Allen, Meteorologist / Modeler
U.S. Fish and Wildlife Service
National Wildlife Refuge System
Branch of Air Quality
7333 W Jefferson Ave., Suite 375
Lakewood, CO 80235-2017

RE: Arkansas Regional Haze State Implementation Plan

Dear Mr. Allen:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for a sixty-day consultation period on this SIP revision in accordance with 40 C.F.R. § 51.308(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing— your assessment of the impact of the proposed revisions on Class I areas impacted by Arkansas sources. Although, the State is required to provide the opportunity for consultation no less than sixty days prior to a public hearing, federal land managers can agree to a shorter period. Due to the abbreviated nature of this SIP and impending deadlines for nitrogen oxides controls under EPA's FIP that this SIP seeks to supplant, we request a truncated consultation period of forty days.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty-day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an

updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Allen, Tim
To:	Treece, Tricia
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Re: Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 1:37:28 PM

Hi Tricia,

Thank you for sending a copy of your RH SIP revision for FWS review. I will begin reviewing the materials immediately.

In response to your cover letter, I am unable to commit to an expedited review at this time. After becoming familiar with the draft, I will pursue your request and let you know if a 40-day review time line is possible.

Tim

On Wed, Jun 14, 2017 at 10:31 AM, Treece, Tricia <treecep@adeq.state.ar.us> wrote:

> Tim,
>
> ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.
>
> Thanks,
>
> *Tricia Jackson Treece*
>
> SIP/Planning Section Supervisor, Policy and Planning Branch
>
> Office of Air Quality
>
> Arkansas Department of Environmental Quality
>
> 5301 Northshore Drive
>
> North Little Rock, AR 72118
>
> 501-682-0055 (office)

--
Tim Allen
U.S. Fish & Wildlife Service
(303) 914-3802

From: Allen, Tim
To: Treece, Tricia
Cc: Spencer, Stuart; Montgomery, William
Subject: Re: Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date: Thursday, July 06, 2017 11:51:50 AM

Thank you for the added information...
Tim

On Thu, Jul 6, 2017 at 10:06 AM, Treece, Tricia <treecep@adeq.state.ar.us> wrote:

> Tim,
>
> Pursuant to our conversation yesterday, I am sending you links to current permits for each of the facilities covered by the partial SIP.
>
> For White Bluff, a previous permit amendment issued in 2015 allowed White Bluff to retrofit units 1 and 2 with low NOx burners and separated overfire air LNB/SOFA). The low NOx burners have already been installed on unit 2. Attached is a notification from Entergy to ADEQ of installation of the LNB/SOFA system on unit 2.
>
> Independence's current permit allows them to install LNB/SOFA on units 1 and 2.
>
> **Subject-to-BART EGUs:**
>
> Bailey: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=74-00024&AFIN=7400024&PmtNbr=0154-AOP-R5
>
> McClellan: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=52-00055&AFIN=5200055&PmtNbr=0181-AOP-R5
>
> Flint Creek: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=04-00107&AFIN=0400107&PmtNbr=0276-AOP-R7
>
> Lake Catherine: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=30-00011&AFIN=3000011&PmtNbr=1717-AOP-R7
>
> White Bluff: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00110&AFIN=3500110&PmtNbr=0263-AOP-R10
>
> **Other EGUs participating in CSAPR:**

City Water & Light: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=16-00412&AFIN=1600412&PmtNbr=1819-AOP-R11

Dell: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=47-00448&AFIN=4700448&PmtNbr=1903-AOP-R9

Fulton: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=29-00304&AFIN=2900304&PmtNbr=1860-AOP-R5

Mattison: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=72-00695&AFIN=7200695&PmtNbr=2114-AOP-R5

Harvey Couch: Retired - does not have an active air permit

Hot Springs Generating Facility: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=30-00229&AFIN=3000229&PmtNbr=1936-AOP-R7

Independence: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=32-00042&AFIN=3200042&PmtNbr=0449-AOP-R11

Turk: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=29-00506&AFIN=2900506&PmtNbr=2123-AOP-R6

Oswald: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=60-01380&AFIN=6001380&PmtNbr=1842-AOP-R6

Pine Bluff Energy Center: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00409&AFIN=3500409&PmtNbr=1822-AOP-R5

Plum Point: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=47-00461&AFIN=4700461&PmtNbr=1995-AOP-R8

Ritchie: Retired – does not have an active permit

Fitzhugh: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=24-00012&AFIN=2400012&PmtNbr=1165-AOP-R7

Union Power: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=70-00543&AFIN=7000543&PmtNbr=1861-AOP-R8

From: Allen, Tim [mailto:tim_allen@fws.gov]
Sent: Wednesday, June 14, 2017 1:36 PM
To: Treece, Tricia
Cc: Spencer, Stuart; Montgomery, William
Subject: Re: Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision

Hi Tricia,

Thank you for sending a copy of your RH SIP revision for FWS review. I will begin reviewing the materials immediately.

In response to your cover letter, I am unable to commit to an expedited review at this time. After becoming familiar with the draft, I will pursue your request and let you know if a 40-day review time line is possible.

Tim

On Wed, Jun 14, 2017 at 10:31 AM, Treece, Tricia <treecep@adeq.state.ar.us> wrote:

Tim,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece

SIP/Planning Section Supervisor, Policy and Planning Branch

Office of Air Quality

Arkansas Department of Environmental Quality

5301 Northshore Drive

North Little Rock, AR 72118

501-682-0055 (office)

--

Tim Allen

U.S. Fish & Wildlife Service
(303) 914-3802

--
Tim Allen
U.S. Fish & Wildlife Service
(303) 914-3802

From:	Treece, Tricia
To:	"cehamilton@fs.fed.us"
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 11:30:00 AM
Attachments:	Upper Buffalo FLM.pdf Preproposal RH SIP_EGU_NOx_Only.docx Draft_Public Notice.docx
Importance:	High

Cheri,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Cherie Hamilton, Forest Supervisor
U.S. Forest Service
Ozark/St. Francis: Upper Buffalo Wilderness Area
605 West Main Street
Russellville, AR 72801

RE: Arkansas Regional Haze State Implementation Plan

Dear Forest Supervisor Hamilton:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for a sixty-day consultation period on this SIP revision in accordance with 40 C.F.R. § 51.308(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing— your assessment of the impact of the proposed revisions on Class I areas impacted by Arkansas sources. Although, the State is required to provide the opportunity for consultation no less than sixty days prior to a public hearing, federal land managers can agree to a shorter period. Due to the abbreviated nature of this SIP and impending deadlines for nitrogen oxides controls under EPA's FIP that this SIP seeks to supplant, we request a truncated consultation period of forty days.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty-day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Hamilton, Cherie E -FS
To:	Treece, Tricia
Cc:	Spencer, Stuart; Montgomery, William
Subject:	RE: Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Thursday, June 15, 2017 6:49:12 AM

Thank you.

Cherie

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Wednesday, June 14, 2017 11:30 AM
To: Hamilton, Cherie E -FS <cehamilton@fs.fed.us>
Cc: Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>
Subject: Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Importance: High

Cheri,
ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

From:	Treece, Tricia
To:	"patricia_f_brewer@nps.gov"
Cc:	Montgomery, William; Spencer, Stuart
Subject:	Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 11:28:00 AM
Attachments:	NPS Air Resources Division FLM.pdf Preproposal RH SIP_EGU_NOx_Only.docx Draft_Public Notice.docx
Importance:	High

Pat,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Pat Brewer
Regulatory, Policy, Smoke Management
NPS Air Resources Division
P.O. Box 25287
Denver, CO 80225-0287

RE: Arkansas Regional Haze State Implementation Plan

Dear Ms. Brewer:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for a sixty-day consultation period on this SIP revision in accordance with 40 C.F.R. § 51.308(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing— your assessment of the impact of the proposed revisions on Class I areas impacted by Arkansas sources. Although, the State is required to provide the opportunity for consultation no less than sixty days prior to a public hearing, federal land managers can agree to a shorter period. Due to the abbreviated nature of this SIP and impending deadlines for nitrogen oxides controls under EPA's FIP that this SIP seeks to supplant, we request a truncated consultation period of forty days.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty-day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Treece, Tricia
To:	"sschwenke@fs.fed.us"
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Opportunity for FLM Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 11:23:00 AM
Attachments:	Hercules Glade FLM.pdf Preproposal RH SIP_EGU_NOx_Only.docx Draft_Public Notice.docx
Importance:	High

Sherri,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Sherri Schwenke
U.S. Forest Service
Mark Twain Forest: Hercules Glade Wilderness Area
401 Fairgrounds Road
Rolla, MO 65401

RE: Arkansas Regional Haze State Implementation Plan

Dear Ms. Schwenke:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for a sixty-day consultation period on this SIP revision in accordance with 40 C.F.R. § 51.308(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing— your assessment of the impact of the proposed revisions on Class I areas impacted by Arkansas sources. Although, the State is required to provide the opportunity for consultation no less than sixty days prior to a public hearing, federal land managers can agree to a shorter period. Due to the abbreviated nature of this SIP and impending deadlines for nitrogen oxides controls under EPA's FIP that this SIP seeks to supplant, we request a truncated consultation period of forty days.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty-day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Treece, Tricia
To:	"nwagoner@fs.fed.us"
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Opportunity for FLM Consultation on Arkansas Regional Haze SIP
Date:	Wednesday, June 14, 2017 11:26:00 AM
Attachments:	Caney Creek FLM.pdf Preproposal RH SIP EGU NOx Only.docx Draft Public Notice.docx
Importance:	High

Norm,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Norm Wagoner, Forest Supervisor
U.S. Forest Service
Ouachita: Caney Creek Wilderness Area
P.O. Box 1270
Hot Springs, AR 71902

RE: Arkansas Regional Haze State Implementation Plan

Dear Forest Supervisor Wagoner:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for a sixty-day consultation period on this SIP revision in accordance with 40 C.F.R. § 51.308(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing— your assessment of the impact of the proposed revisions on Class I areas impacted by Arkansas sources. Although, the State is required to provide the opportunity for consultation no less than sixty days prior to a public hearing, federal land managers can agree to a shorter period. Due to the abbreviated nature of this SIP and impending deadlines for nitrogen oxides controls under EPA's FIP that this SIP seeks to supplant, we request a truncated consultation period of forty days.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty-day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Wagoner, Norman -FS
To:	Treece, Tricia; Hamilton, Cherie E -FS
Cc:	Cole, Steve N -FS; Spencer, Stuart; Montgomery, William; Turpin, Patti -FS; Wood, Mary L -FS
Subject:	RE: AR-SIP review
Date:	Wednesday, July 26, 2017 10:31:14 AM

Thank you.
I know Cherie and I will be coming, and maybe 1 or 2 others, but that is not certain until Cherie and I get a chance to visit. I'm looking forward to our chance to visit. Thanks==nw

---

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Wednesday, July 26, 2017 10:27 AM
To: Wagoner, Norman -FS <nwagoner@fs.fed.us>; Hamilton, Cherie E -FS <cehamilton@fs.fed.us>
Cc: Cole, Steve N -FS <sncole@fs.fed.us>; Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>; Turpin, Patti -FS <pturpin@fs.fed.us>; Wood, Mary L -FS <mlwood@fs.fed.us>
Subject: RE: AR-SIP review

Sounds great. Our address is 5301 Northshore Drive, North Little Rock, Arkansas 72118.

From: Wagoner, Norman -FS [mailto:nwagoner@fs.fed.us]
Sent: Wednesday, July 26, 2017 10:24 AM
To: Hamilton, Cherie E -FS; Treece, Tricia
Cc: Cole, Steve N -FS; Spencer, Stuart; Montgomery, William; Turpin, Patti -FS; Wood, Mary L -FS
Subject: RE: AR-SIP review

Outstanding. Lets plan to get together July 31 at 1pm. Can we meet at ADEQ offices? If so, can I get an address please? Thanks==nw

---

From: Hamilton, Cherie E -FS
Sent: Wednesday, July 26, 2017 9:33 AM
To: Treece, Tricia <treecep@adeq.state.ar.us>; Wagoner, Norman -FS <nwagoner@fs.fed.us>
Cc: Cole, Steve N -FS <sncole@fs.fed.us>; Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>; Turpin, Patti -FS <pturpin@fs.fed.us>; Wood, Mary L -FS <mlwood@fs.fed.us>
Subject: RE: AR-SIP review

GM,

Thanks for including me. I am available both dates.

Cherie

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Wednesday, July 26, 2017 9:31 AM

To: Wagoner, Norman -FS <nwagoner@fs.fed.us>
Cc: Hamilton, Cherie E -FS <cehamilton@fs.fed.us>; Cole, Steve N -FS <sncole@fs.fed.us>; Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>
Subject: RE: AR-SIP review

Hopefully we can coordinate something in person.
Here is our availability on the dates you listed:
On July 31st, we have availability between 1 and 3
On August 7th, we are available until 3.

From: Wagoner, Norman -FS [mailto:nwagoner@fs.fed.us]
Sent: Tuesday, July 25, 2017 4:30 PM
To: Treece, Tricia
Cc: Hamilton, Cherie E -FS; Cole, Steve N -FS
Subject: AR-SIP review

Good afternoon Tricia. Thank you for your time in visiting this afternoon.

I'm cc'ing Ms. Cherie Hamilton, the Forest Supervisor on the Ozark-St. Francis National Forest for coordination purposes.

As we discussed, I'd like to see if there is an opportunity to come and visit with you concerning this project. We intend to comment in writing, but sometimes, discussion will help inform that process.

I believe our comments as FLM's are due mid-August. How do your next couple of weeks look for an opportunity for Cherie and/or I to come and visit?

Here are some times available for me;
July 31 afternoon;
August 01
August 07 afternoon
August 08

If we cannot get together in person, we may want to consider a conf. call.

Thanks again for your time and let me know. ==nw

From: Treece, Tricia
To: "Logan, Judy -FS"
Cc: Montgomery, William; Spencer, Stuart
Subject: RE: "Narrowed SIP"
Date: Wednesday, June 21, 2017 8:33:00 AM
Attachments: image001.png
image002.png
image003.png
image004.png

Sure. I have listed links to the active permit for each of the facilities covered by this partial SIP.

Subject-to-BART EGUs:
Bailey: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=74-00024&AFIN=7400024&PmtNbr=0154-AOP-R5
McClellan: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=52-00055&AFIN=5200055&PmtNbr=0181-AOP-R5
Flint Creek: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=04-00107&AFIN=0400107&PmtNbr=0276-AOP-R7
Lake Catherine: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=30-00011&AFIN=3000011&PmtNbr=1717-AOP-R7
White Bluff: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00110&AFIN=3500110&PmtNbr=0263-AOP-R10

Other EGUs participating in CSAPR:
City Water & Light: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=16-00412&AFIN=1600412&PmtNbr=1819-AOP-R11
Dell: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=47-00448&AFIN=4700448&PmtNbr=1903-AOP-R9
Fulton: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=29-00304&AFIN=2900304&PmtNbr=1860-AOP-R5
Mattison: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=72-00695&AFIN=7200695&PmtNbr=2114-AOP-R5
Harvey Couch: Retired - does not have an active air permit
Hot Springs Generating Facility:
https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=30-00229&AFIN=3000229&PmtNbr=1936-AOP-R7
Independence: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=32-00042&AFIN=3200042&PmtNbr=0449-AOP-R11
Turk: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=29-00506&AFIN=2900506&PmtNbr=2123-AOP-R6
Oswald: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=60-01380&AFIN=6001380&PmtNbr=1842-AOP-R6
Pine Bluff Energy Center: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00409&AFIN=3500409&PmtNbr=1822-AOP-R5
Plum Point: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=47-00461&AFIN=4700461&PmtNbr=1995-AOP-R8

Ritchie: Retired – does not have an active permit
Fitzhugh: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=24-00012&AFIN=2400012&PmtNbr=1165-AOP-R7
Union Power: https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=70-00543&AFIN=7000543&PmtNbr=1861-AOP-R8

From: Logan, Judy -FS [mailto:jlogan@fs.fed.us]
Sent: Tuesday, June 20, 2017 4:02 PM
To: Treece, Tricia
Subject: "Narrowed SIP"

Good afternoon Tricia,

I was wondering if you can share any information on the permitting at the facilities identified in the "Narrow SIP." This would help us in our review. Thanks! -Judy

Judith Logan
Air Resource Specialist
Forest Service
Ouachita National Forest
p: 501-321-5341
f: 501-321-5353
jlogan@fs.fed.us
100 Reserve Street
Hot Springs, AR 71901
www.fs.fed.us

From:	Logan, Judy -FS
To:	Treece, Tricia; McCorkle, Mark
Cc:	Tim Allen - USFWS (Business Fax); Joe Kordzi (kordzi.joe@epa.gov); Geiser, Linda -FS; Sams, Charles E -FS; Anderson, Bret A -FS; Worth, Chris C -FS; Cole, Steve N -FS; Turpin, Patti -FS; Wagoner, Norman -FS; Hamilton, Cherie E -FS
Subject:	USFS Comments to narrowed SIP for NOx
Date:	Friday, August 11, 2017 1:12:36 PM
Attachments:	image001.png image002.png image003.png image004.png Final comments.pdf

---

Tricia, attached are our comments for the narrowed SIP. -Judy

Judith Logan
Air Resource Specialist
Forest Service
Ouachita National Forest
p: 501-321-5341
f: 501-321-5353
jlogan@fs.fed.us
100 Reserve Street
Hot Springs, AR 71901
www.fs.fed.us

From: Copeland,Scott
To: Treece, Tricia
Cc: Montgomery, William
Subject: RE: USFS Comments to narrowed SIP for NOx
Date: Wednesday, September 06, 2017 12:22:21 PM
Attachments: image002.png
image004.png
image006.png
image008.png

Great. Glad that worked. That daily data file is one that I generate from the raw IMPROVE data. (I'm hoping to get the data to add the 2016 sample year by early November sometime).

I'd be curious to see your results when they are ready.

Scott

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Wednesday, September 06, 2017 11:05 AM
To: Copeland,Scott <Scott.Copeland@colostate.edu>
Cc: Montgomery, William <Montgomery@adeq.state.ar.us>
Subject: RE: USFS Comments to narrowed SIP for NOx

Thanks. I was able to use the daily values from http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_daily_budgets_7_16.csv to reproduce the results. I am also using the same method to calculate the average light extinction during the CSAPR ozone-season trading period (May-September), which differs from the ozone monitoring season (March-November).

From: Copeland,Scott [mailto:Scott.Copeland@colostate.edu]
Sent: Wednesday, September 06, 2017 8:57 AM
To: Treece, Tricia
Cc: Sams, Charles E -FS; Logan, Judy -FS; Anderson, Bret A -FS
Subject: RE: USFS Comments to narrowed SIP for NOx

Hi Tricia,

I am the data analyst that did the analysis you reference below. You are correct that this is a unique way to consider IMPROVE data, in that we normally do not split the data into ozone/non-ozone seasons. However, by defining ozone season as March through November, we can simply count the number of "haziest 20%" days identified by the RHR2 algorithm that fall in and out of that season. The days can be counted and averaged over each season to determine the relative contribution to light extinction from each aerosol constituent. The results for the four sites I considered most likely to be impacted by AR NOx emissions (based solely on proximity) are in the attached excel file. I can provide you with the individual daily extinction budgets if you'd like to reproduce the results. It would be a fairly simple matter to run the same calculations for other sites, if that would be helpful. As an aside, if we instead use the "20% most impaired" days as defined in EPA's recent draft guidance, it would *likely* increase the impact of high wintertime nitrate days, not reduce them.

Please let me know if I you have any questions.

Thanks,

Scott

Scott Copeland
USDA Forest Service Air Data Analyst
Washakie Ranger District
333 East Main Street
Lander, WY 82520
Work: (307) 335 2154
Cell: (307) 349 3595
scott.copeland@colostate.edu
http://views.cira.colostate.edu/fed/

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Tuesday, September 05, 2017 4:21 PM
To: Logan, Judy -FS <jlogan@fs.fed.us>
Cc: Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>; Wagoner, Norman -FS <nwagoner@fs.fed.us>; Hamilton, Cherie E -FS <cehamilton@fs.fed.us>
Subject: RE: USFS Comments to narrowed SIP for NOx

Judy,
We are currently evaluating the comments from the Forest Service and I had a question regarding one of your comments:"…we note that upwards of 1/5th of the 20% haziest days occurs during the non-ozone season (November –March), and that during that period, ammonium nitrate is the dominant PM constituent ranging between 41% and 44% of the total PM fine mass observed at Arkansas IMPROVE sites."

Would you mind forwarding me the data set that this quote summarizes? On the site where we typically access haze data (http://vista.cira.colostate.edu/Improve/), I am finding light extinction fractions attributable to the various PM species in terms of daily values (http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_daily_budgets_7_16.csv) and on an annual basis (http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_group_means_7_16.csv), but I am not finding anything aggregated to a monthly basis or ozone season vs. non-ozone season basis.

Thanks,
Tricia

From: Treece, Tricia
Sent: Monday, August 14, 2017 9:51 AM
To: 'Logan, Judy -FS'
Cc: Spencer, Stuart; Montgomery, William
Subject: RE: USFS Comments to narrowed SIP for NOx

Thank you Judy!

From: Logan, Judy -FS [mailto:jlogan@fs.fed.us]
Sent: Monday, August 14, 2017 9:44 AM
To: Treece, Tricia
Subject: RE: USFS Comments to narrowed SIP for NOx

Tricia, my apologies. Attached is attachment 1. -Judy

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Monday, August 14, 2017 8:07 AM

To: Logan, Judy -FS <jlogan@fs.fed.us>
Cc: Tim Allen - USFWS (Business Fax); Joe Kordzi (kordzi.joe@epa.gov) <kordzi.joe@epa.gov>; Geiser, Linda -FS <lgeiser@fs.fed.us>; Sams, Charles E -FS <csams@fs.fed.us>; Anderson, Bret A -FS <baanderson02@fs.fed.us>; Worth, Chris C -FS <cworth@fs.fed.us>; Cole, Steve N -FS <sncole@fs.fed.us>; Turpin, Patti -FS <pturpin@fs.fed.us>; Wagoner, Norman -FS <nwagoner@fs.fed.us>; Hamilton, Cherie E -FS <cehamilton@fs.fed.us>; Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>; McCorkle, Mark <MAC@adeq.state.ar.us>
Subject: RE: USFS Comments to narrowed SIP for NOx

Thank you. We have received your comments.

The comments document we received refers to comments that the USFS made in 2011 on the CSAPR better than BART Notice of Proposed Rulemaking and states that those comments are incorporated by reference as Attachment 1, but I am not seeing an Attachment 1. Would you mind forwarding me the 2011 USFS comments that were incorporated by reference in your comments on our proposed SIP?

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

From: Logan, Judy -FS [mailto:jlogan@fs.fed.us]
Sent: Friday, August 11, 2017 1:10 PM
To: Treece, Tricia; McCorkle, Mark
Cc: Tim Allen - USFWS (Business Fax); Joe Kordzi (kordzi.joe@epa.gov); Geiser, Linda -FS; Sams, Charles E -FS; Anderson, Bret A -FS; Worth, Chris C -FS; Cole, Steve N -FS; Turpin, Patti -FS; Wagoner, Norman -FS; Hamilton, Cherie E -FS
Subject: USFS Comments to narrowed SIP for NOx

Tricia, attached are our comments for the narrowed SIP. -Judy

Judith Logan
Air Resource Specialist
Forest Service
Ouachita National Forest
p: 501-321-5341
f: 501-321-5353
jlogan@fs.fed.us
100 Reserve Street
Hot Springs, AR 71901
www.fs.fed.us

From: Logan, Judy -FS
To: Treece, Tricia
Subject: RE: USFS Comments to narrowed SIP for NOx
Date: Monday, August 14, 2017 9:48:37 AM
Attachments: image001.png
image002.png
image003.png
image004.png
Attachment_1.pdf

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From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Monday, August 14, 2017 8:07 AM
To: Logan, Judy -FS <jlogan@fs.fed.us>
Cc: Tim Allen - USFWS (Business Fax); Joe Kordzi (kordzi.joe@epa.gov) <kordzi.joe@epa.gov>; Geiser, Linda -FS <lgeiser@fs.fed.us>; Sams, Charles E -FS <csams@fs.fed.us>; Anderson, Bret A -FS <baanderson02@fs.fed.us>; Worth, Chris C -FS <cworth@fs.fed.us>; Cole, Steve N -FS <sncole@fs.fed.us>; Turpin, Patti -FS <pturpin@fs.fed.us>; Wagoner, Norman -FS <nwagoner@fs.fed.us>; Hamilton, Cherie E -FS <cehamilton@fs.fed.us>; Spencer, Stuart <SPENCER@adeq.state.ar.us>; Montgomery, William <Montgomery@adeq.state.ar.us>; McCorkle, Mark <MAC@adeq.state.ar.us>
Subject: RE: USFS Comments to narrowed SIP for NOx

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Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

From: Logan, Judy -FS [mailto:jlogan@fs.fed.us]
Sent: Friday, August 11, 2017 1:10 PM

To: Treece, Tricia; McCorkle, Mark
Cc: Tim Allen - USFWS (Business Fax); Joe Kordzi (kordzi.joe@epa.gov); Geiser, Linda -FS; Sams, Charles E -FS; Anderson, Bret A -FS; Worth, Chris C -FS; Cole, Steve N -FS; Turpin, Patti -FS; Wagoner, Norman -FS; Hamilton, Cherie E -FS
Subject: USFS Comments to narrowed SIP for NOx

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Judith Logan
Air Resource Specialist
Forest Service
Ouachita National Forest
p: 501-321-5341
f: 501-321-5353
jlogan@fs.fed.us
100 Reserve Street
Hot Springs, AR 71901
www.fs.fed.us

USDA United States Department of Agriculture
Forest Service
Ouachita National Forest
P. O. Box 1270
Hot Springs, AR 71902
501-321-5202
Fax: 501-321-5353

File Code: 1580
Date: August 11, 2017

Ms. Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Dear Ms. Treece:

The U.S. Forest Service (FS) appreciates the opportunity to review and comment on the proposed "narrowed" State Implementation Plan prepared by the Arkansas Department of Environmental Quality (ADEQ).

We are providing these comments to ADEQ, and ask that they be placed in the official public record. We look forward to your response as per section 40 CFR §51.308 (i)(3) and are willing to work with ADEQ staff towards addressing any of the issues discussed in this letter.

Again, we appreciate the opportunity to work closely with ADEQ and compliment you on your hard work and dedication to significant improvements in our nation's air quality values and visibility.

Sincerely,

Norman L. Wagoner
Forest Supervisor
Ouachita National Forest

Cherie Hamilton
Forest Supervisor
Ozark, St. Francis National Forest

Enclosures:

cc: Mark McCorkle, Environmental Programs Manager
ADEQ
5301 Northshore Drive
North Little Rock, AR 72118-5317

Guy Donaldson, Chief
Air Planning Section
U.S. EPA Region 6, 6PD-L
1445 Ross Avenue, Suite 1200
Dallas TX 75202-2733

Joe Kordzi
Air Planning Section
US EPA Region 6, 6PD-L
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Tim Allen
USFWS

- In 2011, the USFS commented on the "CSAPR-better-than BART" NPRM[1]. We incorporate these comments by reference herein as Attachment 1 to this document to highlight issues which are pertinent to the AR RH SIP and its reliance upon CSAPR to address NOx BART and reasonable progress requirements of the Regional Haze rule.
- The status of the disapproval of the reasonable progress goals (RPGs) are unclear. Please address the status of the RPGs for both Caney Creek and Upper Buffalo Class I areas. It is our opinion that due to inherent differences between assumptions made for the original CENRAP CAMx modeling relying upon presumptive BART and on-the-ground changes from Arkansas' inclusion in CSAPR, any revised RPG's should be reflective of those differences.
- The analysis of the Cross State Air Pollution Rule (CSAPR) to determine if it was "Better than BART" used air quality emissions and controls from all participating States and facilities; calculated impacts to visibility at Class I Parks and Wildernesses Areas resulting emission reductions; and presented visibility benefit for the program as a single number. The benefit represented the improvement to visibility as the average across all eastern Class I areas. In averaging the overall benefit, the determination did not represent how specific Class I areas responded to local emission reductions.
- In our 2011 comments, we requested consideration for year-round NOx controls for states such as Arkansas because the CSAPR proposal would limit the applicability of controls to the period of the year when nitrate is not the primary concern. It is our position that year-round NOx limits are the method to address the portion of the 20% haziest days that are dominated by nitrate. As summarized in Figures 1 and 2 below. we note that upwards of $1/5^{th}$ of the 20% haziest days occurs during the non-ozone season (November—March), and that during that period, ammonium nitrate is the dominant PM constituent ranging between 41% - 44% of the total PM fine mass observed at Arkansas IMPROVE sites. This serves as our basis that reliance upon ozone season only controls may be insufficient to improve visibility on those days.

[1] Regional Haze: Revisions to Provisions Governing Alternatives to Source- Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans.

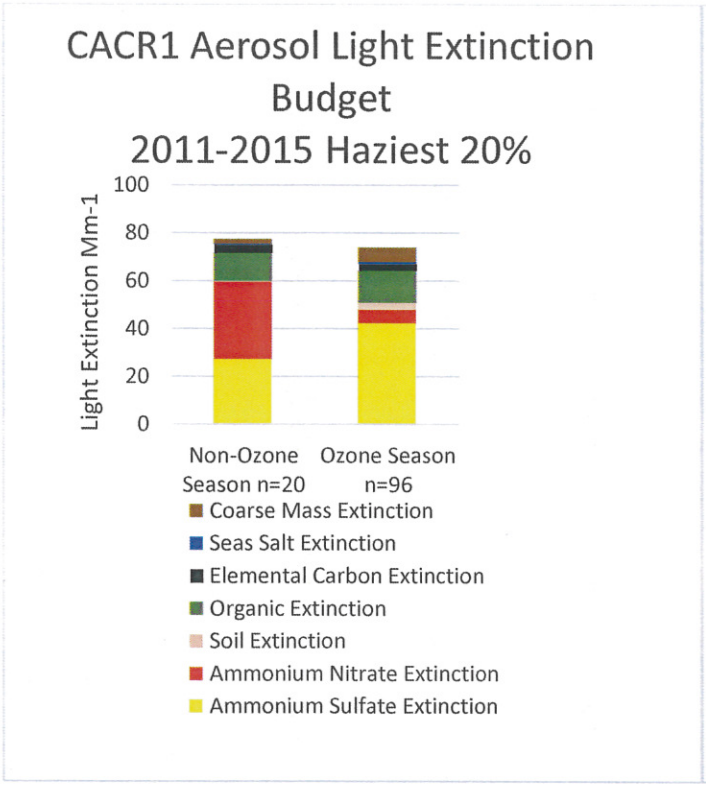

Figure 2 – Aerosol composition, 20% Haziest Days, at Upper Buffalo Class I Area.. Categorized by Non-ozone season v. Ozone Season. Non-ozone season days account for 21% of total haziest days at Upper Buffalo.

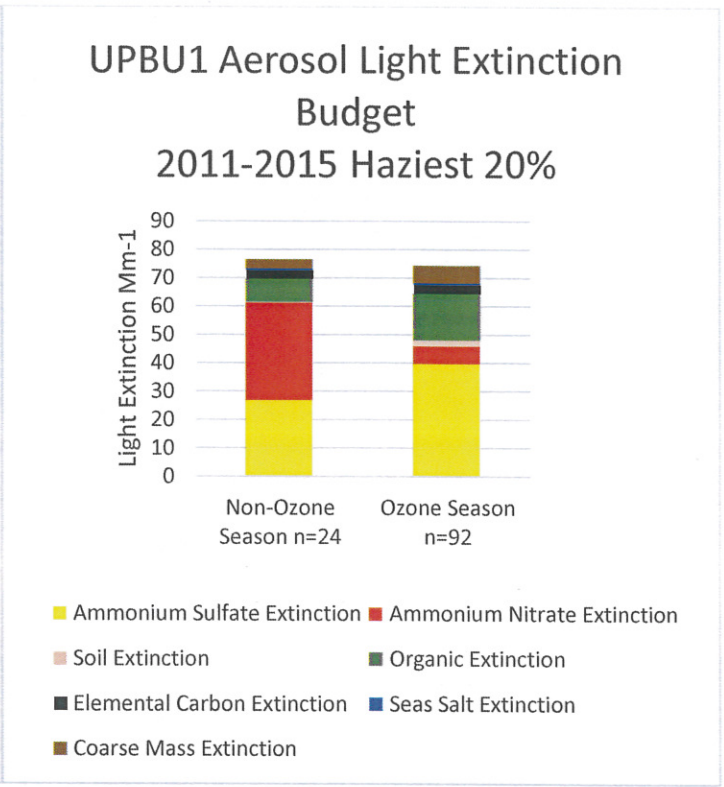

Figure 1 – Aerosol composition, 20% Haziest Days, at Caney Creek Class I Area. Categorized by Non-ozone season v. Ozone Season. Non-ozone season days account for 17% of total haziest days for Caney Creek.

- In section IV, "Reasonable Progress", Arkansas relies upon compliance with CSAPR as the justification for not conducting a four factor analysis. It is our understanding that a four factor analysis is required under 42 USC § 7941.
- A factor based procedure is consistent with the rule and statute language making the plan more defensible. We request that the State establish a procedure to apply the four factors in determining reasonableness of Reasonable Progress controls.
- The draft implementation plan only discusses in-state Class I areas. We request that Hercules Glades and Mingo Class I areas be included in your plan.
- The Regional Haze rule requires States to develop and implement plans to reasonably control visibility impairing pollutants that impact Class I areas and to produce a Long Term Strategy that describes enforceable methods to meet Reasonable Progress Goals. We would like to offer our assistance in any way practical to help meet these goals.
- We request that the State consider our comments as it moves forward to implement the State's FIP/SIP proposals.

Attachment 1

USDA United States Department of Agriculture | Forest Service | Washington Office | 1400 Independence Avenue, SW Washington, DC 20250

File Code: 6270
12-0591-R [WFRP]

Date: FEB 2 8 2012

Ms. Stephanie Kodish
National Parks Conservation Association
706 Walnut Street, Suite 200
Knoxville, TN 37902

Dear Ms. Kodish:

This letter responds to your Freedom of Information Act (FOIA) request dated December 12, 2011, that was received in the Washington Office FOIA Service Center on the same date. You requested comments submitted from the Forest Service and National Park Service to the Environmental Protection Agency (EPA) on the Cross State Air Pollution Rule Better-than-Best-Available Retrofit Technology (BART) proposal.

In response to your FOIA Request, FOIA Analyst Saundra Dover contacted you via email on February 16, 2012, to ask if you were willing to amend your request, Saundra stated that we conducted a search for records and located 18 pages of records regarding the BART proposal; however, it was determined that the Forest Service submitted their comments to OMB instead of EPA. By email dated February 16, 2012, you amended your request to the comments submitted from the Forest Service (and National Park Service) to the Office of Management and Budget (OMB) regarding the BART proposal.

Enclosed in entirety are 15 pages of Forest Service records responsive to your request. The enclosed pages consist of the draft Notice of Proposed Rule Making (NPRM) entitled "*Regional Haze: Revisions to Provisions Governing Alternatives to Source-Specific Best Available Retrofit Technology (BART) Determination, Limited SIP Disapprovals, and Federal Implementation Plans.*" The remaining three pages are National Park Service (NPS) records; therefore, we are forwarding these three pages to the NPS for release determination. You can check on the status of this referral by contacting: the National Park Service, NPS FOIA Officer, 12795 W. Alameda Parkway, P.O. Box 25287, Denver, CO 80225. The telephone number is (303) 969-2959; the fax number is (303) 969-2557; and the email address is npsfoia@nps.gov.

Pursuant to Title 7 C.F.R. Subtitle A, Part 1, Subpart A, Appendix A, there is no charge for these records, as the amount falls below the minimum fee that the Forest Service is required to collect. We believe this fully satisfies your request.

Sincerely,

ANNE J. ZIMMERMANN
Director, Wildlife, Fish, & Rare Plants

Draft Notice of Proposed Rule Making (NPRM)

Released in Entirety

November 28, 2011

The United States Forest Service (USFS) Air Resources Management (ARM) program has reviewed the draft Notice of Proposed Rule Making (NPRM) entitled "Regional Haze: Revisions to Provisions Governing Alternatives to Source-Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans."

In general, the USFS ARM program is highly supportive of the rulemaking, and believes it will help achieve the national visibility goals in the Eastern United States. However, with the inclusion of new states west of the Mississippi River, we believe that the approach that EPA has adopted to determine that the BART alternative (CSAPR) is better than BART is not appropriate. In these states, the emissions summaries detailed in the Technical Support Document (TSD) indicate that the Transport Rule will result in less emission reductions compared to reductions from BART. Therefore, we believe that the appropriate analysis technique should limit the geographic scope of both "affected" Class I areas and modeled emissions relative to each state as is implied in 40 CFR 51.308(e)(3). We ask that EPA consider the following weaknesses of the better than BART evaluation and adopt our suggestions. Detailed technical comments are organized according to major thematic groupings identified in bold headings.

Reliance Upon Ozone Season NOx Controls in lieu of BART

Section III C.4 of the preamble to the draft NPRM states that "…Under the proposed revision to this section, a state in the Transport Rule region whose EGUs are subject to the requirements of the Transport Rule trading program only for annual NO_X or ozone season NO_X would be allowed to rely on our proposed determination that the Transport Rule makes greater reasonable progress than source-specific BART for NO_X." The EPA website (http://www.epa.gov/crossstaterule) identifies five states where this provision is applicable. These are Oklahoma, Arkansas, Louisiana, Mississippi, and Florida. We do not support the provision for reliance upon ozone season NOx limitations as providing for greater reasonable progress than source-specific BART.

Particulate nitrate formation is largely dependent upon cooler temperatures and higher humidity values, conditions most common during the late autumn through the early spring months. This translates into a significantly higher contribution of particulate nitrate to the extinction budget during the winter season (figure 1). Correspondingly, summer time nitrate concentrations are typically very low and contribute very little to light extinction (figure 2).

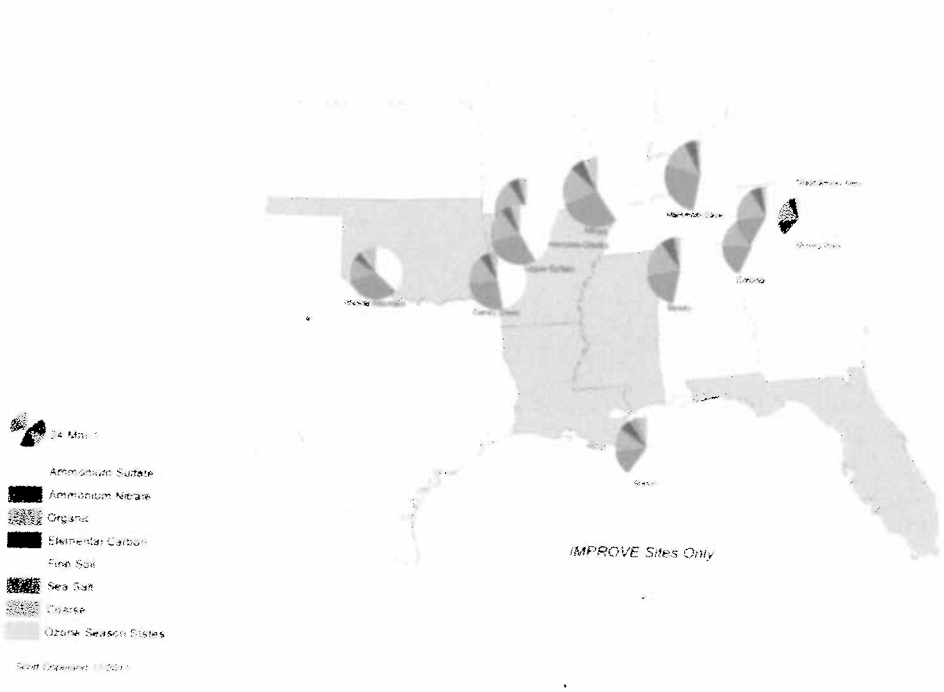

Figure 1 – Non-ozone season extinction budgets for Class I areas of South Central United States for period 2000 – 2009.

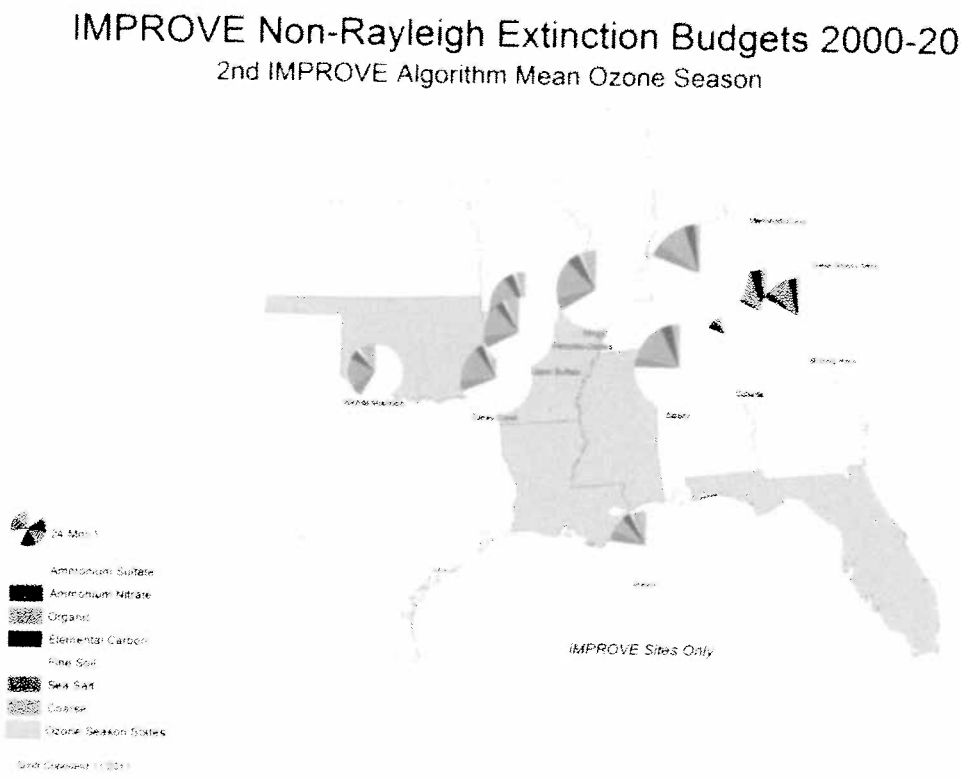

Figure 2 - Ozone season extinction budgets for Class I areas of South Central United States for period 2000 – 2009.

As shown in figure 1, NO_x controls which are limited to ozone season will have little effect on reducing particulate nitrate levels during the period of the year when nitrate contribution to light extinction is greatest.

Additionally, photochemical modeling results conducted by the CENRAP RPO for Class I sites in Oklahoma and Arkansas are examined figures 3 through 5. In each of these Class I areas, the modeling clearly depicts that both observed and predicted nitrate are seasonally dependent, with highest nitrate prediction formed during the November through February timeframe, also outside the ozone season.

Therefore, we question the scientific basis for allowing reliance of ozone season controls as a BART-alternative for Class I areas affected by nitrate as modeling and data analysis does not demonstrate that ozone season NO_x controls would be an effective substitute for NO_x BART. The NPRM should require establishment of year round federally enforceable NO_x emissions limitations to allow for states to rely upon CSAPR in lieu of BART requirements.

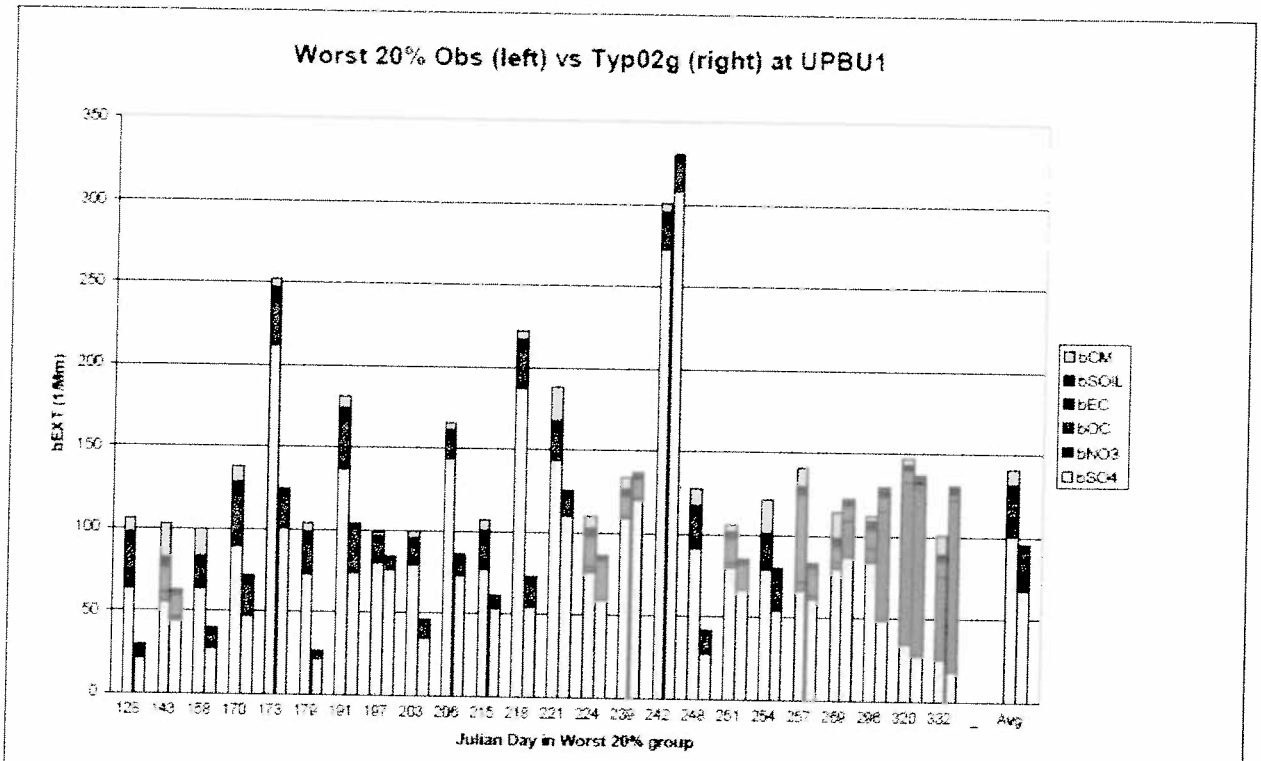

Figure D-2c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Upper Buffalo (UPBU), Arkansas and Worst 20% (W20%) days in 2002.

Figure 3 - Comparison of daily extinction (observed and predicted) for Upper Buffalo Class I area.

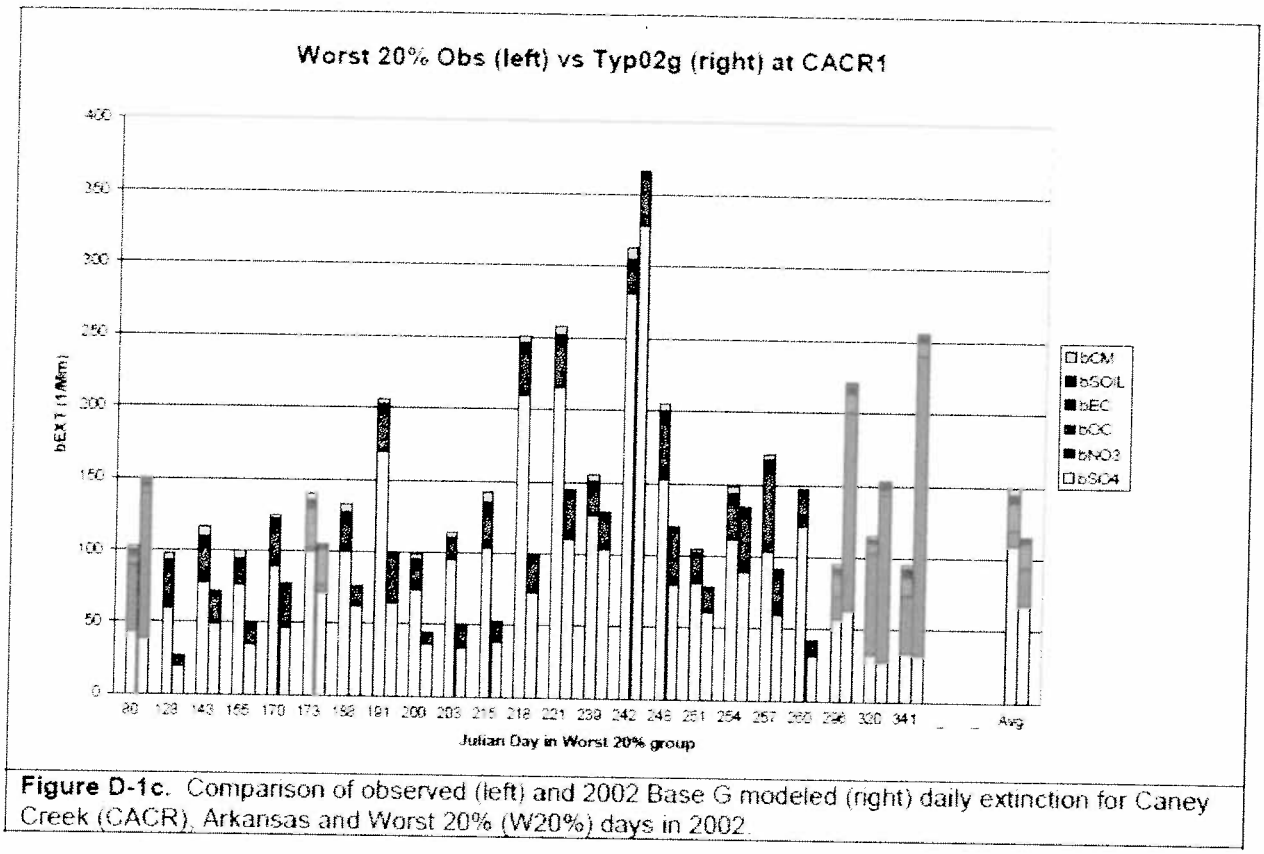

Figure D-1c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Caney Creek (CACR), Arkansas and Worst 20% (W20%) days in 2002.

Figure 4 - Comparison of daily extinction (observed and predicted) for Caney Creek Class I area.

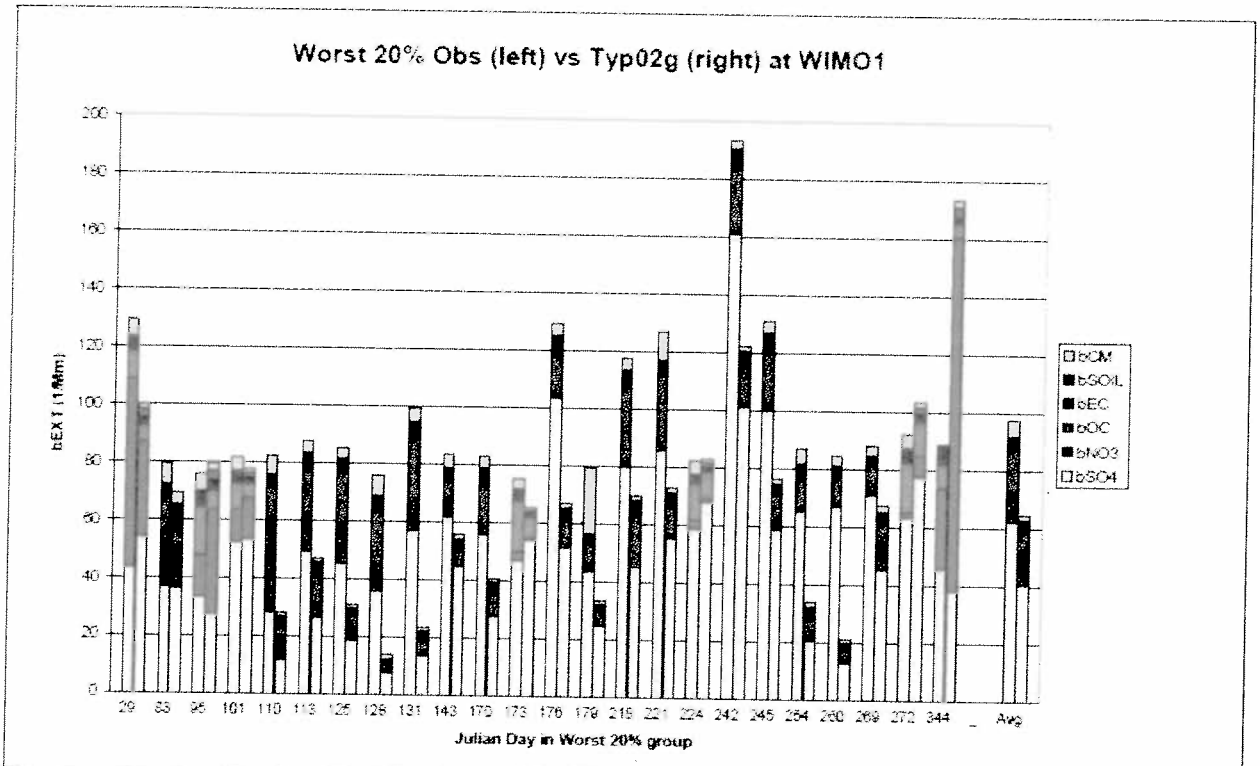

Figure D-8c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Wichita Mountains (WIMO), Oklahoma and Worst 20% (W20%) days in 2002

Figure 5 - Comparison of daily extinction (observed and predicted) for Wichita Mountains Class I area.

Two-prong test and "Affected" Class I Areas

Section III C 1 of the preamble to the draft NPRM cites the Regional Haze Rule at 40 CFR 51.308(e)(3) to describe EPA's criteria for comparing visibility progress of an alternative program to BART. Section III C 1 references a two-pronged visibility test that demonstrates greater reasonable progress for the alternative program if two criteria are met:

- Visibility does not decline in any Class I area, and
- There is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas.

In the second prong of the BART alternative test, we question EPA's approach to identifying "affected" Class I areas. In its analysis, EPA considered two separate approaches to identifying "affected" Class I areas. In the first approach, EPA identified as affected Class I areas 60 mandatory Class I federal areas represented by 46 IMPROVE monitors located in 37 complete states and four partial states that are contained in the eastern portion of the Transport Rule modeling domain. In the second approach EPA used a national approach in which visibility impacts on 140 Class I areas across the 48 contiguous states were evaluated.

From a regulatory perspective, if a state were to adopt its own BART alternative (outside of the Transport Rule modifications) pursuant to 40 CFR 51.308 (e)(3), the two-prong test outlined under (e)(3)(i) and (e)(3)(ii) would only apply to those Class I areas affected by the State's alternative proposal, not all Class I areas in the contiguous 48 states. Both approaches evaluated by EPA for identifying "affected" Class I areas are inconsistent with the geographic scope of the dispersion modeling required for a state under the BART alternative provisions of the RHR. Under the second-prong, it is our interpretation that the geographic scope of "affected" Class I areas is limited to those Class I areas "affected" by a State's alternative program. This interpretation is supported by recent BART alternative proposals in Idaho and Wisconsin, which examine the two-prong test in relationship to Class I areas in the immediate vicinity of the State, not the nation as a whole.

Under the proposed revision, a state in the Transport Rule region whose EGUs are subject to the requirements of the Transport Rule trading program would be allowed to rely on the EPA determination that the Transport Rule makes greater reasonable progress than source-specific BART. Because this rulemaking essentially allows for the interpretation that the Transport Rule is a BART alternative program that a State may opt to participate in and rely upon to satisfy 308(e) requirements, the dispersion modeling conducted by EPA should have identified the "affected" Class I areas relative to each State in the Transport Rule region rather than simply looking at the aggregate across each "affected" scenario that was analyzed. Stated differently, since the dispersion modeling conducted under this rulemaking is intended to satisfy the requirements of 308 (e)(3) for each State that chooses to opt in, the "affected" Class I areas would be relative to the Class I areas impacted by the individual State emissions, and not the

aggregate across the entire United States. We cannot support this approach to determining "affected" Class I areas.

The net effect of this proposal creates subregions within the Transport Rule domain where emissions reductions under CSAPR would be significantly less than under BART. As shown in figure 6, a number of the new states west of the Mississippi River will have significantly greater SO_2 emissions under CSAPR as compared to the BART case. The "Mississippi-West" subregion of the Transport Rule domain will have SO_2 emissions 164% greater under CSAPR than would have been assumed by presumptive BART (Table 1).

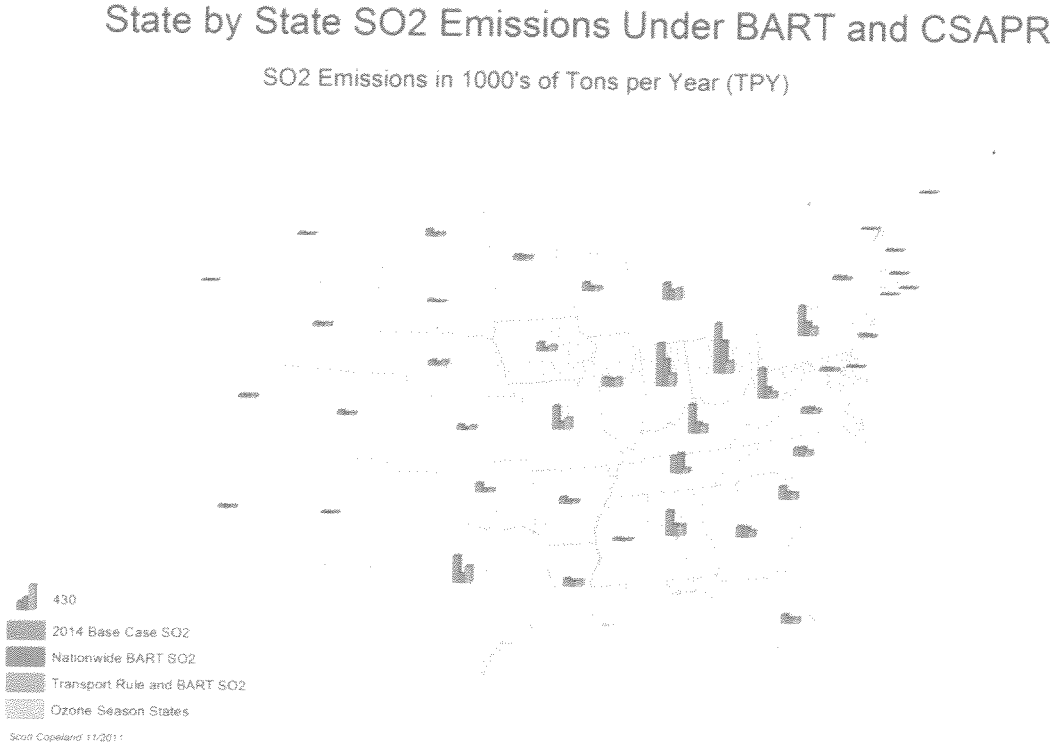

Figure 6 – State by state SO2 emissions Under BART and Transport Rule (based upon Table 2-4 of TSD).

Table 1 – Subregional comparison of SO_2 emissions between BART and CSAPR.

State	2014 Baseline	2014 BART	2014 CSAPR
Iowa	133.1	43.9	83.8
Kansas	69.8	19.8	49.1
Missouri	390.3	107.9	181.8
Nebraska	73.1	32.9	71.2
Arkansas	99.4	38.1	39.7
Oklahoma	138	41.4	41.4
Louisiana	118.2	81.2	92.6
Texas	453.3	139.3	266.6
Totals	***1475.2***	***504.5***	***826.2***

BART controls for SO_2 are an essential component to meeting the subregional progress goals for the Class I areas in and surrounding the "Mississippi-West" subregion. Figures 7 and 8 depict the extinction budgets for the 20% best and worst days for the Class I areas to the west and northwest of the Transport Rule region. In fact, SO_4 is the single largest component of the extinction budget for Class I areas in South Dakota, North Dakota, and Minnesota, and is second only to Organic Carbon Mass (OMC) in Colorado, Wyoming, and Montana on the haziest days. SO_4 is the largest component of the extinction budget for all Class I areas on the cleanest days.

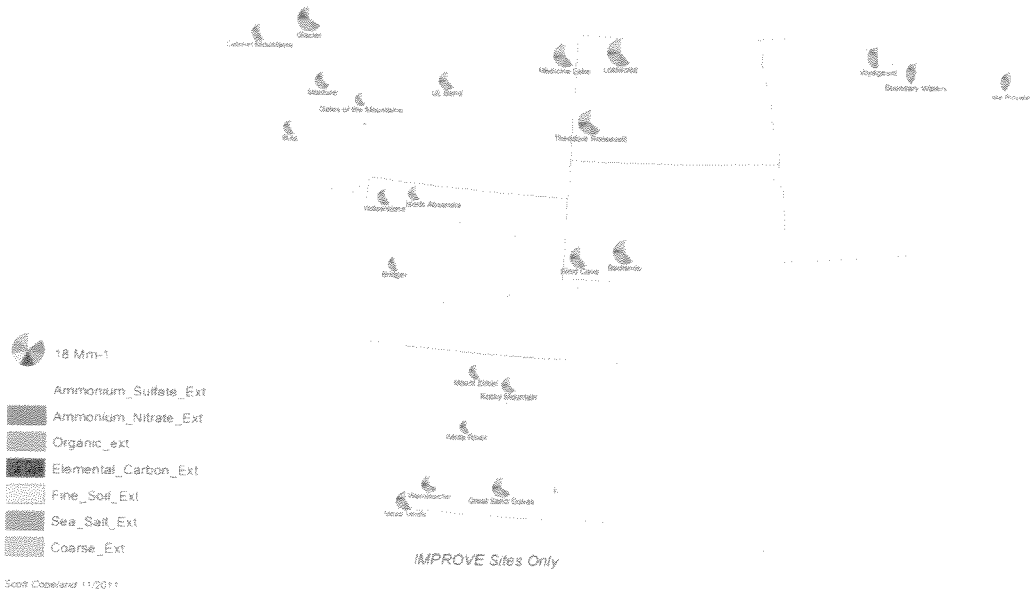

Figure 7 – Mean extinction budget for Class I areas on the northwest edge of the CSAPR domain for 20% Best Days, 2000 – 2009.

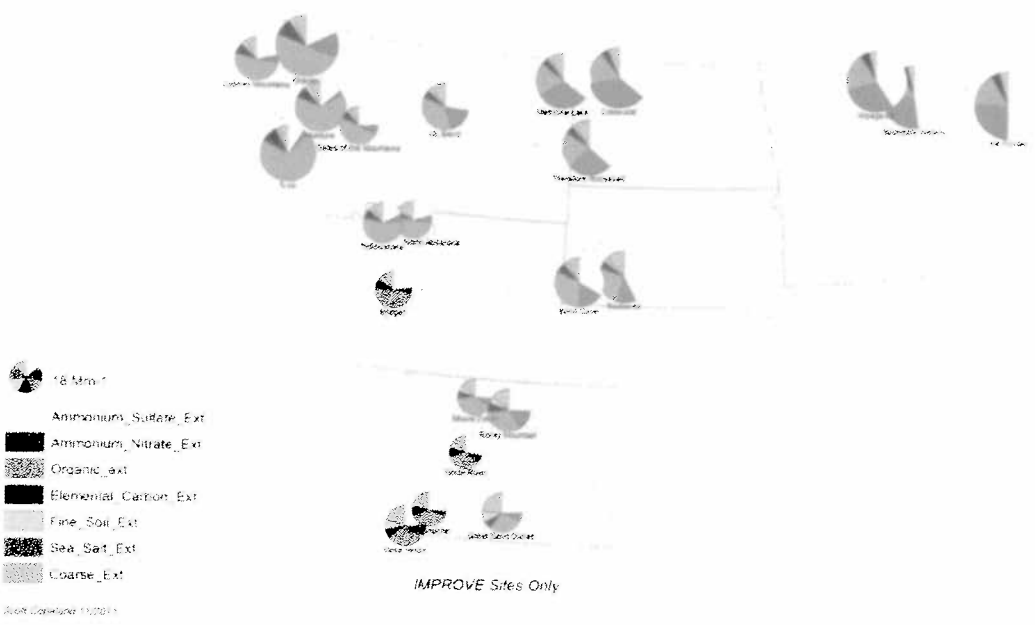

Figure 8 – Mean extinction budget for Class I areas on the northwest edge of the CSAPR domain for 20% Worst Days, 2000 – 2009.

To further illustrate the importance of SO_2 BART for these states within the "Mississippi-West" subregion, we examined source-specific BART modeling conducted by the Nebraska Department of Environmental Quality and EPA Region 7 for the BART eligible units at the Gerald Gentleman Station (GGS) EGU in western Nebraska. Both CALPUFF and CAMx were run for this BART eligible source. As shown in table 2, both CALPUFF and CAMx results show that the GGS facility predict a significant contribution (e.g. days greater than or equal to 0.5 ddv impact) on 55 and 85 (or 15% and 23%) of the days respectively.

Table 2 – Source specific BART modeling for Nebraska Gerald Gentleman EGU, 2002 meteorology.

	CALPUFF	CAMx
No. of Days > 0.5 ddv	55	85
No. of Days > 1.0 ddv	37	45
Impact at 98th Percentile	2.83	3.38
Maximum Impact	5.68	6.84

CAMx PSAT results for GGS show that SO_2 is the single largest contributing pollutant to light extinction to the Badlands Class I area in South Dakota (figure 9), also underscoring the importance of SO_2 BART for these "Mississippi-West" states. Under CSAPR, BART becomes a

"no control" alternative which creates significant concern if SO_2 BART is not implemented in these states.

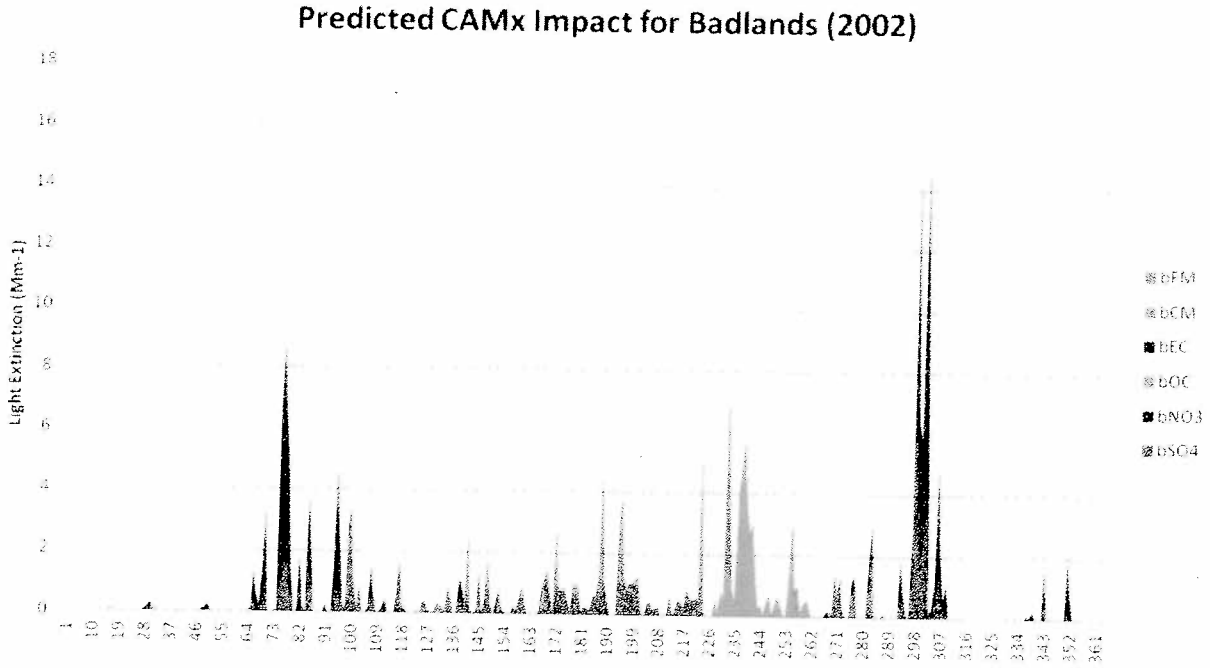

Figure 9 – CAMx predicted component specific contribution to light extinction for Gerald Gentleman EGU in Nebraska for 2002.

Geographic Enhancements and Relationship to Long Term Strategy Requirements

Section III C 4 of the draft NPRM (page 24) states "*...We are proposing to leave unchanged the language in the regional haze regulations at 40 CFR 51.308(e)(4)that allows states to retain the discretion to include geographic enhancements in their SIP to accommodate the situation where BART is required based on reasonable attribution of visibility impairment at a Class I area.*[1]"

The relationship between the Transport Rule requirements under the Reasonably Attributable Visibility Impairment (RAVI) program (40 CFR 51.302) is discussed further at Regional Haze Regulations and Guidelines for Best Available Retrofit Technology Determinations: Final Rule (70 FR 39137). EPA stated:

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[1] A geographic enhancement is a method, procedure, or process to allow a broad regional strategy, such as the Transport Rule cap and trade program, to accommodate BART for reasonable attributable impairment. For example, it could consist of a methodology for adjusting allowance allocations at a source which is required to install BART controls.

"With respect to the use of average overall improvement, we explained in the CAIR NFR preamble that we disagree with comments that CAA section 169A(b)(2)'s requirement of BART for sources reasonably anticipated to contribute to impairment at any Class I area means that an alternative to the BART program must be shown to create improvement at each and every Class I Area. Even if a BART alternative is deemed to satisfy BART for regional haze purposes, based on average overall improvement as opposed to improvement at each and every Class I Area, CAA section 169A(b)(2)'s trigger for BART based on impairment at any Class I area remains in effect, because a source may become subject to BART based on ''reasonably attributable visibility impairment'' at any area. See 40 CFR 51.302. In addition, within a regional haze context, not every measure taken is required to achieve a visibility improvement at every class I area. BART is one component of long term strategies to make reasonable progress, but it is not the only component. The requirement that the alternative achieves greater progress based on the average improvement at all Class I areas assures that, by definition, the alternative will achieve greater progress overall. Though there may be cases where BART could produce greater improvement at one or more class I areas, the no-degradation prong assures that the alternative will not result in worsened conditions anywhere than would otherwise exist, and the possibility of BART for reasonably attributable visibility protects against any potential ''hot spots.'' Taken together, the EPA believes these factors make a compelling case that the proposed test properly defines ''greater reasonable progress.'' The EPA anticipates that regional haze implementation plans will also contain measures addressing other sources as necessary to make progress at every mandatory Federal Class I area."

In this discussion, EPA acknowledges the real possibility that there are cases where BART would result in greater visibility improvement than the Transport Rule in one or more Class I areas. To insure that the "hot spots" would not result from applying BART alternative provisions, EPA relies upon the RAVI provisions under 40 CFR 51.302 as the "regulatory backstop" to insure that "hot spots" are protected against when applying the average overall improvement test under the second-prong (40 CFR 51.308(e)(3)(ii)). We disagree with this approach for several reasons.

First, we do not believe that any such geographic enhancement should be discretionary on the part of the State once a RAVI determination has been made by the FLM's. Under 40 CFR 51.302(c)(4)(i), a State *must* identify and analyze BART for each existing stationary facility which may reasonably be anticipated to cause or contribute to impairment of visibility in any mandatory Class I Federal area where the impairment in the mandatory Class I Federal area is reasonably attributable to that existing stationary facility. We interpret that once RAVI is triggered, the said BART analysis is required, and is not discretionary on the part of the State. Therefore, we encourage EPA to modify this language to reflect that BART determinations are mandatory once a RAVI determination has been made.

Second, the analysis methodology adopted by the EPA for the first part of the two prong test insures that no degradation will occur with the BART-alternative proposal. As noted elsewhere, the "no degradation" test of the first-prong test is to insure that there is no decline in visibility conditions relative to a baseline. However, the EPA, by analyzing the BART-alternative emissions as the same emissions year relative to the modeled future baseline conditions in the absence of any BART or alternative program control requirements, this seemingly creates a guaranteed "no degradation" test. For CSAPR states such as Nebraska where unit level allocations for SO_2 are at or near their current actual emissions level, the BART-alternative will result in no visibility changes relative to baseline visibility conditions since the emissions between the baseline and BART-alternative are essentially identical.

Under the second-prong approach and broad definition of "affected" adopted by EPA to justify the Transport Rule as a BART-alternative, if unit level allocations in these Group II states are near or greater than their current actual emission levels, the use of the Transport Rule as a BART alternative would essentially result in a "no control" BART alternative, and would in fact be significantly less than application of the presumptive BART levels, creating visibility "hot spots."

Third, this shifts the burden of insuring that individual Class I area progress goals are maintained in areas where BART would have achieved greater visibility improvement than the Transport Rule from the State to the affected Federal Land Manager (FLM). Under 40 CFR 51.302(c)(1), the affected FLM may certify to the State that a Class I area is impaired and such impairment can be reasonably attributed to one or more sources. Since there is no corresponding language in 51.302 which grants similar authority to States to certify visibility impairment, we interpret this authority as exclusive to the affected FLM. As such, this creates the additional burden that said RAVI determination must be performed by the FLM to trigger a geographic enhancement. Thus, under this regulatory construct, insurance of the maintenance of reasonable progress goals falls to the FLM and not to the State since RAVI can only be initiated by the FLM.

While we believe preserving the RAVI BART process under 302(c) is of paramount importance and should be explicitly reaffirmed by EPA in this rulemaking, we believe that using the RAVI regulations to serve as the "regulatory backstop" to be an unreasonable expectation and contrary to the intended purpose of the requirements of Section 308(e) of the RHR.

Second, if there are cases "where BART could produce greater improvement at one or more class I areas" compared to the Transport Rule, this seemingly contradicts the requirements of 40 CFR 51.308(d)(1)(vi). Under 51.308(d)(1)(vi) a state may not adopt a progress goal that represents less visibility improvement than is expected to result from implementation of other requirements of the Clean Air Act during the applicable planning period. The Reasonable Progress goals established by the two western RPO's and the supporting RP modeling assumed presumptive level BART controls for these "Mississippi-West" states. Thus, in these cases where BART (a separate Clean Air Act requirement) would have achieved greater visibility improvement than

the Transport Rule, 40 CFR 51.308(e)(4) would sanction adoption of progress goals with less visibility improvement than BART, seemingly in contravention of the 308(d)(1)(vi) requirements.

Third, the structure of the Transport Rule, defining two separate groupings of State with separate allowance approaches creates the real potential that such "hot spots" will in fact develop in these "Group II" states. Under the two-prong approach and broad definition of "affected" adopted by EPA to justify the Transport Rule as a BART alternative, if unit level allocations in these Group II states are near or greater than their current actual emission levels, the use of the Transport Rule as a BART alternative would essentially result in a "no control" BART alternative, and would in fact be significantly less than application of the presumptive BART levels, creating visibility "hot spots." Therefore, we strongly encourage EPA to approach the "affected" geographic scope of the two-prong test at a state or small group of state approach rather than the overly broad approach adopted as part of this rulemaking.

Finally, while EPA states "*we believe that the reasonable progress goals in the SIPs for the states addressed in this proposed action do not need to be revised by the states at this time or replaced by goals established by us via FIPs*", the reality is that the allowance for the creation of visibility "hot spots" through the application of the Transport Rule as a BART alternative creates inconsistencies in areas where the established progress goals relied upon presumptive BART levels. We do not agree that progress goals would not need to be revised under this rulemaking.

RESPONSE TO COMMENTS RECEIVED FROM FEDERAL LAND MANAGERS AND AFFECTED STATES DURING CONSULTATION PERIOD

The Regional Haze Rule (RHR) requires consultation between states and Federal Land Managers (FLMs) on state implementation plan development (SIP). Specifically, the State must provide the FLMs of Class I areas impacted by Arkansas sources with the opportunity for consultation no less than sixty days prior to a public hearing on a proposed regional haze state implementation plan. This consultation must include the opportunity for the affected FLMs to discuss their:

(i) Assessment of impairment of visibility in any Class I area; and

(ii) Recommendations on the development and implementation of strategies to address visibility impairment.

The State must include in the SIP a description of how the State addressed any comments provided by the FLMs and procedures for continuing consultation with FLMs and other states on the implementation of the visibility protection program.

On June 14, 2017, ADEQ submitted letters to notify the FLMs and Missouri Department of Natural Resources of the proposed SIP revision and offer the opportunity to discuss their assessment of the impact of the proposed SIP revision on Class I areas affected by Arkansas sources. Missouri Department of Natural Resources had no comments. ADEQ participated in phone calls with Tim Allen of the United States Fish and Wildlife Service (FWS), provided additional information to the FWS and United States Forest Service (FS), and met with FS Forest Supervisors Cherie Hamilton and Norm Wagoner to answer questions about the proposed SIP. The FS submitted comments to ADEQ during the consultation period. ADEQ has summarized each comment and provided a description of how each comment will be addressed below.

Comment 1:

The FS noted that the status of Arkansas's reasonable progress goals (RPGs) is unclear in the proposed SIP. The FS requested that ADEQ address the status of RPGs for both Caney Creek and Upper Buffalo Class I areas. The FS recommended that the revised RPGs should be reflective of the difference between assumptions made in the original CENRAP CAMx modeling and on-the-ground changes from Arkansas's inclusion in CSAPR.

Response 1:

ADEQ proposed to determine that no new NOx controls beyond CSAPR, which ADEQ proposed as an alternative to Best Available Retrofit Technology (BART), were necessary for reasonable progress during the first planning period. The current SIP revision does not address all controls necessary for Arkansas's long-term strategy, including BART controls for other pollutants and any sulfur dioxide (SO_2) controls that may be necessary for reasonable progress. ADEQ intended this to be a partial SIP revision limited to nitrogen oxides (NOx) emitted from subject-to-BART power plants. Therefore, ADEQ did not calculate revised RPGs. ADEQ

intends to propose a subsequent SIP revision that addresses the remaining disapproved portions of the 2008 Arkansas Regional Haze SIP, including the RPGs.

No changes to the SIP are necessary as a result of this comment.

Comment 2:

The FS noted that, in EPA's analysis for the CSAPR better than BART rule, EPA averaged the overall benefit of emissions reductions due to CSAPR across all eastern Class I areas. The Commenters point out that this analysis did not represent how specific Class I areas responded to local emissions reductions.

Response 2:

Although FS may disagree with EPA's analysis methodology for the CSAPR better than BART rule, current federal regulations allow states the option to not require BART-eligible power plants in the state to install, operate, and maintain BART for a pollutant covered by a trading program under 40 CFR § 52.38 or 40 CFR § 52.39 if the state is subject to the program. Arkansas meets these requirements. EPA has since performed a sensitivity analysis that shows, in spite of changes to the CSAPR program, that CSAPR continues to provide greater reasonable progress than BART.[1] The RHR does not require an additional site-specific analysis beyond what EPA performed in support of their rulemakings that affirmed that CSAPR is better than BART. Unless 40 C.F.R. is vacated, repealed, or revised, Arkansas may opt to rely upon the CSAPR NOx trading program as an alternative to BART.

No changes to the SIP are necessary as a result of this comment.

Comment 3:

The FS noted that upwards of one fifth of the twenty percent haziest days at Arkansas Class I areas occur outside the ozone season. Furthermore, the FS pointed out that ammonium nitrate is the dominant particulate matter constituent during that time period. As such the FS expressed the concern that ozone season-only controls may be insufficient to improve visibility on those days.

Response 3:

The FS calculations performed to demonstrate seasonal differences in light extinction at Caney Creek and Upper Buffalo Wilderness Areas were based on the ozone monitoring season (March–November), not the CSAPR ozone-season NOx trading period (May–September). The CSAPR ozone-season is the period during which subject power plants must account for NOx emissions with allowances. Based on ADEQ's evaluation of the IMPROVE data, up to two-fifths of the twenty percent haziest days occur outside the CSAPR ozone-season NOx trading period, and during that period ammonium nitrate does contribute a larger proportion of the total light

[1] 81 FR 7894

extinction budget at Caney Creek and Upper Buffalo Wilderness Areas than during the CSAPR ozone-season; however, ammonium sulfate remains the dominant PM constituent causing light extinction at Caney Creek and Upper Buffalo Wilderness Areas. Figures 1 and 2 break down the aerosol light extinction budget averaged for 2011–2015 by particulate matter constituent for Arkansas Class I areas during the CSAPR ozone season and outside the CSAPR ozone season.

Figure 1 Caney Creek Wilderness Area Aerosol Light Extinction Budget 2011–2015, Haziest 20%

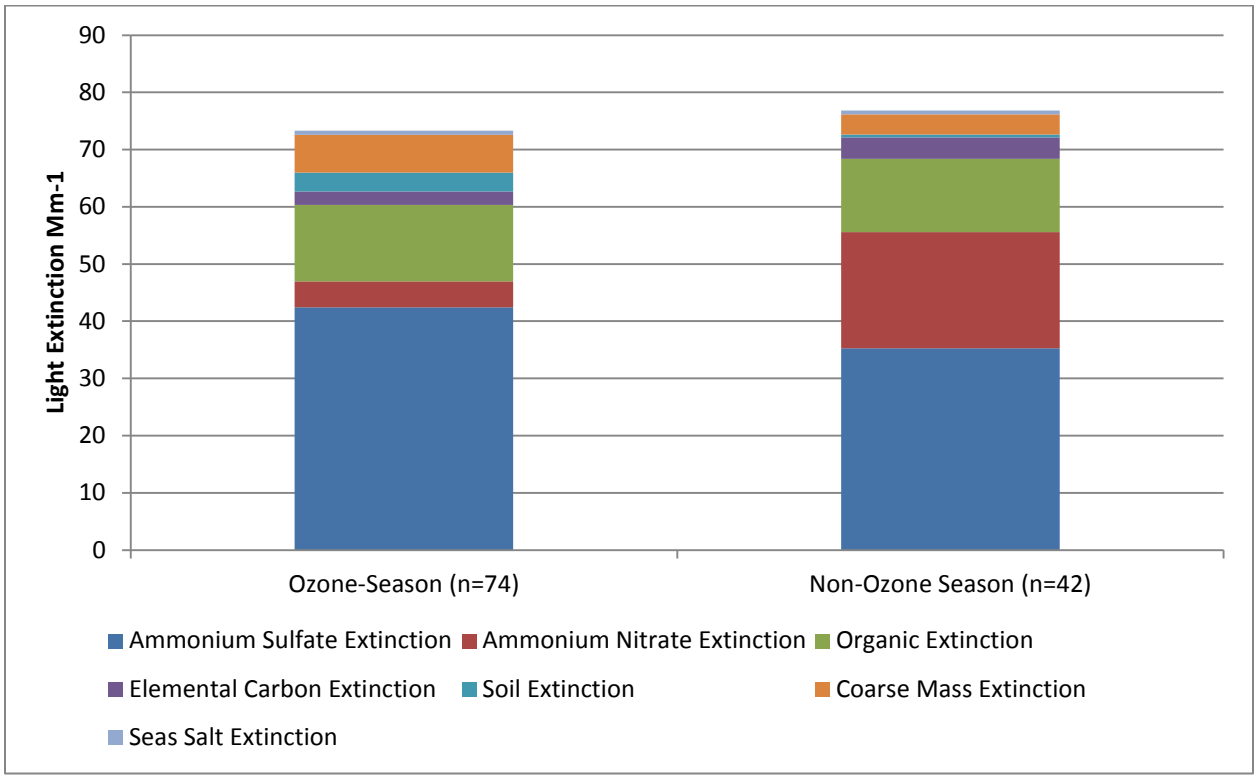
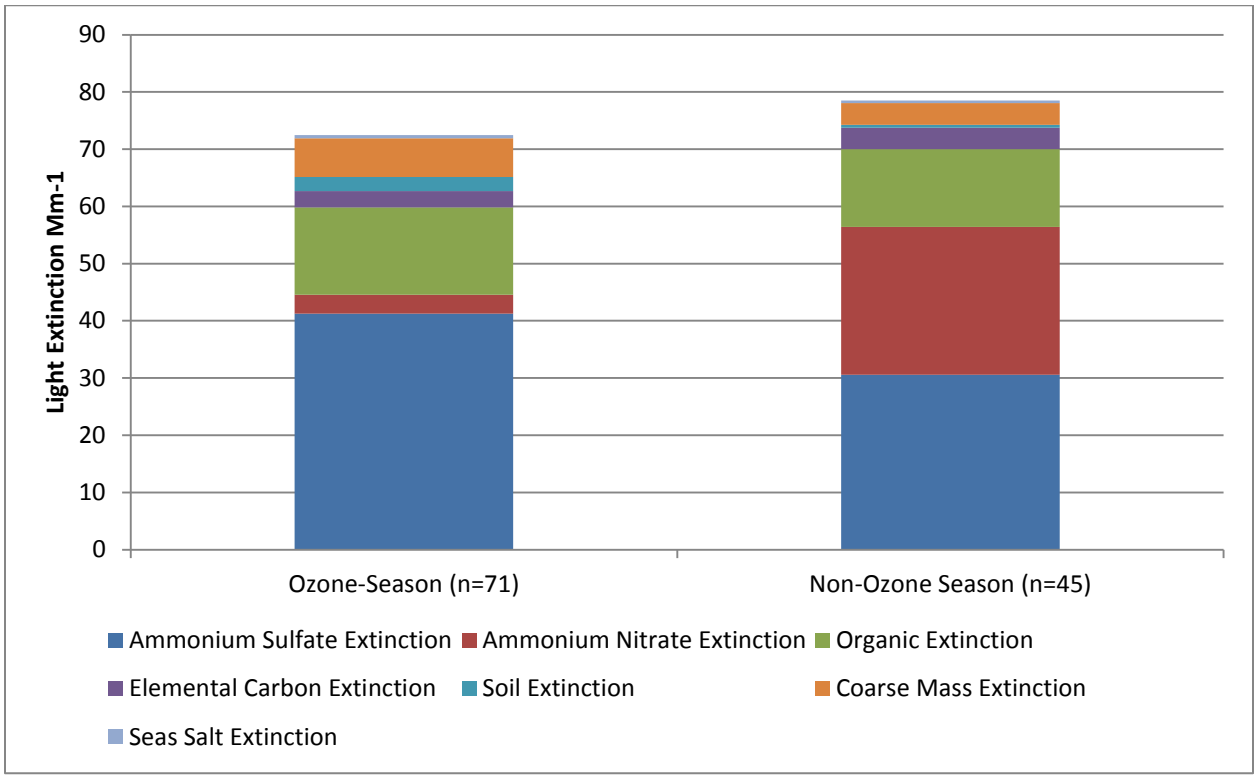


Figure 2 Upper Buffalo Wilderness Area Aerosol Light Extinction Budget 2011–2015, Haziest 20%



The proposed SIP addresses NOx emission reduction obligations for Arkansas power plants in accordance with the requirements of 40 C.F.R. 51.308(e)(4) and no further demonstration is required because EPA performed a demonstration showing that CSAPR achieves greater reasonable progress than BART, even for ozone-season NOx trading program states, during their 2012 rulemaking.[2] On September 29, 2017, EPA affirmed the continued validity of the Agency's 2012 determination that participation in CSAPR meets RHR criteria for an alternative to source-specific BART.[3] Nevertheless, ADEQ has reviewed NOx emissions from Arkansas power plants and found that average monthly NOx emissions from these sources are lower outside of the ozone season than during the ozone season (May–September in the CSAPR ozone season NOx trading program).[4] NOx emissions from Arkansas power plants peak during the summer months. Winter-time NOx emissions from Arkansas power plants are typically lower than summer-time emissions, but higher than spring and fall emissions. Therefore, the evidence suggests that any increase in light extinction due to nitrates during winter months at Class I areas impacted by Arkansas sources is not a result of increased NOx emissions from power plants outside the CSAPR ozone season. Figure 3 compares average monthly NOx emissions from Arkansas power

[2] 76 FR 82219
[3] 82 FR 45481
[4] EPA Air Markets Program Data < https://ampd.epa.gov/ampd/>

plants during the ozone season and outside the ozone season for 2011–2015. Figure 4 illustrates the monthly NOx emission profiles for Arkansas power plants averaged for 2011–2015.

Figure 3 Comparison of CSAPR Ozone Season (May–September) and Non-Ozone Season (January–April and October–December) Average Monthly NOx Emissions from Arkansas Power Plants (2011–2015)

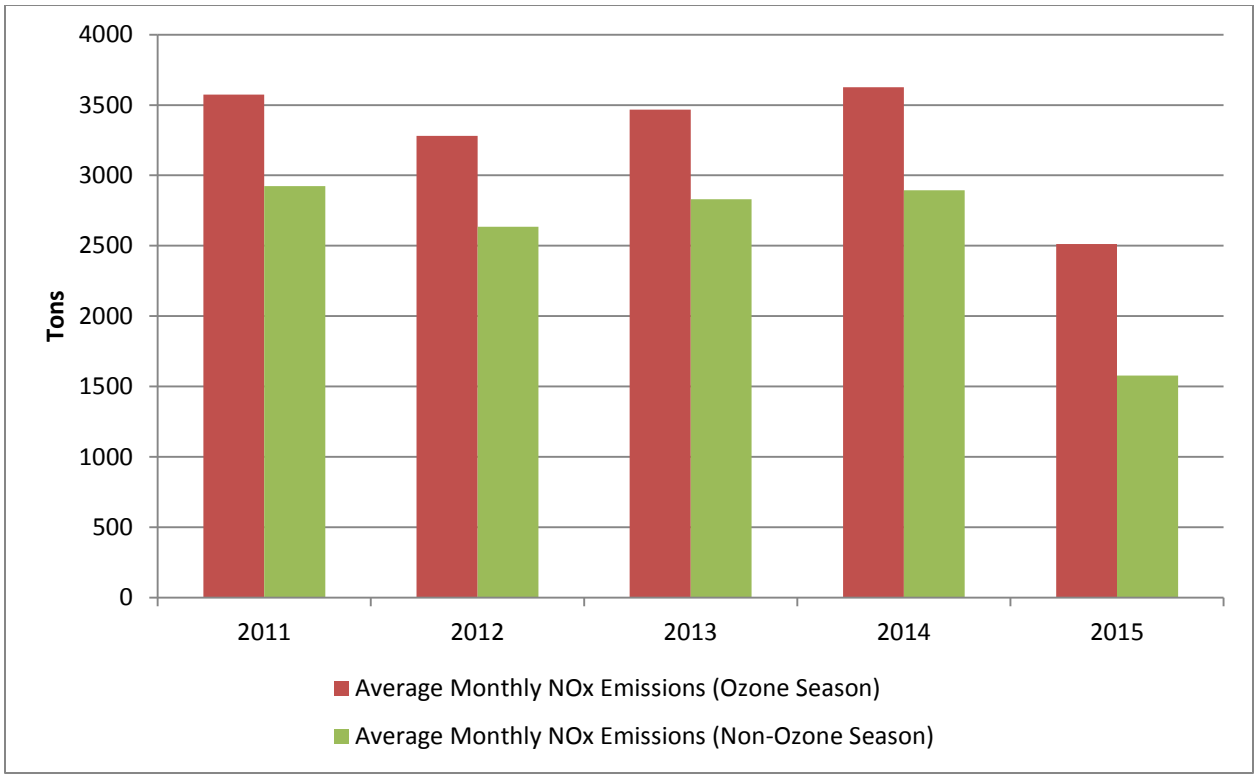
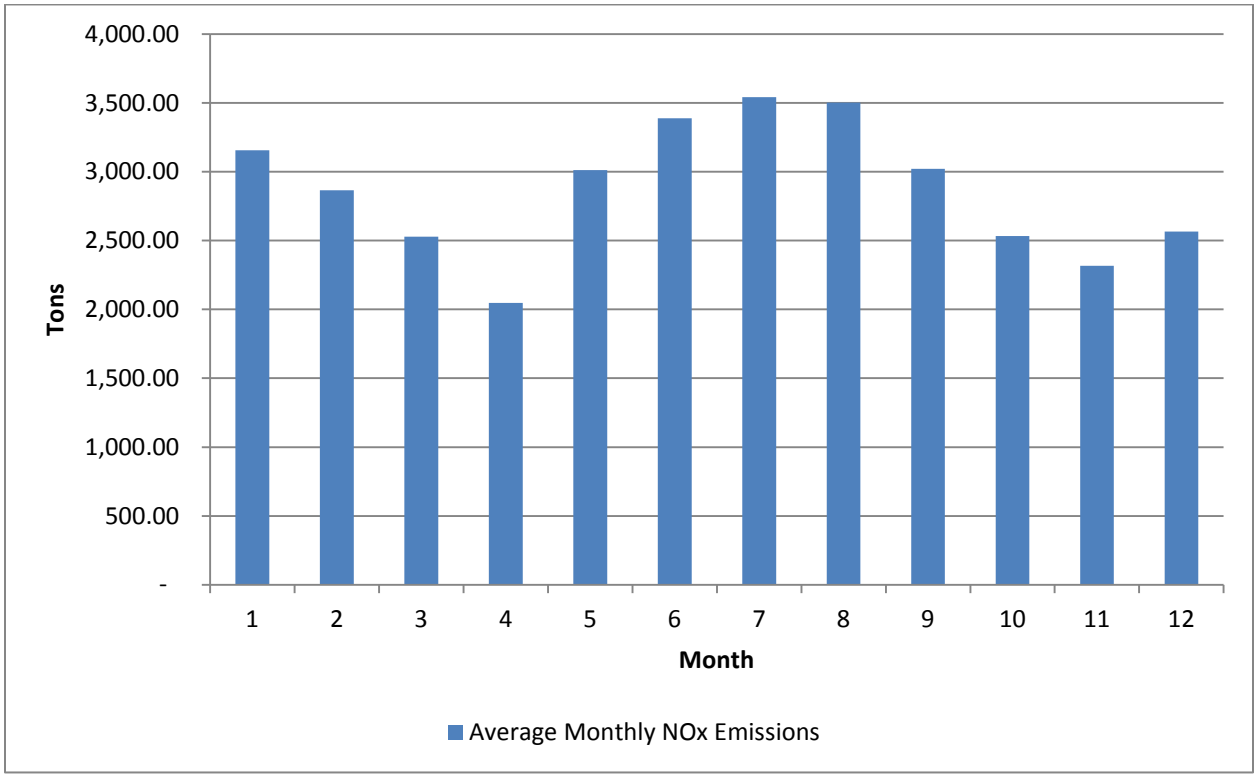


Figure 4 Average 2011–2015 Monthly NOx Emissions from Arkansas Power Plants



ADEQ anticipates that any NOx controls installed to comply with CSAPR at Arkansas power plants will be combustion controls, which operate any time the power plant does and would therefore reduce emissions year-round.

In addition, ADEQ acknowledges that there are post-combustion NOx controls—such as SCR and non-selective catalytic reduction systems—that a utility could choose not to operate outside the ozone season; however, as part of EPA's analysis in support of their determination that CSAPR provides more reasonable progress than BART, EPA projected that any controls implemented in Arkansas would be combustion controls. Combustion controls operate throughout the year. Furthermore, the NOx controls established for Flint Creek, Independence, and White Bluff in EPA's 2016 FIP were combustion controls (low NOx burners with separated overfire air); therefore, it is unlikely that Southwestern Power Company (SWEPCO) or Entergy Arkansas Inc. (Entergy) would choose less cost-effective post-combustion controls to comply with CSAPR.

ADEQ has already updated Entergy's permits for Independence and White Bluff to allow for the installation of low NOx burners.[56] On June 15, 2017, ADEQ received confirmation that low

[5] White Bluff:

NOx burners with separated overfire air were installed on White Bluff Unit 2. In an email dated August 29, 2017, SWEPCO informed ADEQ that low NOx burners were being manufactured for Flint Creek. The benefit of the proposed reliance upon CSAPR in place of source-specific NOx BART is compliance flexibility and the elimination of unnecessary and duplicative requirements.

No changes to the SIP are necessary as a result of this comment.

Comment 4:

The FS asserted that Arkansas relied on CSAPR as the justification for not conducting a four factor analysis. The FS stated that they understand that a four factor analysis is required under 42 USC § 7941. The Commenters request that the State establish a procedure to apply the four factors in determining reasonable progress controls.

Response 4:

ADEQ did not propose revisions to the State's reasonable progress goals. ADEQ anticipates proposing revised reasonable progress goals in a subsequent SIP proposal after the State establishes its determination for what controls are necessary for reasonable progress for all pollutants rather than NOx alone.

ADEQ followed EPA's 2007 "Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program" to identify key pollutants and source categories for the first planning period. Based on the pollutant source apportionment data results from CENRAPs CAMx model, we identified that SO_2 is the key pollutant impacting visibility at Arkansas Class I areas. In fact, EPA came to the same conclusion in the preamble for their proposed FIP. In EPA's Arkansas Regional Haze FIP proposal, EPA states "[f]or both Caney Creek and Upper Buffalo, SO_2 emissions (sulfate precursor) are the principal drivers of regional haze on the 20% worst days in Arkansas Class I areas" and "sulfate from point sources is expected to continue being the principle driver of regional haze on the 20% worst days at Arkansas Class I areas." Both the proposed SIP and EPA's FIP note that NO_3 from Arkansas point sources contribute less than half a percent of total light extinction at Class I areas. NOx controls for Arkansas point sources would not have a substantial impact on visibility and are unreasonable for the first planning period because NO_3 from Arkansas point sources have such a small impact on visibility impairment.

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https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00110&AFIN=3500110&PmtNbr=0263-AOP-R10

[6] Independence:
https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=32-00042&AFIN=3200042&PmtNbr=0449-AOP-R11

ADEQ's proposed determination that no controls are necessary for NOx to achieve reasonable progress during the first planning period is consistent with EPA guidance that the four factors should be considered only for key pollutants and source categories impacting visibility at Class 1 areas and EPA's method for ruling out primary organic aerosols, elemental carbon, soil, and crustal material for controls prior to performing a four-factor analysis in the 2016 FIP. ADEQ will perform a four-factor analysis for SO_2 in a subsequent SIP revision.

Although ADEQ is not proposing any controls for NOx for reasonable progress during the first planning period, ADEQ noted in the proposed SIP that emissions reductions are already being achieved by current programs, including CSAPR, and that those emissions reductions are anticipated to be greater than required under the 2016 FIP. The FS is incorrect in stating that ADEQ is relying upon CSAPR in lieu of performing a four-factor analysis. ADEQ determined, consistent with EPA guidance, that the four-factors need only be considered for key pollutants and source categories.[7] In the case of Arkansas Class I areas, the key pollutant is SO_2.

No changes to the SIP are necessary as a result of this comment.

Comment 5:
The FS requested that Hercules Glades and Mingo Class I areas be included in the plan.

Response 5:
On June 14, 2017, ADEQ sent a letter to Missouri Department of Natural Resources (Missouri DNR) to offer the opportunity for consultation on the proposed SIP revision. As part of this consultation, Missouri had the opportunity to inform ADEQ whether they thought additional controls were necessary to achieve reasonable progress at Missouri Class I areas. Missouri DNR had no comments.

Class I areas in Missouri impacted by Arkansas sources are on track to meet the goals established by the Missouri DNR. Figures 5 and 6 demonstrate the progress achieved at Missouri's Class I areas: Hercules Glades and Mingo Wilderness Areas.[8]

[7] "Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program" (June 1, 2007) at page 3-1
[8] Reasonable Progress Goals for Missouri Class I areas were obtained from Missouri DNR's Regional Haze Five-Year Progress Report. Data obtained from http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_group_means_7_16.csv

Figure 5 Hercules Glades Reasonable Progress Assessment – 20% Worst Days

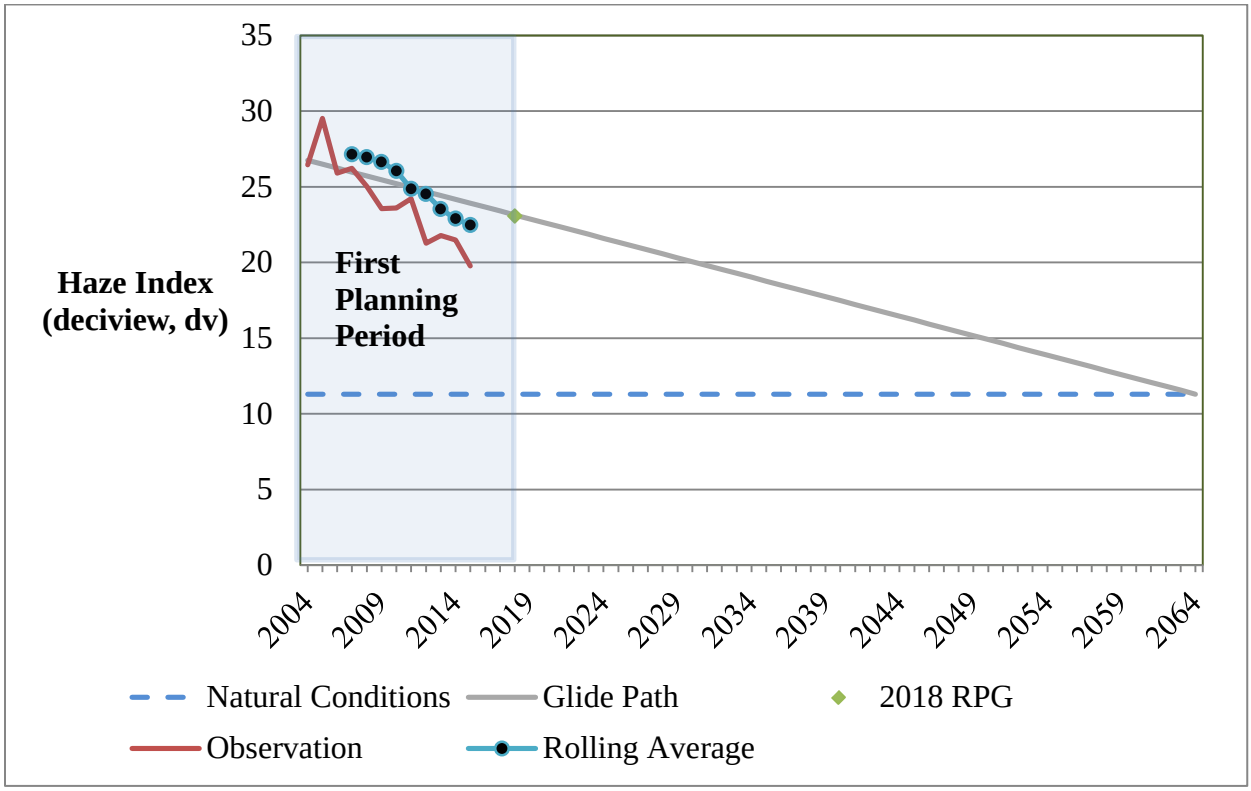
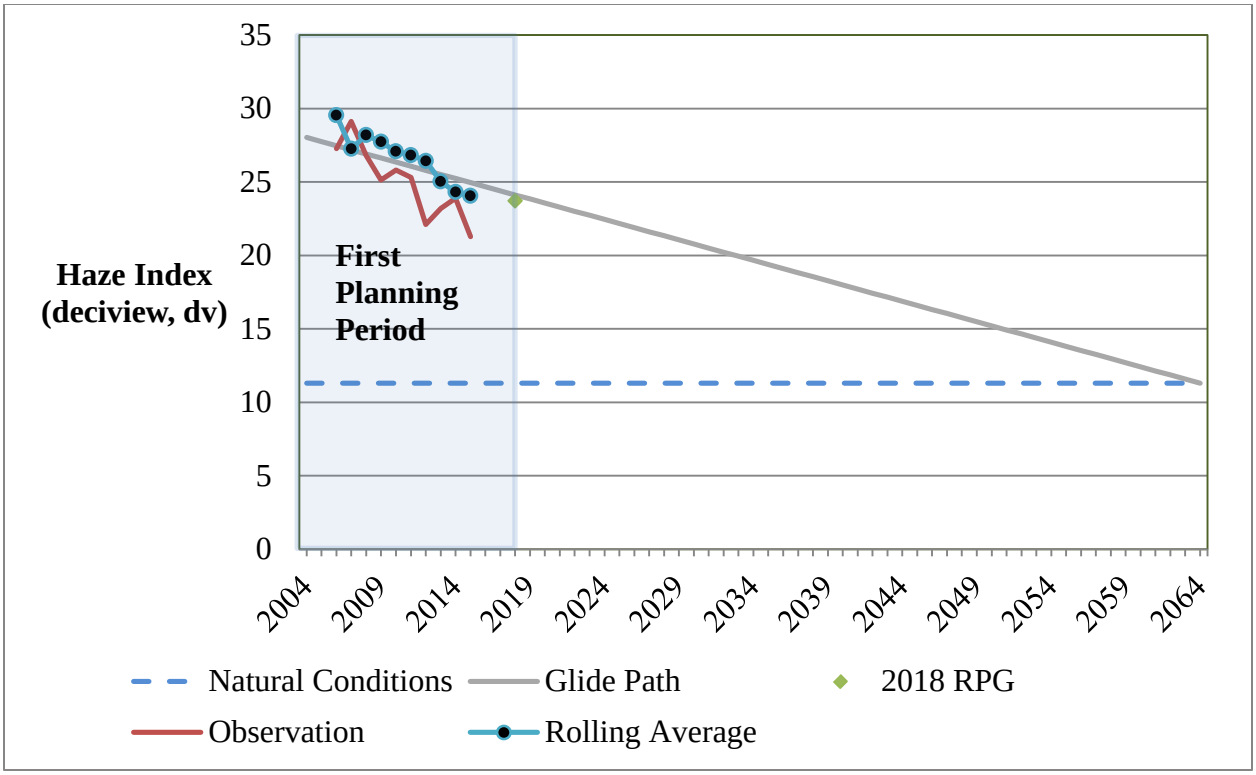


Figure 6 Mingo Reasonable Progress Assessment – 20% Worst Days



In addition to the fact that visibility progress in Arkansas and Missouri Class I areas is already on track to meet Arkansas's and Missouri's goals, particulate source apportionment modeling data shows that NOx visibility impacts from Arkansas stationary sources, including power plants, on Class I areas are incredibly small, especially when comparing visibility impacts from other pollutants and out-of-state sources. The CENRAP PSAT data indicate that NO_3 from Arkansas point sources contributed approximately 0.25% and 0.28% of total light extinction on the twenty percent worst days at Hercules Glades and Mingo, respectively, based on 2002 PSAT data. CENRAP PSAT data project an increase in the visibility impact of NO_3 from Arkansas point sources in 2018; however, the impact remains below one percent of total light extinction on the twenty percent worst days at both Hercules Glades and Mingo.

ADEQ will include in the final SIP the additional information provided above that demonstrates that no additional NOx controls are necessary to ensure Missouri DNR's visibility goals for Hercules Glades and Mingo Wilderness Areas are met.

Comment 6:

The FS note that the Regional Haze Rule requires states to develop and implement plans to reasonably control visibility impairing pollutants that impact Class I areas and to produce a long-term strategy that describes enforceable methods to meet reasonable progress goals. The Commenters offer their assistance in helping to meet these goals.

Response 6:

ADEQ appreciates the offer of assistance from the FS in meeting visibility goals. The proposed SIP is limited in scope to addressing requirements for control of NOx from power plants. ADEQ anticipates proposing a subsequent SIP revision in the near future that addresses the remaining disapproved portions of Arkansas's 2008 Regional Haze SIP, including long-term strategy and reasonable progress goals.

ADEQ will add a statement to the proposed SIP indicating that reliance upon CSAPR in place of source-specific BART is part of the State's long-term strategy and that ADEQ intends to submit a revised long-term strategy in a subsequent SIP submission.

Comment 7

The FS incorporated by reference comments made by the FS Air Resources Management program in 2011 on the CSAPR better than BART notice of proposed rulemaking.

In those comments the FS was highly supportive of the rulemaking and stated that it believed that the rulemaking would help achieve the national visibility goals in the Eastern United States; however, the FS objected to the inclusion of new states west of the Mississippi River. The FS stated that emissions summaries detailed in the technical support document to the rulemaking indicated that less emission reductions would be achieved by CSAPR than BART in those states.

The FS objected to EPA's finding that allowed states subject to the ozone season NOx trading program in CSAPR to rely upon EPA's determination that CSAPR makes greater reasonable progress than source-specific BART for NOx. FS supported this objection by providing data demonstrating the seasonal dependence of nitrate impairment at Oklahoma and Arkansas Class I areas. The FS suggested that EPA should require establishment of year-round federally enforceable NOx emission limitations to allow for states to rely upon CSAPR in lieu of BART requirements.

The FS also questioned EPA's approach to evaluating the impacts on "affected" Class I areas. Specifically, the FS pointed out that if a state were to adopt its own BART alternative, the requirements of 40 C.F.R. 51.308 (e)(3)(i) and (ii) would only apply to those Class I areas affected by the State's alternative proposal, not all Class I areas in the contiguous 48 states as EPA had included in its approach. The FS asserted that the net effect of EPA's approach creates subregions within the Transport Rule domain where SO_2 emissions reductions under CSAPR would be significantly less than BART. The FS points out that sulfate is the single largest component of the extinction budget for several Class I areas on the haziest days and for all Class I areas on the cleanest days.

The FS objected to EPA's proposal to "leave unchanged the language in the regional haze regulations at 40 C.F.R. 51.308(e)(4) that allows states to retain the discretion to include geographic enhancements in their SIP to accommodate the situation where BART is required

based on reasonable attribution of visibility impairment (RAVI) at a Class I area." The FS stated that it did not believe that any geographic enhancement should be discretionary for the State once FLMs have made a RAVI determination and that BART determinations should be mandatory once a RAVI determination has been made. The FS also stated that if unit level allocations in SO_2 Group II states are near or greater than their current actual emission levels, the use of CSAPR as an alternative to BART would essentially result in no control and create visibility "hot spots." The FS also indicated that EPA's proposed approach to RAVI would shift additional burden for ensuring the maintenance of reasonable progress to the FLMs.

Response 7

Current federal regulations allow states the option to comply with RHR requirements using an alternative to BART for a pollutant covered by a trading program under § 52.38 or § 52.39 if the state is subject to the program (See Responses 2 and 3). Several of FS's objections to EPA's analysis in support of the CSPAR better than BART rulemaking pertain to SO_2, which is the primary pollutant driving visibility impairment in many Class I areas, and RAVI. The proposed SIP revision does not seek to address RAVI or SO_2 emissions.

No changes to the SIP are necessary as a result of this comment.

From:	Treece, Tricia
To:	"kyra.moore@dnr.mo.gov"
Cc:	Spencer, Stuart; Montgomery, William
Subject:	Opportunity for Consultation on Arkansas Regional Haze SIP Revision
Date:	Wednesday, June 14, 2017 11:36:00 AM
Attachments:	Missouri DNR.pdf Preproposal RH SIP_EGU_NOx_Only.docx Draft_Public Notice.docx
Importance:	High

Kyra,

ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

ADEQ
ARKANSAS
Department of Environmental Quality

June 14, 2017

Kyra Moore
Air Pollution Control Program Director
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

RE: Arkansas Regional Haze State Implementation Plan

Dear Director Moore:

This letter serves to notify you that ADEQ has prepared a revision to the Arkansas Regional Haze State Implementation Plan (SIP) to address certain disapproved portions of the SIP. This SIP revision is intended to replace nitrogen oxides emission limits for electric generating units contained in the federal implementation plan (FIP) promulgated by the United States Environmental Protection Agency (EPA). Other disapproved portions of the SIP will be addressed in a separate submission.

This notification is intended to provide your agency with an opportunity for consultation on this SIP revision in accordance with 40 CFR § 51.308(d)(3)(i). This consultation will give you the opportunity to discuss—by conference call, in person, and/or in writing—your assessment of the impact of the proposed revisions on reasonable progress in Class I areas in your state.

Notice of the public hearing and public comment period will be published in the Arkansas Democrat Gazette and posted to the ADEQ Regional Haze webpage (https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx) providing, at minimum, a thirty day public comment period.

A pre-proposal copy of the SIP revision and the draft notice of public hearing have been included with this letter. Should changes be made to the SIP revision prior to proposal, we will send an updated draft. We expect that any such changes would not impact the control strategy included in the SIP and the resulting visibility improvements expected at Class I areas.

Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

Should you have any questions, please contact Will Montgomery at 501-692-0885 (montgomery@adeq.state.ar.us) or Tricia Treece at 501-682-0055 (treecep@adeq.state.ar.us).

Sincerely,

Stuart Spencer
Associate Director
Office of Air Quality

Enclosures

From:	Moore, Kyra
To:	Treece, Tricia
Cc:	Bybee, Darcy; Wilbur, Emily
Subject:	RE: Opportunity for Consultation on Arkansas Regional Haze SIP Revision
Date:	Friday, August 04, 2017 4:39:17 PM

Tricia,
Thank you for the opportunity for consultation on the revision to your Regional Haze Plan. I know the comment period is over, we did not have any comments.
However, I wanted to take the opportunity to acknowledge that you identified Arkansas sources that may have an impact on Missouri Class I areas (as outlined in your Arkansas Regional Haze SIP Revision, under "Consultation with States", p. 24 of the support documents). We are in the process of starting our Regional Haze SIP for the next implementation period and would like to get more information from you on the specifics of your evaluations for any Arkansas sources that impact Missouri's Class I areas.

Our contact for Regional Haze is Emily Wilbur (emily.wilbur@dnr.mo.gov) and she will contact you for the information. Please let me know if you are the appropriate contact for future coordination of regional haze issues.

We look forward to collaborating with Arkansas on future Regional Haze issues.

Thank you!
Kyra

Kyra L. Moore, Director
MDNR Air Pollution Control Program
1659 E. Elm Street
Jefferson City, MO 65102
(573) 751-7840
(573) 751-0303 direct line
(573) 680-2761 cell

Promoting, Protecting and Enjoying our Natural Resources. Learn more at dnr.mo.gov.

From: Treece, Tricia [mailto:treecep@adeq.state.ar.us]
Sent: Wednesday, June 14, 2017 11:36 AM
To: Moore, Kyra
Cc: Spencer, Stuart; Montgomery, William
Subject: Opportunity for Consultation on Arkansas Regional Haze SIP Revision
Importance: High

Kyra,
ADEQ has mailed a letter to provide your agency with the opportunity for consultation on a revision to Arkansas's Regional Haze State Implementation Plan. This email serves to provide you a digital copy of the letter and enclosures in addition to the physical copies that will be arriving by mail.

Thanks,

Tricia Jackson Treece
SIP/Planning Section Supervisor, Policy and Planning Branch
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0055 (office)

Arkansas Department of Environmental Quality

Public Notice

The Arkansas Department of Environmental Quality (ADEQ) is publishing this Public Notice to provide interested persons the opportunity to comment on ADEQ's proposed state implementation plan (SIP) revision.

In this SIP proposal, ADEQ has included revisions to address certain disapproved portions of the Arkansas Regional Haze State Implementation Plan (AR RH SIP), submitted to EPA in 2008 and to replace NOx BART emission limits for Arkansas subject-to-BART electric generating units and Entergy Independence included in the 2016 rule "Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule" (AR RH FIP). Other disapproved portions of the 2008 AR RH SIP will be addressed in a separate submission.

ADEQ will hold a public hearing on Monday, August 14, 2017 to receive public comments on the SIP revision. The public hearing will begin at 2:00 p.m. in the Commission Room at the Arkansas Department of Environmental Quality headquarters building, 5301 Northshore Drive, North Little Rock, AR 72118. In the event of inclement weather or other unforeseen circumstances, a decision may be made to postpone the hearing. If the hearing is postponed and rescheduled, a new legal notice will be published to announce the details of the new hearing date and comment period.

ADEQ will accept written and electronic comments received by no later than 4:30 p.m. on Monday, August 14, 2017. Written comments should be mailed to Tricia Treece, Office of Air Quality, Arkansas Department of Environmental Quality, 5301 Northshore Drive, North Little Rock, AR 72118. Electronic comments should be sent to: treecep@adeq.state.ar.us.

A copy of Arkansas's proposed SIP revision is available for public inspection during normal business hours at the Office of Communications in the ADEQ headquarters building in North Little Rock. In addition, Arkansas's SIP revision is available for viewing or downloading on ADEQ's website at: https://www.adeq.state.ar.us/air/planning/sip/regional-haze.aspx. Public libraries hosting ADEQ information depositories will also be available to assist interested persons in accessing the SIP from ADEQ's website. These information depositories are located in public libraries at Arkadelphia, Batesville, Blytheville, Camden, Clinton, Crossett, El Dorado, Fayetteville, Forrest City, Fort Smith, Harrison, Helena, Hope, Hot Springs, Jonesboro, Little Rock, Magnolia, Mena, Monticello, Mountain Home, Pocahontas, Russellville, Searcy, Stuttgart, Texarkana, and West Memphis; in campus libraries at the University of Arkansas at Pine Bluff and the University of Central Arkansas at Conway; and in the Arkansas State Library, 900 W. Capitol, Suite 100 in Little Rock.

Arkansas Democrat Gazette

STATEMENT OF LEGAL ADVERTISING

ADEQ/FISCAL DIVISION
5301 NORTHSHORE DR
NORTH LITTLE ROCK AR 72118

ATTN: Raeanne Gardner

REMIT TO:
ARKANSAS DEMOCRAT-GAZETTE, INC.
P.O. BOX 2221
LITTLE ROCK, AR 72203

DATE : 07/09/17 INVOICE #: 3158192
ACCT #: L6016734 P.O. #:

BILLING QUESTIONS CALL 378-3547

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STATE OF ARKANSAS, }
COUNTY OF PULASKI, } ss.

I, Yvette Hines, do solemnly swear that I am the Legal Billing Clerk of the Arkansas Democrat - Gazette, a daily newspaper printed and published in said County, State of Arkansas; that I was so related to this publication at and during the publication of the annexed legal advertisement in the matter of:

ADEQ

pending in the Court, in said County, and at the dates of the several publications of said advertisement stated below, and that during said periods and at said dates, said newspaper was printed and had a bona fide circulation in said County; that said newspaper had been regularly printed and published in said County, and had a bona fide circulation therein for the period of one month before the date of the first publication of said advertisement; and that said advertisement was published in the regular daily issues of said newspaper as stated below.

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Yvette Hines

Subscribed and sworn to me this 10 day of July 20 17

Bennie J. Fuller
Notary Public

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No. 12381354
PULASKI COUNTY
Commission Expires 03-21-2021

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Arkansas Democrat Gazette

STATEMENT OF LEGAL ADVERTISING
THIS PAGE USED FOR ADDITIONAL AD COPY SPACE AS NEEDED.
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Arkansas Department of Environmental Quality
Public Notice

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74197048f

AIR
450650

ADEQ proposed SIP revision
Hearing August 14, 2017
Talking points for facilitator

- Good afternoon and welcome to the Department of Environmental Quality. My name is Becky Allison and we are here to receive comments on the Department's proposed state implementation plan revision.

- At the registration desk you should have been offered a speakers card and a copy of the public notice. Anyone who wants to make oral comments should please turn your cards in now to me. And anyone who simply wants to submit written comments may also give those to me now.

- If you want to fill out a speaker's card please PRINT your name, mailing, and email address. Speaker cards may also be used for short written statements.

- I want to acknowledge our Associate Director for the Office of Air Quality, Stuart Spencer. Before we begin the formal public hearing, Will Montgomery, the Policy and Planning Branch Manager in the Office of Air Quality will provide a brief overview of the process that led to the development of the draft SIP revision. Will…

- *Will presents. No questions.*

- Thank you, Will. Here's a last call for comment cards before we begin the formal public hearing, and as I turn on the recorder.

- *(Turns on recorder)* Good afternoon, it's August 14, 2017 at the North Little Rock headquarters of the Arkansas Department of Environmental Quality. I'm Becky Allison, of ADEQ. The department is conducting a formal public hearing to receive public comment on its proposed state implementation plan revision. Our hearing officer is Will Montgomery of the Office of Air Quality. I am submitting for the record a copy of the

public notice regarding this hearing. Please limit your comments to the portions noted in the second paragraph of the public notice.

- As you make your comments, which may include questions as well as statements, we want to make clear that ADEQ will not respond today to the comments. All those who comment and provide a legible mailing address (*email address ~~2202~~*) will receive a Response to Comments document from ADEQ. Additionally, the response to comments document will be posted on the ADEQ website.

- We have received speaker cards for ___ speakers, and speakers, you will each have ___ minutes to make your comments.

- We do encourage you to turn in your written statement at the conclusion of your comments. Please speak clearly into the microphone and give your name and mailing address before your begin. I'll call each name and ask the next person following to be ready to comment.

- Our first speaker is……

- *Citizens offer comments. When all speaker cards are used…*

- Does anyone else want to make a public comment at this time? Does anyone have written comments to submit to me? If no one else wishes to make a comment, we are concluding this call for oral comments. Written comments may be submitted through today at 4:30 p.m. in the manner outlined in the public notice. We appreciate your participation today. Office of Air staff will remain for a few minutes if you have questions. Thank you.

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

HEARING/MEETING REGISTRATION

Name *Please Print Legibly*	Address *Street*	*City*	*State Zip*	Organization Represented
George Hunter	1307 Prince St	Conway	AR 72034	Conway Corp
Glen Hooks	1308 W. 2ND ST,	LR	AR 72201	SIERRA CLUB
Rachel Hendrix	401 S. Pine St	LR,	AR 72205	Sierra Club
Stephen Cain	LR	LR,	AR 72209	AECC
Elizabeth Neubauer	~~[illegible]~~ ADEQ			
Mark McCorkle	ADEQ			
M. Allison	DDH Suite 3700, 425 W. Capitol	LR	AR	DDH
Janet Nye	12 Platte Dr.	Maumelle	AR 72113	Ozark Society
Jennifer Loiacano	LR	LR,	AR 72209	AECC
Stuart Spencer	ADEQ	→		→

Staff – Montgomery, Treece, Spencer, Robinson, Allison

Public hearing/meeting on: SIP Proposal – Haze

Location: NLR

Date: 8-14-17

Page ___ of ___

ADEQ

ARKANSAS
Department of Environmental Quality

August 10, 2017

To: Tricia Treece, Office of Air Quality
From: Becky Allison, ADEQ
RE Memo indicating public participation activities

The Department of Environmental Quality is entering into the record this memo and an attached public notice regarding a hearing scheduled for August 14, 2017.

ADEQ is scheduled to hold a public hearing at its North Little Rock headquarters to receive public comments on the department's proposed state implementation plan (SIP) revision.

A digital recording will be made if any oral comments are offered during the hearing. Any written comments and comment cards received at the public hearing will be enclosed in this packet.

The comment period is scheduled to end at 4:30 p.m. August 14, 2017.

Enclosure

Arkansas Department of Environmental Quality

Public Notice

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Sip Hearing 8/14/17

1. Glen Hooks + written
2. Rachel Hendrix + written

J Nye submitted written

Public Comment Registration Card #2

Date 8-14-17

Verbal Comment ☒ Written Comment ☐
Speaker # 1 (Attached or back of card)

Hearing Location ADEQ

Name Rachel Hendrix

Address 401 S. Pine St. #4

City Little Rock State AR Zip Code 72205

E-mail Address rdbhendrix@gmail.com

PLEASE PRINT LEGIBLY

ADEQ
ARKANSAS
Department of Environmental Quality
www.adeq.state.ar.us

Rachel Hendrix
401 South Pine Street
Little Rock, AR 72205
(928) 897-7477

August 14, 2017

Ms. Tricia Treece, Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

ATTN: Regional Haze SIP

Ms. Tricia Treece,

ADEQ's proposed state implementation plan would replace a source-specific best available retrofit technology (BART) plan for the reduction of nitrogen oxides with one that relies on Cross-State Air Pollution Rule (CSAPR) emissions trading program. It is well known that nitrogen oxides produced during combustion processes, such as those of the coal-burning power plants in question, are highly reactive compounds that serve a major source of ozone and smog. Nitrogen oxides and ozone are potent oxidizers that pose exceptional health risks to Arkansans. Beyond the myriad of acute health problems associated with nitrogen oxides, the EPA's website acknowledges that "longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections."

The Natural State is a treasure that must not be taken for granted. We have some of the most beautiful state parks and wilderness areas in the country that can easily be hidden by smog. Acid rain stemming from nitrogen oxide production can have particularly deleterious effects on aquatic animals that support the fishing industry and forests that support a thriving timber industry. The problems associated with not curbing emissions are too great.

I urge ADEQ to reject a trading program for nitrogen oxides without the source-specific controls necessary for cleaning up the pollution created by coal-burning power plants. The costs of complying with the trading program would be shouldered by Arkansans, but the benefits would be reaped by customers in other states. CSAPR presents the opportunity for an unwarranted further delay in pollution reductions and a step backwards in the protection of Arkansas air quality that will last for decades.

Respectfully,

Rachel Hendrix

B.S. Chemistry-Biochemistry

Public Comment Registration Card

#1

Date AUG 14TH 2017

Verbal Comment ☒ Written Comment ☒
Speaker # (Attached or back of card)

Hearing Location _____

Name GLEN HOOKS

Address 1308 W. 2ND STREET

City Little Rock State AR Zip Code 72201

E-mail Address glen.hooks@sierraclub.org

PLEASE PRINT LEGIBLY

ADEQ
ARKANSAS
Department of Environmental Quality
www.adeq.state.ar.us

ADEQ Regional Haze SIP Hearing

August 14, 2017

Remarks of Glen Hooks, Arkansas Sierra Club

1308 West 2nd Street, Little Rock, AR 72201

GOOD AFTERNOON. I'M GLEN HOOKS, HERE TODAY REPRESENTING THE MORE THAN THREE THOUSAND MEMBERS OF THE ARKANSAS SIERRA CLUB. I APPRECIATE THE OPPORTUNITY TO BE HERE WITH YOU TODAY TO DISCUSS THE PENDING REGIONAL HAZE SIP.

THE ARKANSAS SIERRA CLUB HAS SEVERAL PROBLEMS WITH THIS PROPOSAL, AND WE WILL ADDRESS THOSE IN DETAIL WITH A WRITTEN SUBMISSION OF TECHNICAL COMMENTS. IN MY LIMITED TIME TODAY, I'D LIKE TO FOCUS MOSTLY UPON THE TRADING PROGRAM PROPOSED FOR NITROGEN OXIDE EMISSIONS.

AS WE ALL KNOW:

- **NITROGEN OXIDES BY THEMSELVES, AND THEIR SUCCESSOR POLLUTANTS OZONE/SMOG, CAUSE REAL HARM TO PEOPLE.** NOX HARMS PEOPLE. NITROGEN DIOXIDE IS AN IMPORTANT AIR POLLUTANT BECAUSE IT CONTRIBUTES TO THE FORMATION OF PHOTOCHEMICAL SMOG, WHICH CAN HAVE SIGNIFICANT IMPACTS ON HUMAN HEALTH

  .

  IT'S ALSO HARMFUL BY ITSELF: THE MAIN EFFECT OF BREATHING IN RAISED LEVELS OF NITROGEN DIOXIDE IS THE INCREASED LIKELIHOOD OF RESPIRATORY PROBLEMS. NITROGEN DIOXIDE INFLAMES THE LINING OF THE LUNGS, AND IT CAN REDUCE IMMUNITY TO LUNG INFECTIONS. THIS

CAN CAUSE PROBLEMS SUCH AS WHEEZING, COUGHING, COLDS, FLU AND BRONCHITIS.

INCREASED LEVELS OF NITROGEN DIOXIDE CAN HAVE SIGNIFICANT IMPACTS ON PEOPLE WITH ASTHMA BECAUSE IT CAN CAUSE MORE FREQUENT AND MORE INTENSE ATTACKS. CHILDREN WITH ASTHMA AND OLDER PEOPLE WITH HEART DISEASE ARE MOST AT RISK.

GROUND-LEVEL OZONE HARMS PEOPLE. BREATHING OZONE CAN TRIGGER A VARIETY OF HEALTH PROBLEMS INCLUDING CHEST PAIN, COUGHING, THROAT IRRITATION, AND AIRWAY INFLAMMATION. IT ALSO CAN REDUCE LUNG FUNCTION AND HARM LUNG TISSUE. OZONE CAN WORSEN BRONCHITIS, EMPHYSEMA, AND ASTHMA, LEADING TO INCREASED MEDICAL CARE.

FRANKLY, WE ARE ENORMOUSLY CONCERNED THAT THE PROPOSED TRADING PROGRAM FOR ~~NITROGEN OXIDE~~ NOX WILL PLACE ARKANSA S COMMUNITES AT RISK. BY IMPLEMENTING A TRADING PROGAM INSTEAD OF SOURCE-SPECIFIC LIMITS FOR NOx, WE ARE CREATING A SITUATION IN WHICH ARKANSAS COMMUNITIES NEAR POWER PLANTS MAY SUFFER MORE POLLUTION WHILE CLEAN UP IS DONE IN OTHER, OUT-OF-STATE LOCATIONS INSTEAD. I'M NOT AT ALL COMFORTABLE WITH A SITUATION IN WHICH OUR UTILITIES CAN CONTINUE POLLUTING AT PLANTS IN ARKANSAS BUT MEET THEIR OBLIGATIONS BY CLEANING UP POLLUTION AT OTHER PLANTS IN THEIR SYSTEM.

- INSTEAD OF REQUIRING REDUCTIONS CLOSE TO PARKS LIKE THE UPPER BUFFALO WILDERNESS AREA, RELIANCE ON THE TRADING PROGRAM COULD INSTEAD REDUCE POLLUTION IN DISTANT PLACES.

- THE TRADING PROGRAM WOULD DO NOTHING TO REDUCE HAZE CAUSED BY ARKANSAS'S POWER PLANTS IN THE COOLER MONTHS OF THE YEAR (OUTSIDE THE OZONE SEASON).

- ADEQ SHOULD TAKE ACCOUNT OF THE FACT THAT THESE OZARK PARKS, AND TOURISM IN GENERAL, ARE A KEY FOUNDATION OF ARKANSAS'S ECONOMY. WE WON'T MAKE OUR STATE MORE PROSPEROUS BY POLLUTING OUR BEST ECONOMIC ASSETS.

- SOURCE-SPECIFIC CONTROLS—ESPECIALLY FOR THE LARGE COAL-BURNING PLANTS THAT ARE ARKANSAS'S BIGGEST POLLUTERS—IN CONJUNCTION WITH THE NATIONAL TRADING PROGRAM, WOULD ENSURE BETTER PROTECTION OF AIR QUALITY IN THIS STATE.

WHY SHOULD ARKANSANS HAVE TO SUFFER THE EFFECTS OF POLLUTION TO OUR BODIES, OUR AIR, AND OUR PARKS WHILE A UTILITY GETS TO FOCUS ITS CLEANUP EFFORTS ELSEWHERE?

- WHY SHOULD ARKANSAS RESIDENTS LIVE NEXT TO GIANT COAL-BURNING PLANTS THAT LACK ANY POLLUTION CONTROLS FOR HARMFUL POLLUTANTS LIKE NOX? THESE ARKANSAS PLANTS ARE SOME OF THE LAST REMAINING COAL-BURNING PLANTS ANYWHERE IN THE UNITED STATES THAT DON'T HAVE ANY POLLUTION CONTROLS FOR NOX.

EVEN FOR PLANTS THAT INSTALL NOx CONTROLS, RELIANCE ON THE TRADING SYSTEM ALONE WILL ALLOW UTILITIES LIKE ENTERGY AND SWEPCO TO TURN OFF THEIR NOx CONTROLS FOR MUCH OF THE YEAR.

WITH A TRADING PLAN, ARE WE CREATING A SITUATION WHERE ARKANSAS RATEPAYERS WILL PAY FOR THE COSTS OF INSTALLING NOx

CONTROLS ASSOCIATED WITH CLEANUPS IN OTHER STATES WHILE SUFFERING THE EFFECTS OF POLLUTION HERE? THIS FAILS THE TEST OF BASIC FAIRNESS TO ARKANSAS RATEPAYERS.

CONCLUSION

IN CONCLUSION, THE ARKANSAS SIERRA CLUB BELIEVES THAT ADEQ SHOULD REJECT THE TRADING PROGRAM FOR ~~NITROGEN OXIDE~~S (NOX). THIS PROGRAM WOULD ALLOW POLLUTERS TO AVOID LIMITS AND RESPONSIBILITIES FOR CLEANING UP PARTICULAR PLANTS, AND ALLOW THEM TO MEET THEIR LEGAL REQUIREMENTS BY CLEANING UP PLANTS IN OTHER STATES.

REPLACING SOURCE-SPECIFIC POLLUTION REDUCTIONS WITH A TRADING PROGRAM WOULD LEAVE ARKANSANS BREATHING DIRTIER AIR FOR YEARS.

THANK YOU.

Public Hearing, Arkansas DEQ Proposed State Plan for Nitrogen Oxides
August 14, 2017

My name is Janet Nye and I am responding to the air pollution reduction plan for coal-fired power plants and impacts in Class 1 areas in Arkansas.

I have previously submitted a declaration in support of the motion to intervene in this matter.

ADEQ should reject the trading program for nitrogen oxides. Replacing source-specific pollution reductions with a trading program would leave Arkansas with dirtier air for years.

This trading program does not insist that the energy polluters in our state reduce their pollution in the very state where they are located.

Arkansans deserve clean air and should insist that these Arkansas plants install the pollution controls for nitrogen oxides.

ADEQ should protect our state's air for our citizens and these amazing Class 1 areas. The proposed program by ADEQ will result in dirty air and haze continuing in areas that are pristine and are an incentive for visitors to Arkansas. Tourism is a huge industry for Arkansas. Protecting the resource, which includes the air, is not only wise but good economic planning.

Protecting our air quality is protecting our citizens from increased asthma risks, bronchitis and many respiratory related illnesses. It is protecting the place we call home.

Arkansans should benefit from clean air. It is time for ADEQ to insist that the energy companies update their equipment to provide clean air. It is time for ADEQ to protect our natural state by regulating our coal-burning plants.

Thank you,

Janet B. Nye

12 Platte Dr.

Maumelle, AR

72113

Janet B. Nye

jbnye14@swbell.net

Jackson Walker LLP

Mark L. Walters
(512) 236-2360 (Direct Dial)
(512) 391-2153 (Direct Fax)
mwalters@jw.com

August 14, 2017

VIA HAND DELIVERY and by
E-Mail to treecep@adeq.state.ar.us.

Ms. Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

Re: Revisions to the Arkansas State Implementation Plan: Regional Haze SIP Revision for 2008-2018 Planning Period, July 2017 Public Review Draft ("2017 RHR NOx SIP Revision")

Dear Ms. Treece:

This firm represents the Arkansas Affordable Energy Coalition ("AAEC"). The AAEC is a coalition that includes electric consumers, and associations of electric consumers, that purchase power from electric utilities that own and operate electric power plants located in the State of Arkansas that are subject to the Best Available Retrofit Technology ("BART") provisions of the Regional Haze Rule. For example, much of the electric power purchased by the Arkansas steel mills of AAEC members Nucor Corporation and Nucor-Yamato Steel Company is generated by the Independence, White Bluff, and Flint Creek power plants.

AAEC's membership also includes Arkansas Electric Energy Consumers, Inc., whose members are large, industrial customers of Entergy Arkansas, Inc., which co-owns and operates the White Bluff and Independence power plants. AAEC's members also include providers of goods and services to power plants, in particular coal-fired power plants, including those affected by the Regional Haze Rule. In addition, AAEC members with facilities located in Arkansas may be subject to regulation under other provisions of the Regional Haze Rule, including the Reasonable Progress provisions of the Rule.

AAEC supports the Department's 2017 RHR NOx SIP Revision, including the Department's determination that the source-specific NOx BART determinations in the Department's 2008 Regional Haze Rule State Implementation Plan and the NOx limits in U.S. EPA's September 27, 2016 Regional Haze and Interstate Visibility Federal Implementation Plan (81 F.R. 66332), should be replaced with compliance with the Cross State Air Pollution Rule ("CSAPR") trading rule as an alternative to BART for the Arkansas sources that are subject-to-BART for NOx. AAEC also supports the Department's determination that no additional controls for NOx are needed for Arkansas sources beyond the requirements of CSAPR in order to achieve the reasonable progress provisions of the Regional Haze Rule for the implementation period ending in 2018.

AAEC notes that significant progress has been made in reducing light extinction from point sources at the two Arkansas Class I areas, and that Arkansas is well on its way to meeting its Clean Air Act visibility improvement goal in 2064, still almost 50 years away. AAEC supports continued progress in achieving that goal at Arkansas Class I areas based on common sense approaches by the State over the next four and a half decades. AAEC appreciates the opportunity to submit comments on the Department's proposed 2017 RHR NOx SIP Revision. Please let me know if you have any questions.

Sincerely,

Mark Walters

Arkansas Electric Cooperative Corporation

Your Touchstone Energy Cooperative

1 Cooperative Way
P.O. Box 194208
Little Rock, Arkansas 72219-4208
(501) 570-2200

August 14, 2017
Via Electronic Submission to: treecep@adeq.state.ar.us

Ms. Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

RE: Arkansas Electric Cooperative Corporation's Comments on the Proposed "Revisions to the Arkansas State Implementation Plan – Regional Haze SIP Revision for 2008-2018 Planning Period" dated July 2017

Dear Ms. Treece:

Arkansas Electric Cooperative Corporation (AECC) submits these comments on the referenced proposed revisions to the regional haze state implementation plan (SIP) by the Arkansas Department of Environmental Quality (ADEQ). We appreciate the opportunity to provide comment on the potential implications of the proposed plan on our operations and member-owners. AECC hereby incorporates by reference the comments submitted by the Energy and Environmental Alliance of Arkansas.

AECC supports the finalization of the SIP revision as proposed. AECC agrees with ADEQ's decision that compliance with the Cross-State Air Pollution Rule (CSAPR) is better than source-specific NOx controls to meet the best available control technology requirements of the federal Regional Haze Rule (RHR). This provides flexibility to achieve visibility goals set by the RHR. Additionally, AECC agrees that reasonable progress goals are not necessary for the first planning period and supports ADEQ's position that no new NOx emission controls are required beyond CSAPR for achieving reasonable progress.

Sincerely,

Stephen Cain

Stephen Cain
Manager – Environmental Compliance

Entergy Arkansas Inc.

Comments

On the Proposed Revisions to the Arkansas Regional Haze Planning Period 1 SIP

Submitted on:
August 14, 2017

To:

Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
treecep@adeq.state.ar.us

I. Introduction

In July 2017, the Arkansas Department of Environmental Quality ("ADEQ") released for public review draft revisions to certain disapproved portions of the 2008 Arkansas Regional Haze State Implementation Plan ("SIP") ("Proposed Revisions"). The Proposed Revisions would address best available retrofit technology ("BART") and reasonable progress controls to address emissions of nitrogen oxides ("NOx") at electric generating units ("EGUs") in Arkansas. If these revisions are finalized and approved by the U.S. Environmental Protection Agency ("EPA"), compliance with the Cross-State Air Pollution Rule ("CSAPR") would satisfy EGUs' NOx BART obligations for the Regional Haze Program, as well as NOx reasonable progress obligations for the first planning period. Additionally, EPA's approval of the Proposed Revisions would result in the withdrawal of the source-specific NOx BART and reasonable progress requirements in the Arkansas Regional Haze Federal Implementation Plan ("Arkansas Regional Haze FIP").[1] 81 Fed. Reg. 66,332 (Sept. 27, 2016).

Entergy Arkansas Inc. ("EAI" or "Entergy") is an electric utility engaged primarily in the generation, purchase, transmission, distribution, and sale of electricity in portions of Arkansas. EAI provides electrical utility service to approximately 712,000 electric customers. EAI owns and operates three facilities directly impacted by the Proposed Revisions: the White Bluff Electric Power Plant, the Independence Steam Electric Station, and the Lake Catherine Plant. Entergy supports ADEQ's Proposed Revisions, which would ensure achievement of the goals of the Regional Haze Program while avoiding duplicative and unnecessary regulatory burdens.

[1] Such withdrawal would resolve one of the key issues in ongoing litigation over the Arkansas Regional Haze FIP, which is being held in abeyance by the United States Court of Appeals for the Eighth Circuit until September 26, 2017. *See Arkansas v. EPA*, No. 16-4270 (8th Cir.).

II. Comments

Entergy supports ADEQ's determination that Arkansas' participation in the CSAPR ozone season NOx trading program satisfies NOx BART and any reasonable progress obligations for the state's EGUs. This determination is consistent with the Regional Haze Rule, is appropriate considering the minimal role that NOx emissions play in visibility impairment in Arkansas' Class I areas, and would eliminate the unnecessary and duplicative requirements currently imposed by the Arkansas Regional Haze FIP.

A. Compliance With CSAPR Is Better Than Source-Specific NOx BART Controls

The Regional Haze Rule plainly allows compliance with CSAPR to constitute NOx BART for purposes of the Regional Haze Program. Under the Regional Haze Rule, a "[s]tate . . . subject to a [Transport Rule] trading program . . . need not require BART-eligible [EGUs] . . . to install, operate, and maintain BART" for the pollutant covered by the trading program. 70 Fed. Reg. 39,104, 39,161 (July 6, 2005). The Regional Haze Rule specifically authorizes compliance through the Clean Air Interstate Rule ("CAIR") trading program, and EPA has determined that participation in CSAPR, the rule that replaced CAIR, also provides greater reasonable progress towards the national visibility goal than source-specific BART, including in Arkansas. 77 Fed. Reg. 33,642, 33,643 (June 7, 2012) ("CSAPR Better Than BART rule") ("[T]he trading programs in the Transport Rule, also known as the Cross-State Air Pollution Rule (CSAPR), achieve greater reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas than source-specific Best Available Retrofit Technology (BART) in those states covered by the Transport Rule.").

In support of the CSAPR Better Than BART rule, EPA developed a 2014 "Nationwide BART" scenario and a 2014 "Transport Rule + BART elsewhere" scenario.[2] EPA's analysis found that nationwide emissions were substantially lower under the ''Transport Rule + BART elsewhere'' scenario than the "Nationwide BART scenario." *Id*. at 33,649. The analysis also found that average visibility improvement for the 20 percent worst days and 20 percent best days was greater under the ''Transport Rule + BART elsewhere'' scenario than the ''Nationwide BART'' scenario. *Id*. at 33,652. Based on this analysis, EPA's CSAPR Better Than BART rule has been approved in lieu of source-specific BART. *See Nat'l Parks Conservation Ass'n v. McCarthy*, 816 F.3d 989, 995 (8th Cir. 2016) (upholding EPA's approval of CSAPR as better than BART in Minnesota SIP).

In the five states subject to CSAPR only for ozone season NOx emissions (Oklahoma, Arkansas, Louisiana, Mississippi and Florida), EPA's ''Transport Rule + BART elsewhere'' scenario assumed that post-combustion NOx controls would operate outside of the ozone season only when required to do so for a reason other than CSAPR requirements. In the ''National BART'' scenario, BART NOx controls were assumed to operate year-round. *Id*. at 33,649. Nonetheless, for four of the five states (Arkansas, Louisiana, Mississippi and Oklahoma), EPA projected that any additional NOx controls to comply with CSAPR would be combustion controls only, resulting in no seasonal difference in NOx emission rates between the ''Transport Rule + BART-elsewhere'' scenario and the ''Nationwide BART'' scenario. *Id*. at 33,651. Accordingly, EPA determined that the five states subject only to the ozone season NOx CSAPR

[2] The "Nationwide BART" scenario was constructed by applying the presumptive EGU BART limits for SO_2 and NOx as specified in the BART guidelines. These BART limits were applied to all BART-eligible units. For units where BART limits had been identified that were lower than the presumptive limit, the lower emission limit was modeled. For the ''Transport Rule + BART-elsewhere'' scenario, EPA applied the SO_2 and NOx reductions attributed to CSAPR to the sources within the transport region and the presumptive BART limits to all BART-eligible EGUs outside of the transport region. 77 Fed. Reg. at 33,648-49.

program could rely on EPA's determination that CSAPR makes greater reasonable progress than source-specific BART for NOx. *Id*. at 33,652. Arkansas, as one of the states subject to the CSAPR trading program for ozone season NOx therefore has express authority to forego source-specific BART for NOx emissions pursuant to the Regional Haze Rule.

EPA's analysis that the ozone season CSAPR program is better than source-specific NOx BART is bolstered by its 2016 CSAPR Update Rule, which reduced overall ozone season NOx budgets for states subject to the CSAPR ozone season program. 81 Fed. Reg. 74,504 (Oct. 26, 2016). In Arkansas, the 2016 CSAPR Update rule reduced the ozone season NOx budget for Arkansas from 15,110 tons in 2015 to 12,048 tons in 2017, with a further reduction to 9,210 tons of NOx in 2018 and beyond. *Id*. at 74,508, Tbl. I.B-1. The 2017 and 2018 Arkansas ozone season NOx emission budgets under the CSAPR Update Rule therefore achieve greater reductions in NOx emissions than would have been achieved under the original CSAPR.

These NOx emission reductions plainly translate to reduced visibility impacts, as the statewide profile of emissions will remain the same as under the original CSAPR Rule (*i.e.*, additional reductions in NOx emissions are not expected to result in increased emissions of other pollutants) and the general locations of modeled emissions sources will not change. That, together with the reduction in NOx emissions of nearly 6,000 tons, means that the results from any updated modeling – to show that the CSAPR Update Rule is "better than" BART – would be substantially similar to EPA's previous modeling. Because EPA already determined, based on that modeling, that reductions under CSAPR would achieve greater visibility improvement than reductions achieved through source-specific NOx BART controls, reductions under the CSAPR Update Rule will exceed reductions that would be achieved through implementation of the source-specific NOx BART controls required by the Arkansas Regional Haze FIP. *See Nat'l*

Parks Conservation Ass'n, 816 F.3d at 995 ("EPA is acting within its sphere of expertise and has a rational basis to conclude that the Transport Rule is better than BART" when comparing, in part, total Minnesota EGU emissions under BART to total Minnesota EGU emissions under CSAPR budgets).

B. Reasonable Progress Controls Are Not Necessary For The First Planning Period And Compliance With CSAPR Is More Than Sufficient

Controls for reasonable progress are not necessary for the first planning period. The Clean Air Act requires that regional haze implementation plans contain measures "*necessary* to make reasonable progress toward meeting the national goal" of no manmade visibility impairment. 42 U.S.C. § 7491(b)(2) (emphasis added). In its regulations implementing the Regional Haze Program, EPA established that, in setting a reasonable progress goal, "the State must consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve it *for the period covered by the implementation plan*." 40 C.F.R. § 51.308(d)(1)(i)(B) (emphasis added). EPA has further explained that states "should take into account the fact that the long-term goal of no manmade impairment encompasses several planning periods. It is reasonable for [the state] to defer reductions to later planning periods in order to maintain a consistent glidepath toward the long-term goal."[3] Mandating emissions controls during the planning period that are not necessary to make reasonable progress contradicts this statutory and regulatory scheme.

As EAI explained in its comments on the proposed Arkansas Regional Haze FIP, reasonable progress controls during the first planning period clearly are not necessary for

[3] U.S. EPA, Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program, at 1-4 (June 1, 2007) ("Reasonable Progress Guidance") available at https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20070601_wehrum_reasonable_progress_goals_reghaze.pdf.

Arkansas sources.[4] Interagency Monitoring of Protected Visual Environments ("IMPROVE") monitoring data show that the haze index has been consistently below the glidepath in Arkansas' Class I areas − Caney Creek and Upper Buffalo − and EAI's analysis demonstrates that it is projected to remain so through the end of the second planning period. *See* EAI AR FIP Comments at 21-22, Figures 1 and 2. Accordingly, reasonable progress controls on Arkansas sources during the first planning period are not necessary to make reasonable progress.

Even if controls were required for reasonable progress during the first planning period, *NOx controls* on Arkansas EGUs are not necessary, as they will provide minimal visibility improvement in Arkansas' Class I areas. As EPA's own analysis indicates, the contribution of Arkansas point sources' nitrate emissions to visibility impairment in Arkansas' Class I areas is insignificant. According to EPA's analysis, nitrate from all point sources included in the regional modeling is projected to account for only 3% of the total light extinction at the Caney Creek and Upper Buffalo Class I areas, with nitrate from Arkansas point sources being responsible for only 0.29% of the total light extinction at Caney Creek and 0.25% at Upper Buffalo. 80 Fed. Reg. 18,990. As a result, it is clear that NOx controls on Arkansas EGUs during the first planning period are not necessary to make reasonable progress towards natural visibility conditions.

Nonetheless, to the extent ADEQ determines that reductions in nitrates are needed in the first planning period, compliance with CSAPR will achieve greater reasonable progress than source-specific NOx emissions limitations and, accordingly, should be more than sufficient to

[4] *See* Entergy Arkansas Inc. Comments on the Proposed Regional Haze and Interstate Visibility Transport Federal Implementation Plan for Arkansas, at 17-23 (Aug. 7, 2015) (Docket ID No. EPA-R06-OAR-2015-0189-0166) ("EAI AR FIP Comments").

demonstrate reasonable progress for NOx for the first planning period.[5] First, emissions reductions to comply with CSAPR will occur during the *first* planning period, which comports with the requirements of the applicable Regional Haze regulations. *See* 40 C.F.R. § 51.308(d)(1)(i)(B).[6] In contrast, most of the NOx reductions contemplated by the Arkansas Regional Haze FIP are unlikely to occur until the second planning period, and are thus not *necessary* to make reasonable progress during the planning period at issue here.[7] Second, the 2018 CSAPR trading program ozone season allocation for Arkansas EGUs totals 3,708 tons less than the total emissions from these sources in 2016. Proposed Revisions at 23. In comparison, if implemented, the NOx controls required by the Arkansas Regional Haze FIP would achieve only a 3,318 ton reduction in NOx emissions from 2016 Arkansas EGU annual emissions. *Id.* Because participation in CSAPR will achieve greater NOx emissions reductions than EPA determined would be necessary to achieve reasonable progress (by nearly 400 tons), reliance on CSAPR clearly achieves greater progress towards visibility improvement than the source-specific emissions limitations in the Arkansas Regional Haze FIP.

[5] Entergy supports ADEQ's reliance on the 1999 Regional Haze Rule, rather than the Regional Haze Revision Rule, in its reasonable progress analysis. As EPA made clear in the preamble of the Revision Rule, that rule applies only "to the requirements that states . . . have to meet for the *second and subsequent implementation periods*." 82 Fed. Reg. 3,078, 3,080 (Jan. 10, 2017) (emphasis added). The Revision Rule "do[es] not affect the development and review of state plans for the first implementation period." *Id.* Because the Proposed Revisions address the first planning period, ADEQ correctly performed its reasonable progress analysis pursuant to the 1999 Regional Haze Rule.

[6] The recent revisions to the Regional Haze Rule, which attempt to divorce reasonable progress controls from the planning period at issue, are being appealed and, in any event, do not apply to the first planning period. *See* supra note 5.

[7] EPA has proposed to extend the compliance deadline for NOx compliance for five EGUs until January 27, 2020, well into the second planning period, to account for real-world constraints on the timing of installation of NOx controls. 82 Fed. Reg. 32,284 (July 13, 2017).

III. Conclusion

The Proposed Revisions, if finalized, would provide compliance flexibility and reduce the significant regulatory burden on the electricity sector, while still ensuring that visibility is as good as or better than it would be if source-specific NOx emission limits were required. Forcing sources that already must comply with the ozone-season NOx trading program under CSAPR to also meet source-specific BART and reasonable progress controls is duplicative and ultimately unnecessary to achieve visibility improvements. Entergy urges ADEQ to finalize the Proposed Revisions, as the revisions will ensure that visibility is protected as required by the Regional Haze Program, while providing EGUs with compliance flexibility and avoiding unnecessary and expensive regulatory requirements.

Entergy appreciates the opportunity to comment on the Proposed Revisions. Entergy supports ADEQ's determination that CSAPR satisfies the NOx BART and reasonable progress obligations for Arkansas EGUs. As a result, Entergy supports ADEQ's proposal and urges ADEQ to finalize it as written.

Respectfully submitted,

Kelly M. McQueen
Assistant General Counsel – Environmental (Lead)
Entergy Services, Inc.

August 14, 2017

Submitted via e-mail to: treecep@adeq.state.ar.us

Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

Re: Revisions to the Arkansas State Implementation Plan, Regional Haze SIP Revision for 2008-2018 Planning Period

Earthjustice, National Parks Conservation Association, and Sierra Club (collectively, the "Conservation Organizations") respectfully submit these comments on the revisions to the Arkansas State Implementation Plan ("SIP") for regional haze. The State's proposal to dismiss nitrogen oxides as being marginal to visibility impairment, coupled with its reliance on the Cross State Air Pollution Rule ("CSAPR"), are unlawful attempts to roll back the nitrogen oxides ("NO_x") reduction requirements in the Federal Implementation Plan. Eliminating the requirement that Independence reduce NO_x emissions to make reasonable progress is unlawful and unapprovable for several reasons.

First and foremost, the State does not even pretend to analyze the four factors which the Clean Air Act requires states to consider when determining reasonable progress. Second, the State has violated its statutory and regulatory obligation to consider whether measures are needed to make reasonable progress at out-of-state Class I areas (*i.e.*, Missouri's Class I areas). Third, eliminating the NO_x requirements for Independence weakens the FIP and thereby violates the Clean Air Act's anti-backsliding provision, which prohibits a SIP revision from increasing air pollution. Fourth, the State's failure to conduct a four-factor reasonable progress analysis, based on an outright dismissal of NO_x emissions as making a "small" contribution to impairment, have no merit and no basis in the law. Finally, the State's reliance on CSAPR to make progress towards natural visibility conditions is untethered to law or fact.

For NO_x BART, the State's failure to evaluate or conduct a five-factor BART analysis for White Bluff, Flint Creek, and other power plants is unlawful for several reasons. While we continue to maintain that the original "Better than BART" was invalid when issued, that is now beside the point. Given the substantial changes to CSAPR, including the D.C. Circuit's invalidation of numerous states' emission budgets, the factual underpinning of the original "Better than BART" rule no longer exists, and therefore reliance on the "Better than BART" rule is unlawful. Reliance on CSAPR as a substitute for source-specific BART in Arkansas is unlawful for the additional reason that the Regional Haze Rule requires BART to be based upon

the "best system of continuous emission control technology available," 40 C.F.R. § 51.308(e)(1)(ii)(A) (emphasis added), and under CSAPR, NO_x emissions from Arkansas EGUs are covered only during the ozone season—less than half the year.

I. THE STATE'S REASONABLE PROGRESS ANALYSIS IS UNLAWFUL AND IS NOT APPROVABLE.

A. The State Failed to Consider Any of the Four Statutory Factors for Reasonable Progress.

After noting that "the RHR requires states to consider four factors: (1) cost of compliance, (2) the time necessary for compliance, (3) the energy and non-air quality environmental impacts of compliance, and (4) the remaining useful life of potentially affected sources," SIP at 8-9, the State proceeds to ignore all four of these reasonable progress factors for point sources. The Clean Air Act provides that "in determining reasonable progress there *shall* be taken into consideration the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements." 42 U.S.C. § 7491(g)(1). The Act contains no exception to this requirement.

The draft SIP fails to consider these four statutory factors, and therefore violates the Clean Air Act. In particular, for NO_x emissions, the SIP contains no analysis of the four factors. For emissions of other pollutants, the SIP contains only a single sentence claiming that "the cost-effectiveness for control of POA and CM species from many individual small sources is difficult to quantify." SIP at 21-22.

The SIP's failure to consider any of the four factors for NO_x controls is particularly egregious given that the State acknowledges that EPA has already issued a final rule containing a four-factor analysis for the Independence plant, which resulted in a requirement that Independence install and operate low- NO_x burners. *See* SIP at 22. The State has produced no evidence that EPA's four-factor analysis was incorrect in any way, because the State does not analyze any of the four factors which EPA considered.

In short, the SIP violates the Clean Air Act's command that "in determining reasonable progress there *shall* be taken into consideration" four factors. 42 U.S.C. § 7491(g)(1) (emphasis added). The reasonable progress determination and the long-term strategy in the SIP are therefore unlawful and unapprovable.

B. The State Failed to Consider Whether Measures are Necessary to Make Reasonable Progress at Out-of-State Class I Areas in Missouri.

The State's reasonable progress analysis unlawfully fails to consider whether measures are needed to make reasonable progress at Class I areas outside Arkansas. The State's analysis is unlawful, regardless of whether the old or new version of the regional haze rule applies here.

The prior version of the regional haze rule required each state to make an independent determination of the measures needed to make reasonable progress at out-of-state Class I areas. *See* 79 Fed. Reg. 74,818, 74,829 (Dec. 16, 2014) (states must "consider both their own Class I areas and downwind Class I areas when they develop the technical basis underlying their four-factor analyses" for reasonable progress), finalized by 81 Fed. Reg. 296, 308 (Jan. 5, 2016) ("After carefully considering these comments, we stand by our clarified interpretation as outlined in the proposal."). After noting the statutory goal to eliminate all human-caused visibility impairment, EPA observed that "it would be impossible to achieve this goal if upwind states did not have the same responsibility to address their visibility impairing emissions and achieve reasonable progress in downwind Class I areas as the downwind states themselves." *Id.*

The current version of the regional haze rule clarifies, but does not alter, this obligation. In particular, the rule provides that:

> If a State contains sources which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I Federal area in another State for which a demonstration by the other State is required under (f)(3)(ii)(A), the State must demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in its own long-term strategy. The State must provide a robust demonstration, including documenting the criteria used to determine which sources or groups or sources were evaluated and how the four factors required by paragraph (f)(2)(i) were taken into consideration in selecting the measures for inclusion in its long-term strategy.

40 C.F.R. § 51.308(d)(3)(ii)(B). As EPA noted in the 2017 revisions to the regional haze rule, states have an "independent obligation to include in their SIPs enforceable emission limits and other measures that are necessary to make reasonable progress at *all* affected Class I areas, as determined by considering the four factors." 82 Fed. Reg. 3078, 3095 (Jan. 10, 2017) (emphasis added).

Despite the requirement to consider whether measures are needed to make reasonable progress at out-of-state Class I areas, the State's analysis focuses exclusively on the two Class I areas within Arkansas. *See* SIP at 8-23. Yet the State acknowledges that emissions from Arkansas sources impact visibility at Class I areas in Missouri. *Id.* at 23-24 ("Missouri has two Class I areas impacted by Arkansas sources . . . .").

By failing to consider whether measures are necessary to make reasonable progress at Missouri Class I areas, the draft SIP violates the Regional Haze Rule, and is unapprovable.

C. The SIP Violates the Anti-Backsliding Requirements of the Clean Air Act.

The State's reasonable progress determination violates the Clean Air Act's "anti-backsliding" requirement, 42 U.S.C. § 7410(*l*). In the 2016 FIP, EPA determined that reasonable progress requires that Independence Units 1 and 2 meet NO_x emission limits based on the use of

low- NO_x burners and separated over-fire air controls. 81 Fed. Reg. 66,339 (Sept. 27, 2016), codified at 40 C.F.R. § 52.173(c)(24)-(26). Now, the State proposes a SIP that would replace those NO_x emission limits with nothing. Eliminating the requirement that a source meet an emission limit necessarily would result in greater air pollution and worse visibility impairment at affected Class I areas. Section 110(*l*) of the Clean Air Act prevents a plan revision that would weaken the existing FIP requirements in this manner.

Section 110(*l*) states: "[t]he Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress . . . or any other applicable requirement of this chapter." 42 U.S.C. § 7410(*l*). Section 110(*l*) is the Act's "anti-backsliding" provision. *El Comité Para el Bienestar de Earlimart v. EPA*, 786 F.3d 688, 692 (9th Cir. 2015). The anti-backsliding provision prohibits plan revisions that would interfere with attainment of the National Ambient Air Quality Standards (NAAQS) or other "applicable requirements" of the Act. Section 110(*l*) prohibits plan revisions that would interfere with an existing requirement to make reasonable further progress, including a BART determination, as the Act's "applicable requirement[s]" include the regional haze program's BART requirements. *See Oklahoma v. EPA*, 723 F.3d 1201, 1204, 1207 (10th Cir. 2013).

When determining whether a plan revision interferes with NAAQS attainment, EPA has interpreted section 110(*l*) as preventing plan revisions that would increase overall air pollution or worsen air quality. For example, the Eleventh Circuit has upheld EPA's section 110(*l*) interpretation as prohibiting plan revisions that would increase emissions or worsen air quality. *Ala. Envtl. Council v. EPA*, 711 F.3d 1277, 1293 (11th Cir. 2013) (EPA interpreted section 110(*l*) to "permit approval of the SIP revision 'unless the agency finds it will make air quality worse'" (quoting 73 Fed. Reg. 60,957, 60,960 (Oct. 15, 2008))). In *Kentucky Resources Council, Inc. v. EPA*, 467 F.3d 986 (6th Cir. 2006), EPA interpreted section 110(*l*) as allowing the agency to approve a plan revision that weakened some existing control measures while strengthening others, but only "[a]s long as *actual emissions in the air are not increased*." *Id.* at 995 (quoting 70 Fed. Reg. 28,429, 28,430 (May 18, 2005)) (emphasis added). The court upheld EPA's interpretation, which "allow[ed] the agency to approve a [state implementation plan] SIP revision *unless the agency finds it will make the air quality worse*." *Kentucky Resources Council, Inc. v. EPA*, 467 F.3d at 995 (emphasis added). The Seventh Circuit has also upheld EPA's interpretation. *Indiana v. EPA*, 796 F.3d 803, 812 (7th Cir. 2015) (noting that EPA allows "emissions-increasing SIP revisions" if a state "identif[ies] substitute emissions reductions such that net emissions are not increasing."). Moreover, in a short discussion regarding a challenge to the Nevada regional haze plan, the Ninth Circuit suggested that a haze plan that "weakens or removes any pollution controls" would violate section 110(*l*). *WildEarth Guardians v. EPA*, 759 F.3d 1064, 1074 (9th Cir. 2014).

The existing reasonable progress determination in the FIP requires Independence Units 1 and 2 to meet emission limits based on the use of low-NO_x burners and separated over-fire air. 81 Fed. Reg. 66,339 (Sept. 27, 2016), codified at 40 C.F.R. § 52.173(c)(24)-(26). These pollution reductions must occur by April 27, 2018. 40 C.F.R. § 52.173(c)(25). EPA has

proposed to extend the compliance deadline for this requirement, but has not proposed to alter the emission limits themselves. *See* 82 Fed. Reg. 32,284 (July 13, 2017). Even if the deadline extension is finalized, the final FIP for Arkansas requires Independence Units 1 and 2 to reduce NO_x emissions. The draft SIP would eliminate the FIP requirements for Independence without imposing any other requirement that would achieve equal or greater reductions in NO_x emissions from Independence.

In sum, the draft SIP revision eliminates the FIP's requirement that Independence Units 1 and 2 reduce NO_x emissions, but the SIP does not require equal or greater emissions reductions from Independence, or any other source. This would increase air pollution and worsen air quality, in violation of the anti-backsliding provision of 42 U.S.C. § 7410(*l*).

D. The State's Judgements About the Amount of Visibility Improvement That is "Small" Are Arbitrary and Untethered from the Law and the Facts.

The State's reasonable progress analysis amounts to the assertion that because sulfates, not NO_x, are the primary contributor to visibility impairment in Arkansas Class I areas, there is no point in doing a 4-factor analysis for any pollutants besides sulfates. This reasoning has no basis in the law.

To begin, the State fails to consider two key provisions of the statute and regulations. First, the very definition of regional haze is visibility impairment produced from many sources, each of which makes a different size contribution to the overall problem. *E.g.*, 64 Fed. Reg. 35, 714, 35,715 (July 1, 1999) ("Regional haze is visibility impairment that is produced by a multitude of sources and activities . . . ."). Second, the statute requires that states eventually eliminate all human-caused haze pollution. 42 U.S.C. § 7491(a)(1). Not reduce, *eliminate*.

Considering these two facts together, the statutory goal mandates that states consider all pollutants, including those which the State describes as a "small" contribution to the problem. All human-caused impairment must be eliminated at some point, 42 U.S.C. § 7491(a)(1). The statute requires consideration of all visibility impairing emissions and provides no off ramp for states to ignore pollutants– indeed the requirements to inventory visibility impairing emissions from all sources and conduct a four-factor analysis are the bedrock of reasonable progress requirements and lend necessary structure for a state's decision making progress. Acting as if these analytical obligations do not exist does not amount to reasoned decision making. Given that regional haze program is designed to address haze resulting from emissions from numerous sources, spread across multiple states, each state must assess measures for reducing impairment at both in-state as well as out-of-state Class I areas.

In addition, it makes sense to consider potential controls on sources of all visibility-causing pollutants, because the availability and cost-effectiveness of controls may differ across categories of sources. In the absence of any investigation, the State has no way of knowing whether SO_2 controls will be more or less cost-effective than NO_x controls. Even if sulfates contribute more to visibility impairment, it is theoretically possible that when all factors are considered, NO_x controls are justified, for specific sources.

In sum, the statute requires the State to consider four factors in determining reasonable progress. 42 U.S.C. § 7491(g)(1). The statute does not allow the State to avoid a four-factor analysis for pollutants that the State deems "small" contributors to visibility impairment.

E. The State Cannot Rely on CSAPR To Avoid Reasonable Progress Controls.

The State attempts to justify the elimination of reasonable progress controls on Independence by claiming that the CSAPR allocations for NO_x will result in greater reductions in NO_x emissions than the FIP would. *See* SIP at 23. The State's rationale has no basis in law or in fact.

To begin, there is no statutory or regulatory provision which allows states to rely on CSAPR in lieu of conducting a four-factor analysis of reasonable progress. While EPA has issued a rule that purports to allow states to rely on CSAPR in lieu of imposing source-specific controls on BART source, EPA has not issued a comparable rule for reasonable progress. *See* 40 C.F.R. § 51.308.

Moreover, the State's comparison of NO_x reductions under CSAPR versus the FIP is flawed. The State compares CSAPR allocations to binding reductions which must occur under the FIP, based on legally enforceable emissions limits. This compares apples to oranges. As the name suggest, CSAPR allocations are not emissions limits, they are *initial* entitlements to emit certain amounts of pollution. Sources can emit more than their initial allocations, because CSAPR allows both intra- and inter-state trading of allowances. Thus, it is highly misleading to treat CSAPR allocations as binding emission limits which can be compared directly to the emission limits and reductions under the Arkansas haze FIP.

ADEQ further claims that it "anticipates that some EGUs will choose to install combustion controls to comply with CSAPR that would reduce emissions year-round, not just in the ozone season." SIP at 23. ADEQ provides no evidence for this assumption. More importantly, ADEQ wrongly conflates installation of controls with operation of controls. Even if it were true that some EGUs will install controls to comply with CSAPR, ADEQ provides no reason to assume that EGUs will operate those controls when they are not legally required to do so. On the other hand, there is ample evidence that utilities adjust their operation of pollution controls in response to price signals; for example, a recent paper showed that utilities run SCRs less, and therefore emit more NO_x pollution, when the price of NO_x allowances is low. *See* Thomas F. McNevin, Recent Increases in Nitrogen Oxide (NO_x) Emissions from Coal-Fired Electric Generating Units Equipped with Selective Catalytic Reduction (Nov. 13, 2015), *available at* http://www.tandfonline.com/doi/full/10.1080/10962247.2015.1112317, attached as Exhibit A.

Here, CSAPR requires NO_x reductions in Arkansas only during the ozone season, not year-round. ADEQ has advanced no basis for assuming that Arkansas EGUs will spend additional money to run NO_x controls when they are not required to do so, *i.e.*, outside of the CSAPR ozone season. Thus, there is no record basis for assuming that CSAPR will reduce NO_x emissions in Arkansas outside of the ozone season, which is the only period during the year when CSAPR applies to NO_x emissions in Arkansas.

II. ARKANSAS'S PROPOSED RELIANCE ON CSAPR AS A BART ALTERNATIVE IS UNLAWFUL.

In its revised SIP, ADEQ proposes to rely on ozone-season NO_x reductions under the updated Cross State Air Pollution Rule ("CSAPR") in lieu of the source-specific BART emission limits that EPA finalized as part of its 2016 regional haze FIP. Relying on a "back-of-the-envelope" calculation of "anticipate[d]" emission reductions, ADEQ asserts that EPA's updated "2018 Arkansas ozone season NO_x emission budgets under the CSAPR update achieve a greater reduction in NOx emissions than do implementation of NO_x BART controls included the AR RH FIP."[1] Without any further analysis, ADEQ suggests that compliance with the 2018 CSAPR ozone season allocations for Arkansas EGUs satisfies the BART requirements of the Regional Haze Rule. Arkansas's proposal to rely on ozone-season NO_x reductions under the CSAPR as an alternative to source-specific BART is unlawful for several reasons, as explained below.

A. ADEQ's Proposal to Rely on CSAPR in Lieu of BART is Contrary to the Clean Air Act and the Regional Haze Rule.

Arkansas's proposal is unlawful because it exempts sources from installing BART controls without going through the exemption process Congress prescribed. The visibility protection provisions of the Clean Air Act include a "requirement" that certain sources "install, and operate" BART controls. 42 U.S.C. § 7491(b)(2)(A). Congress specified the standard by which sources could be exempted from the BART requirements, which requires that the Administrator finalize a rule, after notice and opportunity for comments, that a major source is not "reasonably [] anticipated to cause or contribute to a significant impairment of visibility" in any Class I area. *Id.* § 7491(c)(1). Moreover, the appropriate federal land managers must concur with any exemption. *Id.* § 7491(c)(3).

Here, ADEQ has failed to demonstrate that the Arkansas EGUs subject to BART meet the standards for an exemption. Although EPA promulgated a final rule concluding that the 2011 Transport Rule satisfied BART for certain EGUs, the agency has not yet addressed whether the 2016 CSAPR update continues to provide for greater reasonable progress than BART or exempt any source from BART. Indeed, EPA has expressly recognized that it cannot rely on CSAPR in lieu of BART "unless and until" the agency finalizes its still-pending rulemaking that "CSAPR continues to provide for greater reasonable progress than BART."[2] Moreover, neither EPA nor the state obtained the concurrence of any federal land managers before exempting any Arkansas source from BART. In fact, there is no indication that the state has even consulted with the federal land managers or any other state affected by Arkansas emissions, as required under the Regional Haze Rule.[3] Consequently, Arkansas must require source-specific BART for each power plant subject to BART.

[1] ADEQ, July 2017 SIP revision at 8.
[2] 82 Fed. Reg. 32,297 (July 13, 2017) (proposed partial approval of Louisiana Regional Haze SIP).
[3] 40 C.F.R. §§51.308(d) and (i)(2).

B. ADEQ's Proposal to Rely on EPA's 2016 CSAPR Emission Budgets is Contrary to Law and Based on an Arbitrary Analysis.

Even if Arkansas could use a BART alternative without going through the statutory exemption process, the state's proposed reliance on EPA's 2016 CSAPR update rule in lieu of BART is arbitrary and contrary to law for at least five reasons. First, ADEQ has failed to demonstrate that the 2016 CSAPR emission allocations will ensure greater reasonable progress toward natural visibility than BART. The Regional Haze rule allows states to use an alternative emission program in lieu of source-specific BART *only* if the alternative makes "greater reasonable progress" than would BART. 40 C.F.R. § 51.308(e)(2). To demonstrate greater reasonable progress, the state or EPA must satisfy several regulatory elements and show, based on a detailed analysis of projected emissions, that the alternative program does not cause visibility to decline in any Class I area and results in an overall improvement in visibility relative to BART at *all* affected Class I areas. *Id.* § 51.308(e)(3)(i)-(ii). As noted above, neither EPA nor Arkansas have conducted any such analysis. In fact, EPA has expressly recognized that, in light of substantial changes in CSAPR allocations and compliance deadlines, it cannot rely on CSAPR in lieu of BART "unless and until" the agency finalizes its still-pending rulemaking that "CSAPR continues to provide for greater reasonable progress than BART." 82 Fed. Reg. 32,297 (July 13, 2017). Because Arkansas has failed to demonstrate that the 2016 CSAPR emission allocations will ensure greater visibility improvement than source-specific BART, as required by the Regional Haze Rule itself, the state cannot rely on those emissions reductions in lieu of BART for NO_x emission.

Second, even if Arkansas had provided a technical demonstration that compliance with EPA's updated CSAPR allowances achieved greater visibility benefits than source-specific BART, the state's reliance on emissions reductions achieved in 2018, and beyond, is unlawful. Under the Regional Haze Rule, any alternative to source-specific BART controls must include a "requirement that *all* necessary emission reductions take place during the period of the first long-term strategy for regional haze." 40 C.F.R. § 51.308(e)(2)(iii) (emphasis added). Thus, for the purposes of Arkansas's SIP revision, all of the necessary reductions must be achieved by July 2018—the end of the first planning period. *Id.* § 51.308(b), (f) (first implementation plan due December 2007; first "comprehensive periodic revision" due July 31, 2018, and every ten years thereafter). Arkansas's reliance on emission reductions that will not be realized until late 2018, and beyond, is contrary to the plain language of the regulation.

Third, based on Arkansas's revised 2016 emission baseline, Arkansas EGUs are already required to comply with EPA's updated CSAPR allocations, and thus the state's proposal to rely on CSAPR is unlawful. Before a state may adopt a BART alternative, the Regional Haze Rule requires a "demonstration that the emission reductions resulting from the emissions trading program or other alternative measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP." 40 C.F.R. § 51.308(e)(2)(iv). As discussed below, Arkansas's proposed SIP revision is based on an arbitrary and unlawfully revised 2016 emissions baseline that distorts the actual emission reductions achieved under CSAPR. But even if it were a proper baseline, Arkansas's proposal would violate the plain language of the Regional Haze Rule because Arkansas sources are already

required to comply with the updated CSAPR allocations, and therefore compliance with CSAPR is not "surplus" to reductions required to meet other provisions of the Clean Air Act.

Fourth, even if Arkansas's proposal was not contrary to the plain requirements of the Regional Haze Rule, ADEQ's focus on NO_x emission reductions is contrary to EPA's longstanding methodology for determining whether an emission trading program achieves greater reasonable progress than BART. EPA has always maintained the proper test for determining whether CSAPR (or any other trading program) achieves greater progress than BART is based on an examination of the *aggregate visibility* improvement from BART compared to the aggregate visibility improvements from CSAPR, across all affected Class I areas in CSAPR states.

Indeed, EPA has rejected the notion that it is appropriate to compare CSAPR to BART on a state-by-state basis. Instead, the "Transport Rule seeks to achieve greater, overall reasonable progress towards improving visibility than source-specific BART." *National Parks Conservation Ass'n v. McCarthy*, 816 F.3d 989, 995 (8th Cir. 2016). Yet, Arkansas justifies its reliance on CSAPR solely on a comparison of CSAPR to BART in only Arkansas. Contrary to EPA's established methodology, Arkansas does not even attempt to show that the visibility benefits associated with CSAPR are better than BART when averaged across all Class I areas in CSAPR states. Instead, the state merely added, and then compared, the emission reductions within Arkansas from CSAPR and BART. Under EPA's view of the law, which has been upheld by the Eighth Circuit, the State is using the wrong legal test.

Finally, even if it were appropriate for Arkansas to simply add up the emission reductions within the state from CSAPR or BART, the state's emissions calculation is based on Arkansas's adoption of an arbitrary 2016 emission baseline year that provides a distorted snapshot of emission reductions that will be realized under EPA's FIP versus CSAPR. As a result, the calculation fails to provide an "apples-to-apples" comparison of emission reductions under CSAPR versus source-specific BART. In particular, EPA's BART guidelines generally require the state to determine BART based on the maximum 24-hour emission rate from 2001-2003, or a "realistic depiction of anticipated annual emissions for the source," unless the state has adopted "enforceable limitations" that will provide different operating parameters. 40 C.F.R. Part 51 App'x Y § (IV)(D)(4)(d). As the BART guidelines explain, the selection of baseline emissions is important because different operating times (e.g., baseload versus a standby generator) will yield "very different" or "significantly higher level of baseline emissions" which alter the analysis. *Id*.

Here, EPA's FIP controls were generally based on 2001-2003 emissions baselines for each plant, except White Bluff, which was based on a 2009-2011 baseline. In contrast, Arkansas's proposed SIP revision relies on a 2016 annual emission baseline for each plant, and compares those emissions to the emissions that EPA projected using an earlier baseline. This results in a distorted analysis because it fails to account for the fact that each of the major sources subject to NO_x BART under the EPA FIP operated for fewer hours (and in some cases, significantly fewer hours) than those sources operated during the years EPA evaluated. Using EPA data, for example, each of the White Bluff units operated for approximately 25% fewer

hours in 2016 than they did during EPA's baseline years. Flint Creek operated for approximately 33% fewer hours in 2016 than it averaged during 2001-2003. The Independence units operated for 10% fewer hours in 2016 than it did during the baseline. The reductions in operating time across these units distorts Arkansas's calculation because it makes it appear as if EPA's FIP results in fewer emission reductions than the sources would achieve if they were required to continuously operate NO_x controls. The result is a "back-of-the-envelope" calculation that does not reflect an apples-to-apples comparison, and is largely meaningless.

C. ADEQ Cannot Rely on EPA's 2012 CSAPR Better than BART Finding to Relieve Arkansas Sources of the Obligation to Install BART.

For similar reasons, Arkansas cannot rely on EPA's 2012 CSAPR Better than BART Rule to show that CSAPR makes more reasonable progress than BART. As we explained in detail in our 2011 and 2012 comments on EPA's Better than BART Rule, EPA erred in the Better than BART Rule by comparing allocations that are more stringent than now required under CSAPR, as well as by using presumptive BART limits that are less stringent than required under the statute. *See* Letter from Abigail Dillen, Earthjustice to EPA at 13-16, EPA Docket ID EPA-HQ-OAR-2011-0729-0246 (Feb. 28, 2011), Attached as Exhibit B. These assumptions tilted the scales in favor of CSAPR. It would be arbitrary and capricious for EPA to rely on such an inaccurate, faulty comparison to conclude that CSAPR will achieve greater reasonable progress than will BART. Even under EPA's skewed comparison, CSAPR achieves barely more visibility improvement than BART at the Breton and Caney Creek National Wilderness Areas. If EPA had modeled accurate BART limits and up-to-date CSAPR allocations, then EPA would likely find that CSAPR would lead to less visibility improvement than BART.

Additionally, Arkansas cannot lawfully rely on the 2012 "Better than BART" rule because the rule is based on a version of CSAPR that no longer exists. Any conclusion that EPA made in the 2012 Better than BART rule regarding whether CSAPR achieves greater reasonable progress than BART is no longer valid. Since 2012, EPA has significantly changed the allocations and the compliance deadlines for CSAPR. Of particular relevance here, after 2012, EPA increased the total ozone season CSAPR allocations for every covered EGU in Arkansas. 77 Fed. Reg. 34830, 34835 (June 12, 2012). EPA also extended the compliance deadlines by three years, such that the phase 1 emissions budgets take effect in 2015-2016 and the phase 2 emissions budgets take effect in 2017 and beyond. 79 Fed. Reg. 71663, 74853.

In addition to EPA's increased emissions budgets and extended compliance timeline, the D.C. Circuit's decision in *EME Homer City Generation v. EPA*, 795 F.3d 118, 130-32 (D.C. Cir. 2015), which invalidated the SO_2 or NO_x emission budgets for fourteen states, has fundamentally undermined the rationale underlying EPA's Better than BART rule. Specifically, the Court invalidated the 2014 SO_2 emission budgets for Alabama, Georgia, South Carolina, and Texas, and the 2014 NO_x emission budgets for Florida, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia. *Id*. at 124. As explained in our initial brief in the still-pending challenge to the CSAPR Better than BART rule, the effect of *Homer City* is to pull the rug out from under EPA's BART exemption rule. EPA's finding that CSAPR would produce better visibility improvement than BART was premised on the existence of all the state-specific emission budgets adopted in the Transport

Rule. Because the D.C. Circuit has now invalidated many of those budgets, the BART exemption rule is left without the factual basis on which it relied.

In short, to the extent Arkansas seeks to rely on EPA's 2012 Better than BART determination, it is proposing to rely on a Rule that no longer exist. To rely on CSAPR as an alternative to BART, Arkansas must demonstrate that the version of CSAPR that is now in effect, and will be in effect at the time of the final rule, makes greater reasonable progress than BART. Having failed to make that demonstration, Arkansas has not met its burden to show that CSAPR will achieve greater reasonable progress than source-specific BART. *See* 40 C.F.R. § 51.308(e)(2), (3). More troubling, Arkansas's reliance on the CSAPR Better than BART rule fails to account for, or even mention, the very real possibility that CSAPR or the Better than BART rule will not exist in *any form* when the rule is finalized.

D. CSAPR Cannot Serve as a BART Alternative for Arkansas Sources Because the Rule Applies Only to Ozone-Season NO_x Emissions.

Finally, Arkansas's reliance on CSAPR as an alternative to BART is unlawful because the emissions reductions achieved by CSAPR in Arkansas are limited to five months of the year—the ozone season. Under the Regional Haze Rule, BART represents a year-round limit on emissions. *See* 40 C.F.R. § 51.301 (BART is the "best system of *continuous* emission reduction for each pollutant which is emitted by an existing stationary facility."). Given that CSAPR does not limit *annual* NO_x emissions from Arkansas sources, but instead only applies to Arkansas sources for five months out of the year, CSAPR cannot satisfy the Regional Haze Rule's requirement that sources meet the "best system of continuous emission reduction" for NO_x. In fact, as noted in EPA's Technical Support Document for the proposed disapproval of Arkansas's 2008 SIP, the adverse impacts of Arkansas NO_x emissions on visibility "tend to be a large component of visibility impairment during the winter months"—*i.e.*, outside of the ozone season.[4] Thus, NO_x emissions reductions that are effective only during the ozone season will not address the visibility impact due to wintertime ammonium nitrate at Breton Island or other Class I areas in neighboring states.

Even within the five-month ozone season, CSAPR allows for temporal variability such that a facility could emit at high levels within a shorter time period, creating higher than anticipated visibility impacts. Because of the high degree of variability and flexibility, power plants may exercise options that would lead to little or no emission reductions. For example, a facility in Arkansas might purchase emission credits from a source beyond the air shed of the Class I area the Arkansas source impairs. Because CSAPR requirements only pertain to the Arkansas source for a fraction of the year, that source may be even more incentivized to purchase emission credits from elsewhere than a source in a fully covered CSAPR state. Thus, without knowing which Arkansas EGUs will reduce pollutants by what amounts under CSAPR, or when they will do so, and because these emissions reductions are applicable for less than half the year, Arkansas simply cannot know the impact of CSAPR upon Breton and other affected Class I areas.

[4] *See* Ex. C, at A-35, A-41 through A-43, EPA, Technical Support Document Appendix A, Review of Modeling and Emission Inventory Development for the Regional Implementation Plan for the State of Arkansas, EPA Docket No. EPA–R06–OAR–2008–0727-0013.

For these reasons, reliance on CSAPR to satisfy the NO_x BART requirements is unlawful, and Arkansas should include source-specific NO_x BART determinations in the final SIP.

CONCLUSION

Thank you for considering these comments. Please do not hesitate to contact us with any questions.

Sincerely,

Glen Hooks
Sierra Club, Arkansas Chapter
1308 West 2nd Street
Little Rock, AR 72201
(501) 301-8280
glen.hooks@sierraclub.org

Al Armendariz
Sierra Club
1202 San Antonio
Austin, Texas 78701
(512) 477-1729
al.armendariz@sierraclub.org

Joshua Smith
Tony Mendoza
Sierra Club
2101 Webster Street, Suite 1300
Oakland, CA 94612
(415) 977-5560
(415) 977-5589
joshua.smith@sierraclub.org
tony.mendoza@sierraclub.org

Matthew Gerhart
3639 N. Clayton St.
Denver, CO 80205
(510) 847-7721
megerhart@gmail.com

Charles McPhedran
Earthjustice
1617 JKF Blvd., Suite 1130
Philadelphia, PA 19103
(215) 717-4520
cmcphedran@earthjustice.org

Stephanie Kodish
National Parks Conservation Association
706 Walnut Street, Suite 200
Knoxville, TN 37902
(856) 329-2424 ext. 28
skodish@npca.org

Nathan Miller
National Parks Conservation Association
738 N. Fifth Ave., Suite 222
Tucson, AZ 85705
(773) 230-5823
nmiller@npca.org

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Thomas F. McNevin

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TECHNICAL PAPER

Recent increases in nitrogen oxide (NO_x) emissions from coal-fired electric generating units equipped with selective catalytic reduction

Thomas F. McNevin

Division of Air Quality, New Jersey Department of Environmental Protection, Trenton, New Jersey, USA

ABSTRACT

The most effective control technology available for the reduction of oxides of nitrogen (NO_x) from coal-fired boilers is selective catalytic reduction (SCR). Installation of SCR on coal-fired electric generating units (EGUs) has grown substantially since the onset of the U.S. Environmental Protection Agency's (EPA) first cap and trade program for oxides of nitrogen in 1999, the Ozone Transport Commission (OTC) NO_x Budget Program. Installations have increased from 6 units present in 1998 in the states that encompass the current Cross-State Air Pollution Rule (CSAPR) ozone season program to 250 in 2014. In recent years, however, the degree of usage of installed SCR technology has been dropping significantly at individual plants. Average seasonal NO_x emission rates increased substantially during the Clean Air Interstate Rule (CAIR) program. These increases coincided with a collapse in the cost of CAIR allowances, which declined to less than the cost of the reagent required to operate installed SCR equipment, and was accompanied by a 77% decline in delivered natural gas prices from their peak in June of 2008 to April 2012, which in turn coincided with a 390% increase in shale gas production between 2008 and 2012. These years also witnessed a decline in national electric generation which, after peaking in 2007, declined through 2013 at an annualized rate of −0.3%. Scaling back the use of installed SCR on coal-fired plants has resulted in the release of over 290,000 tons of avoidable NO_x during the past five ozone seasons in the states that participated in the CAIR program.

Implications: To function as designed, a cap and trade program must maintain allowance costs that function as a disincentive for the release of the air pollutants that the program seeks to control. If the principle incentive for reducing NO_x emissions is the avoidance of allowance costs, emissions may be expected to increase if costs fall below a critical value, in the absence of additional state or federal limitations. As such, external factors as the cost of competing fuels and a low or negative growth of electric sales may also disincentivize the use of control technologies, the continuation of desirable emission rates will be best maintained by the implementation of performance standards that supplement and complement the emissions trading program.

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Introduction

The Clean Air Act Amendments of 1990 (CAAA) required substantial reductions in emissions of sulfur dioxide (SO_2) and oxides of nitrogen (NO_x). NO_x reductions were to be effected through the adoption of NO_x RACT (Reasonably Available Control Technology), which called for control of "major stationary sources of oxides of nitrogen" in ozone nonattainment areas and in the Ozone Transport Region (OTR).

The Ozone Transport Commission (OTC), a multistate entity created under the Clean Air Act Amendments to coordinate regional development of control plans for low-level ozone for the Northeast and Mid-Atlantic states, developed a program to control NO_x emissions from major stationary sources in the OTC Ozone Transport Region during the May 1–September 30 ozone season. An initial cap and trade "NO_x Budget Program" for 10 Northeast states, developed in 1994 and effective in 1999 (U.S. Environmental Protection Agency [EPA], 2009a), was replaced by the subsequent EPA "NO_x SIP Call" NO_x Budget Program, which expanded the program to a total of 22 eastern states in 2003–2004 and lowered the existing caps (EPA, 2011). Together these measures incentivized the installation of selective catalytic reduction (SCR) control equipment, a technology capable of over 90% reduction in NO_x emissions, on 19% of eastern U.S. coal-fired electric generating units (EGUs) by 2008. These programs were then succeeded by the Clean Air Interstate Rule (CAIR) in 2009 (EPA, 2014a), which was to be replaced by the 28-state Cross-State Air Pollution Rule (CSAPR) in

CONTACT Thomas F. McNevin tom.mcnevin@dep.nj.gov Division of Air Quality, New Jersey Department of Environmental Protection, 401 East State Street, PO Box 420, Trenton, NJ 08625-0420, USA

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/uawm.

2012 (EPA, 2014b). Due to various legal rulings, CAIR remained in effect through 2014, to be succeeded by CSAPR, which commenced on January 1, 2015.

Within the affected states, NO_x emissions declined substantially from their 1990 baseline levels. Examination of EPA's Air Markets Program Data (AMPD) reveals that emissions declined on average by 52% by the onset of the OTC NO_x Budget Program in 1999, due to RACT-driven burner modifications, along with a combination of old unit closures and resultant load shift to new cleaner units, generally gas-fired combined cycle units. In continuing these activities, some states' ozone season NO_x emissions declined further during the trading program, resulting in an overall reduction of 60% from baseline levels by 2002. Increased installations of SCR on coal-fired EGUs also contributed to this decline (EPA, 2009a; EPA AMPD).

Following the onset of the NO_x cap and trade programs, substantial numbers of coal-fired EGUs installed SCR (SCR Coal). Ozone season emission rates for these units were generally at their lowest in the early to middle years of the "NO_x SIP Call" program, 2005–2006, after which they began trending upwards.

Upward movement of NO_x emission rates increased substantially during the CAIR program, which began in 2009. This movement coincided with a collapse in the cost of CAIR allowances, which was accompanied by a decline in delivered natural gas prices from their peak in June of 2008, which in turn coincided with a substantial increase in shale gas production during the period. National electric generation also declined in those years, which after peaking in 2007, declined through 2013 at an annualized rate of −0.3%.

CAIR featured both an annual and an ozone season (May–September) cap and trade program. Although most states were in both the annual and seasonal programs, some were selected to be in one or the other. Among the top 25 EGU ozone season NO_x emitters in the states that participated in the CAIR ozone season program, which make up most of the eastern half of the United States, the number of EGUs with installed SCR, i.e., the most effective technology for NO_x reduction, increased from 1 in 2008 to 14 in 2014.

Methodology

Emission data for NO_x from the EPA's Air Markets Program Data tool (AMPD) were analyzed for the 16 ozone seasons through the duration of the three multi-state NO_x cap and trade programs from 1999 through 2014. These began with the OTC NO_x Budget Program for the OTR Northeast and Mid-Atlantic states in 1999, followed by the "NO_x SIP Call" NO_x Budget Program for the included OTR states in 2003 and an additional 11 in 2004 for a total of 20 eastern states, and the Clean Air Interstate Rule (CAIR) in 2009, which added all or part of several additional states. Emission trends were compared with production and cost figures of natural gas along with data on electrical generation from the Energy Information Administration (EIA), and with emission allowance cost figures for the three cap and trade programs.

Discussion

Since the passage of the CAAA (1990), the implementation of NO_x RACT (1995), the OTC NO_x Budget Program (1999), and the "NO_x SIP Call" NO_x Budget Program (2003–2004), the number of coal-fired boilers in the electric generation sector with SCR has increased steadily, from the nation's first three installations, which began operations in New Jersey in 1994, to 30% of the eastern U.S. coal fleet in 2014, as illustrated in Figure 1. Based on emission data provided by the EPA's Air Markets Program Data tool, the lowest observed emission rates on such units were, in general, achieved in the years immediately following the full implementation of the "NO_x SIP Call" cap and trade program in 2004 (Figure 2). Since that period, there has been a general upward movement in average seasonal NO_x emission rates of coal-fired, SCR-equipped (SCR Coal) EGUs, along with corresponding increases in emissions, which accelerated rapidly after 2010 (EPA AMPD).

Figure 2 depicts a count of all existing SCR Coal units, within the states that participated in the CAIR ozone season program, that were in existence in each year from 1999 to 2014, along with their seasonal emission rate averages. The average ozone season NO_x emission rates depicted during the OTC program years are elevated because they reflect a wide variety of operations from units both within the OTR states and from units coming on line in the non-OTR CAIR states, which were not yet under a cap and trade and program, and together were not being fully utilized. The onset of the "NO_x SIP Call" trading program saw both the largest year-to-year increases in numbers of units with installed SCR, and the largest decrease in region-wide average NO_x emission rates from those units. For many individual units, optimum, average seasonal best observed rates (BORs) of NO_x emissions tended to occur in the early to middle years of the "NO_x SIP Call" Program, after which rates began to drift upwards.

This upward trend in NO_x average seasonal emission rates is most clearly shown in examination of the SCR Coal EGUs that appear among the top 200 NO_x

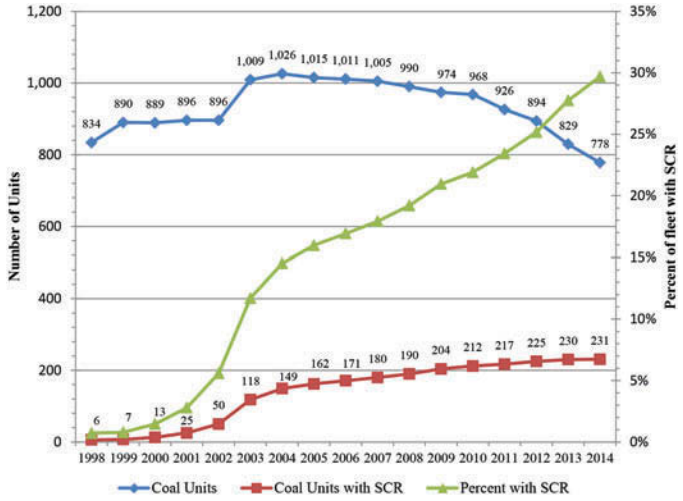

Figure 1. Total number of coal-fired EGUs, and the number and percent with installed SCR in each year in CAIR states.

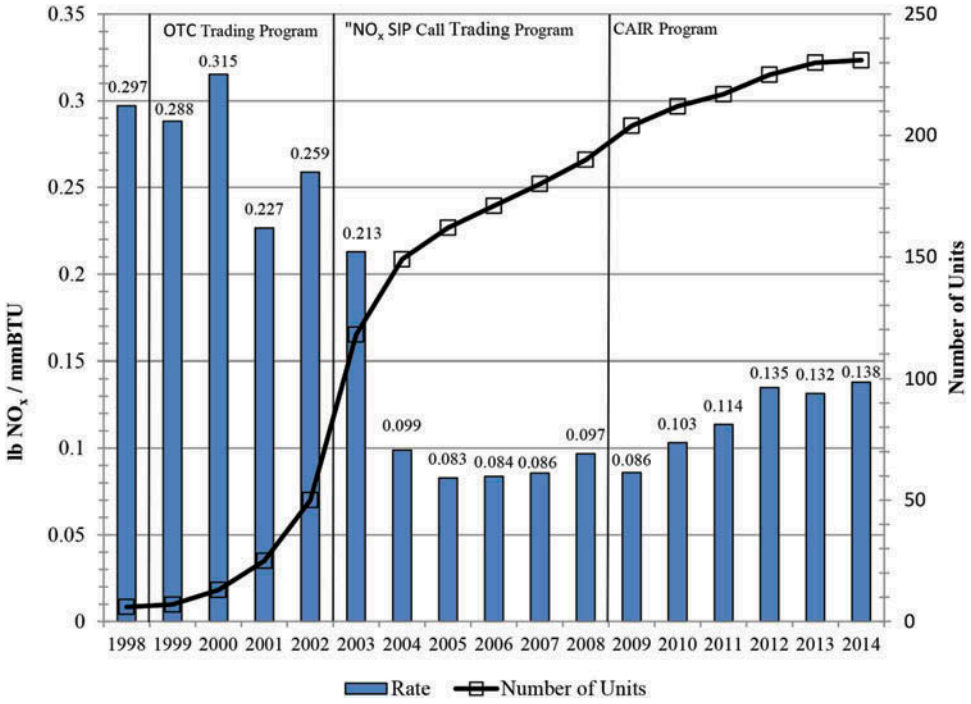

Figure 2. CAIR states average ozone season NO_x emission rates of SCR-equipped coal-fired EGUs, with number of units.

emitters in the region in the final year of each program (Figure 3). In the first two programs, rates came down within the targeted states once the programs got underway, stabilizing at lower levels after the first year or two. However, with the CAIR program, there was an almost linear year-to-year increase in statewide emission rates of these SCR-equipped, coal-fired EGUs. Although statewide rates show the depicted increases, results are varied with individual EGUs.

Through the years of the CAIR program, emission rates among the SCR Coal units in the top 200 NO_x emitting units doubled. The ratios of individual 2014 ozone season emission rates of SCR Coal units with respect to their BORs range from 1.0 to 9.4, with a mean of 3.3. Whereas some units are operating essentially at their BOR, other units have reverted to emission rates comparable to that seen prior to SCR installation (Table 1). As more SCR Coal units operated at increasing NO_x emission rates with each passing year, the number of such units that moved into the higher cohorts of individual NO_x emitters increased concurrently. It is this increase in emission rates that account for the numbers of SCR Coal units that have increasingly appeared among the top

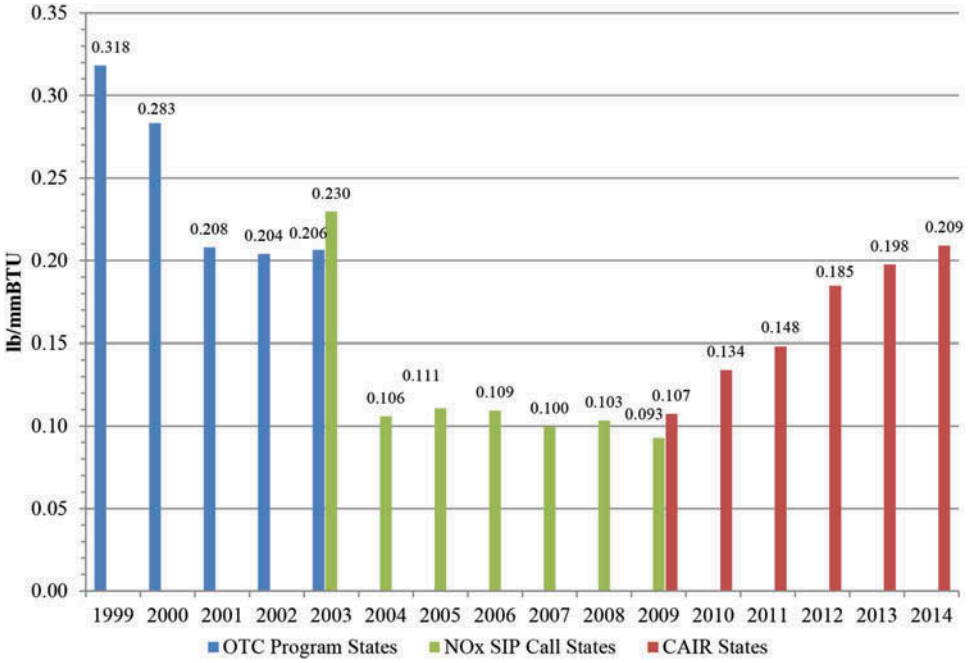

Figure 3. Average ozone season emission rates of coal-fired, SCR-equipped EGUs among the Top 200 NO_x emitters in each of the three cap and trade programs.

Table 1. Representative individual EGU comparisons of pre-SCR installation NO_x emission rates (lb NO_x/mmBTU), with BORs, 2014 ozone season rates, and 2014/BOR ratios.

	Pre-SCR Installation	Best Observed Rate		
Unit ID	Rate | Year	Rate | Year	2014 Rate	2014/ BOR
9943	0.337 | 2003	0.047 | 2005	0.150	3.2
31223	0.397 | 2000	0.087 | 2005	0.370	4.2
39442	0.478 | 1998	0.066 | 2005	0.372	5.6
31492	0.381 | 1998	0.047 | 2003	0.411	8.7
60042	0.355 | 2002	0.039 | 2005	0.367	9.4

ranked NO_x emitters over the past seven ozone seasons (Figure 4).

Generally, BORs occurred in the first year of two after SCR installation. For many EGUs, this was in the 2002–2005 range, as many SCR Coal units were installed at that time, in anticipation of the "NO_x SIP Call" Program (Figures 1, 2, and 3) (EPA, 1998). As new SCR installations have continued with each year, however, BORs for some units have come in later years. The average BOR year for the SCR Coal units in the 2014 top 200 was 2007.

Four factors contributed to this degradation in performance over the CAIR period: decrease in allowance costs, decrease in the cost of natural gas, increase in ammonia costs, and decrease in electric demand.

Allowance costs

Possession of an allowance authorized the holder to emit 1 ton of NO_x. In the first year of the OTC NO_x Budget Program, which ran from 1999 to 2002, allowance prices ranged in preseason trading from $1,500 to $3,000 before spiking to over $6,500 amid market uncertainty about possible allowance shortages. As confidence improved in 1999, prices settled down to a range of $600 to $1,700, generally less than $1,000, for the duration of the program (OTC, 2003; Fraas and Richardson, 2010).

Although average seasonal emission rates of SCR Coal units during the OTC NO_x Budget Program were generally well above what the technology was capable of delivering (Figure 3), it was common for units to finish the ozone season with excess allowances. Allocations were distributed to sources from the EPA Clean Air Markets Division, through the states, based on a 55% or 65% reduction from 1990 baseline levels, depending on the defined Zone in which an OTC region state was located (OTC, 1994). Because earlier NO_x RACT burner modifications had reduced emissions substantially below 1990 levels, installed SCR was employed to varying degrees by different facilities. They were generally, however, not required to be operated at maximum potential in order to avoid exceedance of the allocations that were given to each unit, and the resultant implicit costs.

Allowance costs during the "NO_x SIP Call" Program (2003–2008) ranged from a high of $8,200/ton at the onset of the program to a low of $593/ton after the program ended (Argus Air Daily). Trading

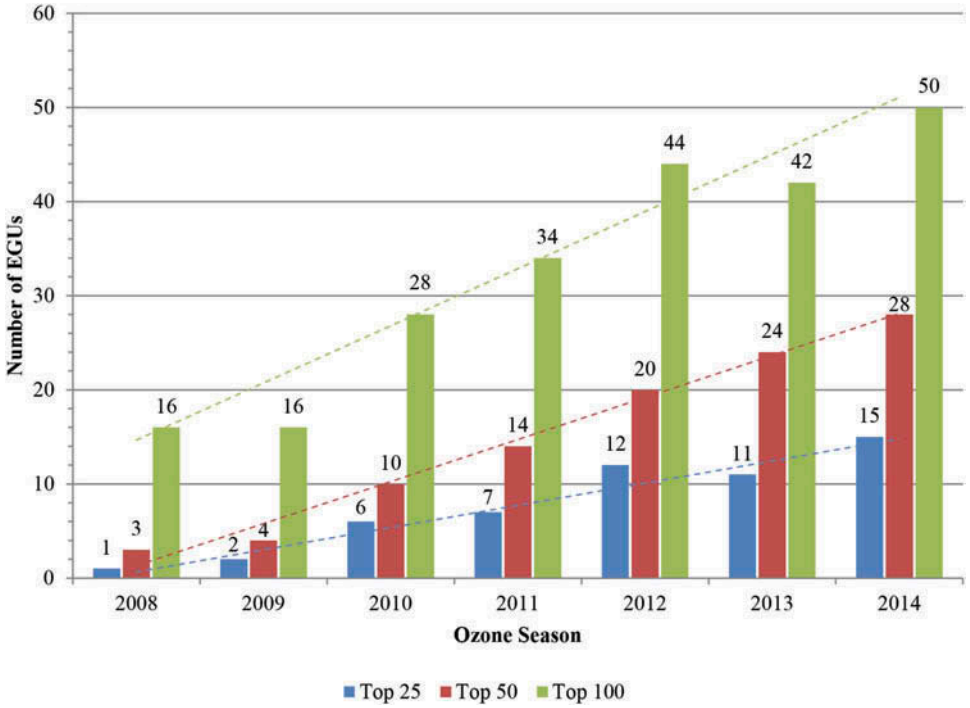

Figure 4. Numbers of SCR Coal units found among the top cohorts of CAIR states NO_x-emitting EGUs in the 2008–2014 ozone seasons.

continued after the May–September 2008 ozone season, as banked allowances from this program still had value, as they could be carried over into the following CAIR program. Average value for an allowance throughout the "NO_x SIP Call" program was approximately $2,000/ton (Argus Air Daily). Allocations to SCR Coal units were provided based on heat inputs from prior years at a rate of 0.15 lb NO_x/mmBTU (40 CFR 96.42). Based on the cost of purchasing allowances, it was desirable to operate SCR sufficiently as to not surpass the allocations provided at this rate. Optimal operation of SCR provided surplus allowances that could either be sold profitably or transferred to other units within the same company that emitted in excess of 0.15 lb/mmBTU. The balance between available allowances and emissions was quite close through most years of the program, finishing in the final year with emissions 9% below the 2008 cap. Allowance prices fell in this final year of the program (EPA, 2009b; EPA AMPD).

CAIR (2009–2014) consisted of both a seasonal and an annual program. A ton of NO_x emissions during the ozone season had to be covered by an allowance from both the seasonal and annual programs. Total costs for these combined allowances ranged from a high of $6,650/ton at the onset of the CAIR program in January 2009, to less than $100/ton by August 2011, a value that was not exceeded for the remainder of the program through December 2014 (Argus Air Daily).

In addition to the 275,367 banked allowances that were carried over into CAIR from the previous program by companies and facilities (EPA, 2009b), EPA also made available to the program 199,997 allowances as a Compliance Supplement Pool (CFR § 97.143), the availability of which was determined on a state-by-state basis. The availability of these additional allowances resulted in a substantial surplus of allowances with respect to ozone season emissions throughout the program.

Increase in natural gas production

Production of natural gas in the United States has increased dramatically in recent years with the implementation of hydraulic fracturing in the Marcellus Shale in the eastern United States, as well as other formations elsewhere in the country (U.S. EIA, 2015a). As production rose, gas prices fell, thus becoming increasingly economically competitive with coal for electrical generation (Figure 5). As such, the fraction of gas-fired generation increased substantially, whereas that of coal decreased (Table 2). U.S. shale gas production rose from 2,116 billion cubic feet (bcf) in 2008 to 11,415 bcf in 2013, a 5.4-fold increase, which contributed to a 17% rise in overall U.S. gross production through the same period (U.S. EIA, 2015a). After peaking at $12.41/thousand cubic feet (mcf) in June 2008, the electric power price of natural gas declined to a low of $2.81/mcf in April 2012, at which point, the first ever parity between gas- and coal-fired

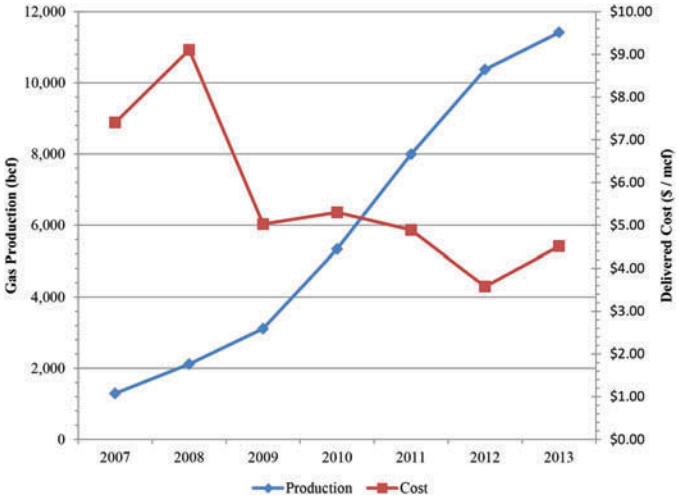

Figure 5. Production of shale gas and annual average delivered gas cost for electrical generation, 2007–2013.

Table 2. Percentage of U.S. annual electric generation by fuel type.

Fuel	2008	2009	2010	2011	2012	2013
Coal	48%	44%	45%	42%	37%	39%
Natural gas	21%	23%	24%	25%	30%	28%
Other	31%	33%	31%	33%	33%	33%

generation occurred, with each providing 32% of U.S. generation. Although the price of gas increased since then to $4.22/mcf as of October 2014, the price was still down −66% relative to the 2008 high.

With this more recent gas price increase, however, coal-fired generation increased 4.6% in 2013 relative to 2012 (U.S. EIA, 2015c). Nonetheless, gas-fired generation has made substantial gains against coal-fired electrical generation in recent years, as noted in Table 2, wherein gas has increased from 21% of national generation in 2008 to 28% in 2013, whereas coal has fallen from 48% to 39% through the same period (U.S. EIA, 2015b, 2015c). Most of this increased gas-fired generation has come from combined cycle turbines, from both new construction and from increased use of existing units. Due to both the decrease in coal use and the increase of the much lower emitting combined cycle units, overall seasonal NO_x emissions have declined, even as NO_x emissions from SCR curtailment on coal has increased through the period (EPA AMPD).

Ammonia costs

Reduction of NO_x by ammonia is given by the simplified NO_x equation:

$$4NO_x + 4NH_3 \rightarrow 4N_2 + 6H_2O \quad (1)$$

As the net stoichiometry is approximately 1:1, essentially 1 ton of ammonia is required to reduce 1 ton of NO_x. In SCR, anhydrous ammonia, or a 19–29% aqueous solution, is injected into flue gas ahead of a catalyst bed consisting of heavy metal oxides or zeolites (EPA, 2002). Urea, which is safer to handle, is used by some operators in place of ammonia.

Ammonia costs during the OTC NO_x Budget Program generally ranged from $100 to $200/ton. Ammonia was cheaper than emission allowances during those years, yet most coal-fired facilities did not need to push their installed SCR to its maximum potential. Although ammonia costs averaged about $340/ton during the "$NO_x$ SIP Call" program, this was still considerably cheaper than the average allowance cost of approximately $2,000/ton (U.S. Geological Survey [USGS], 2015; Argus Air Daily).

In recent years, during the CAIR program, ammonia costs have averaged about $470/ton (USGS, 2015). Based on this variable cost alone, allowance costs in a cap and trade program covering the emission of 1 ton of NO_x lose their ability to encourage ammonia-driven emission reductions when they cost less than the reagent used to operate the installed equipment.

Figure 6 displays the combined CAIR allowance prices (seasonal and annual) for an EGU emitting at 3.0 lb NO_x/MWhr, which is a rate typical of a boiler with NO_x RACT-induced combustion modifications such as low-NO_x burner technology (LNBT), which has no operating SCR. Also shown is the approximate cost of ammonia in $/MWhr. As the cost of allowances to cover emissions decreases below the cost of the ammonia feedstock required to reduce them, market forces act to encourage rather than discourage emissions. Further impetus in this

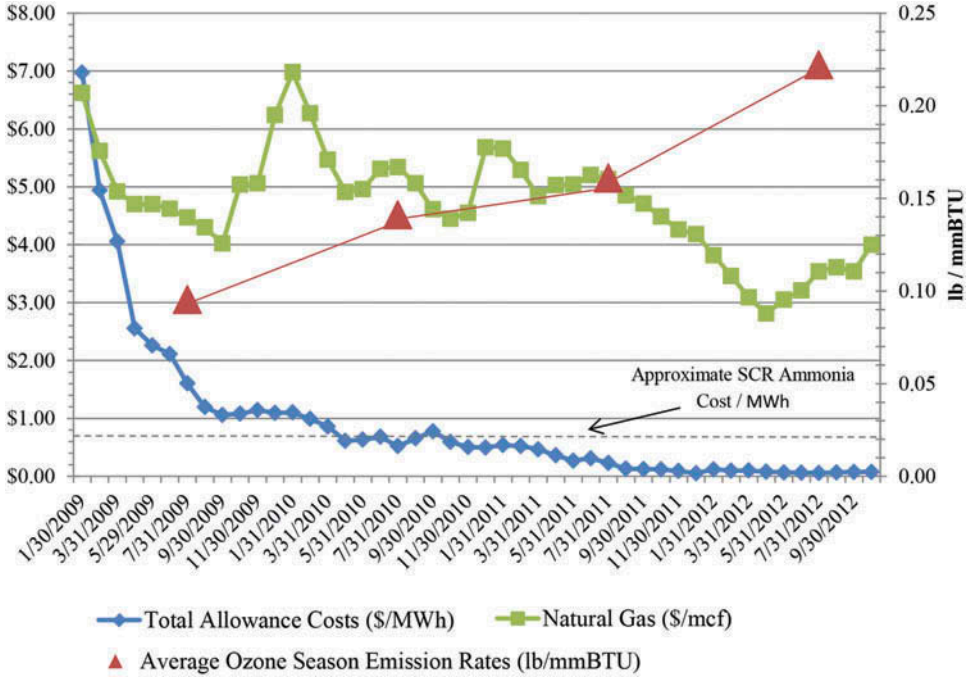

Figure 6. Total monthly average ozone season allowance costs at 3.0 lb NO_x/MWhr, with monthly average natural gas electrical generation costs, approximate ammonia cost, and average ozone season emission rates.

direction is provided by the declining price of natural gas used in competitive electrical generation. As gas and allowance costs declined, the average seasonal NO_x emission of rates of the SCR Coal units found within the top 200 emitting units in the 2014 ozone season more than doubled from 2009 through 2012.

Decline in electric demand

Electrical generation and resultant NO_x emissions are also affected by current and forecast electric demand, which in turn affects wholesale pricing of electricity, and the likelihood that at a given production cost, a particular generating unit will be dispatched (called upon to supply power to the grid). From 2000 through 2007, U.S. electrical generation grew at a typical annualized rate of 1.3% (Figure 7). Peaking in 2007, generation by 2013 has subsequently decreased at an annualized rate of −0.3% (U.S. EIA, 2015b). Electrical generation, indicated by gross load figures (GLOAD), reported to EPA, by the 94 SCR Coal units among the top 200 emitters in the 2014 ozone season had an annualized decrease in generation of −2.7% for the same 2007–2013 period (EPA AMPD). Reduced generation decreases income to the generator from electric sales, which may incentivize a corresponding effort to reduce expenses.

State-to-state variations

Emissions may be regulated to achieve reductions in three general ways. A technology-specific or design standard, a maximum allowable emission rate performance standard, or a market-based cap and trade approach in which a source is given an allotment of allowances consistent with the reduction goal and is free to address its operations as it see fit as market forces act to minimize costs and reward innovation (Air Quality Management in the United States [AQMUS]; National Research Council, 2004).

Average statewide emission rates for SCR Coal units that were operating in the 2014 ozone season in the western states that were outside of the CAIR program boundaries were seen to be uniformly indicative of optimum SCR operations (Figure 8). As no cap and trade program was in effect for these states, it is evident that emissions are restricted with operating permit limitations that derive from design and/or performance standards.

Similarly, state-level restrictions effectively, if not explicitly, requiring continual SCR use exist within some of the states participating in the CAIR program, as evidenced by their SCR Coal 2014 ozone season emission rates. The rates, shown from low to high in Figure 8, indicate a range of behaviors. Clearly, within the CAIR program states, market forces in some cases have acted to engender increases in emissions, rather than their decrease. The

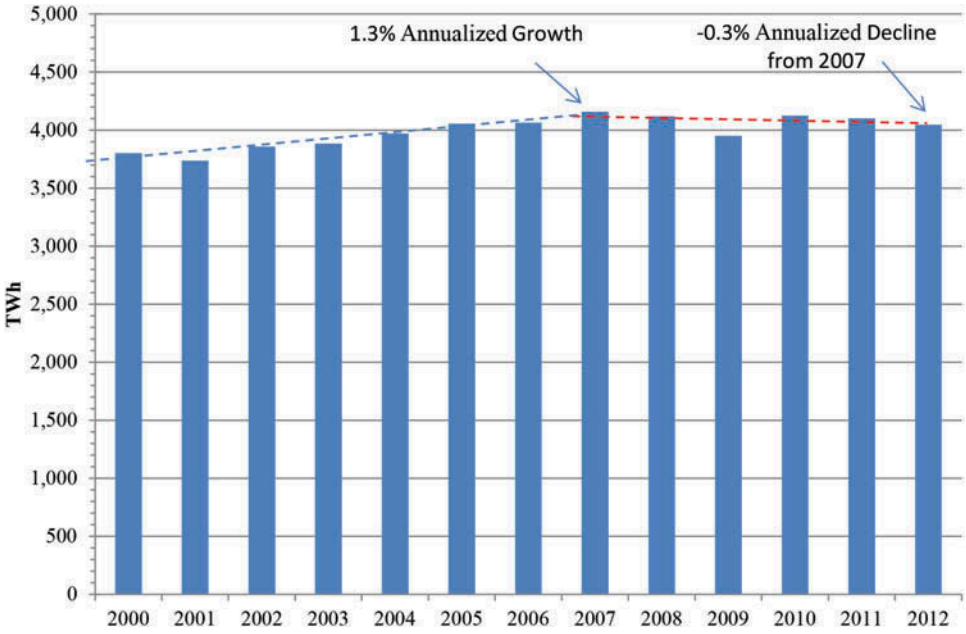

Figure 7. U.S. net electric generation.

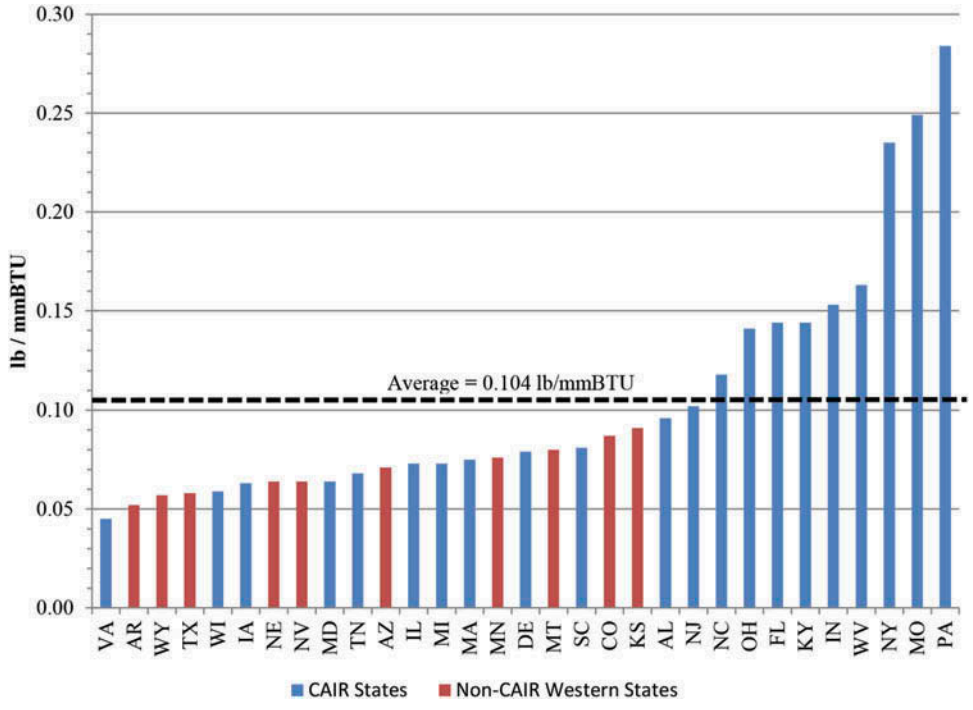

Figure 8. Average 2014 ozone season statewide NO_x emission rates of SCR Coal EGUs.

higher numbers displayed in Figure 8 illustrate substantial curtailment of SCR use in the majority of SCR Coal units in those states. In some cases (Pennsylvania, New York), curtailment occurred in all operating units. Figure 9 illustrates the year-to-year increases in NO_x emissions due to this curtailment among the CAIR states, which occurred counter to the overall trend of declining NO_x emissions that was previously noted.

Summary

Substantial reductions in NO_x emissions from large stationary sources, i.e., electrical generating units, have been achieved across the country since the Clean Air Act Amendments of 1990. In addition to burner modifications, fuel switching, and retirements, which have been particularly noteworthy among coal units in the past decade, hundreds of other coal units

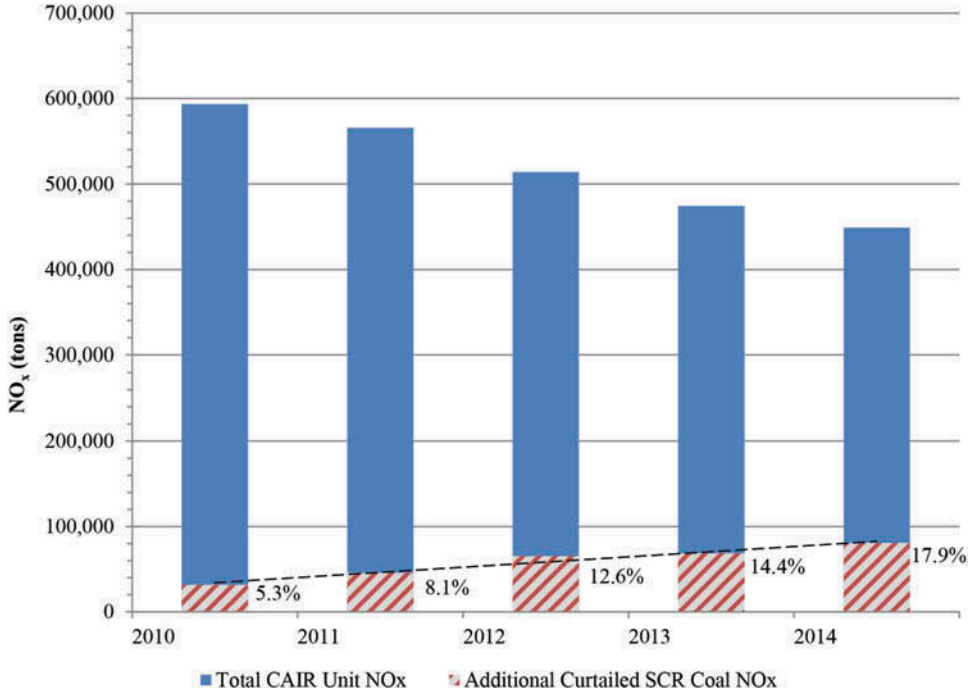

Figure 9. Ozone season NO_x emissions in CAIR states with fraction due to SCR Coal curtailment and its percentage of total emissions.

installed SCR. In recent years, reductions in NO_x emissions have also been facilitated by a reduction in coal use and a corresponding increase in gas-fired generation

During the "NO_x SIP Call" NO_x Budget Program, when allocations were not present in excessive quantities, and costs remained at sufficiently high levels to encourage the operation of installed pollution control equipment, most SCR Coal units showed their lowest seasonal emission rates. Under the CAIR cap and trade program, excess of allowances, and correspondingly low prices, encouraged the acquisition of emission allowances preferentially to the operation of installed SCR, as the cost of allowances fell beneath the cost of the reagent required to operate the equipment. Market forces thus incentivized increases in emissions. In plants that were not prohibited from curtailing SCR operations by operating permit limitations, emissions dramatically increased through the period. As a result, upwards of 290,000 tons of additional, avoidable NO_x were released in the CAIR states during the 2010–2014 ozone seasons. Emission increases at these plants were further encouraged by the decline in natural gas prices, which incentivized competitive gas-fired generation, and a decline in electric sales, which reduced income to the generators. Other plants that had requirements in their operating permits, which implicitly or explicitly required the use of installed SCR, continued to operate with low emissions at optimum rates. Hence, in recent years in states that were wholly reliant on the cap and trade program for reductions, emissions were not reduced as effectively as occurred in states that had supplemental performance standards in place.

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About the author

Thomas F. McNevin is a research scientist in the Bureau of Air Quality Planning, Division of Air Quality, at the New Jersey Department of Environmental Protection, Trenton, NJ.

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EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

February 28, 2011

Attention Docket ID No. EPA-HQ-OAR-2011-0729

Regarding: Regional Haze: Revisions to Provisions Governing Alternatives to Source-Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans; Proposed Rule; 76 Fed. Reg. 82219 (Dec. 30, 2011)

INTRODUCTION

On behalf of the National Parks Conservation Association, Sierra Club, Altahama Riverkeeper, Appalachian Mountain Club, Environmental Law & Policy Center, Fall-line Alliance for a Clean Environment, Friends of the Chattahoochee, GreenLaw, Midwest Environmental Defense Center, Minnesota Center for Environmental Advocacy, Natural Resources Defense Council, Ogeechee Riverkeeper, Respiratory Health Association of Metropolitan Chicago, Southern Alliance for Clean Energy, Southern Environmental Law Center, and Wiregrass Energy Network, we thank you for considering these comments on the Environmental Protection Agency's recent proposal (1) to exempt states subject to the Cross-State Air Pollution Rule ("CSAPR" or the "Transport Rule") from applying source-specific Best Available Retrofit Technology ("BART") requirements under the Clean Air Act's regional haze program; and (2) to disapprove in part the regional haze State Implementation Plans ("SIPs") submitted by Alabama, Florida, Georgia, Indiana, Iowa, Louisiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas to the extent those SIPs relied on CAIR, and adopt Federal Implementation Plans ("FIPs") for those states, replacing reliance on CAIR with CSAPR.

For the reasons explained below, EPA cannot exempt states from evaluating and applying source-specific BART consistent with the Clean Air Act. The plain language of the Act requires installation and operation of BART to achieve reasonable progress toward meeting the national goal of eliminating visibility impairment at Class I areas. *See* Clean Air Act ("CAA") § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A). Even if it were legally permissible for EPA to authorize states to rely on an alternative program to opt out of BART, CSAPR cannot substitute for BART for several readily apparent reasons:

- CSAPR is currently the subject of a legal challenge, and the D.C. Circuit Court of Appeals has stayed implementation of the rule. Unless the stay is lifted, EPA cannot rely on CSAPR either to approve SIPs or FIPs that fail to apply unit-specific BART requirements.

- Since the publication of its CSAPR "better-than-BART" rule, EPA has weakened the CSAPR rule by providing several states with larger pollution allocations. EPA has yet to undertake any analysis demonstrating that CSAPR as revised is better than BART.

156 WILLIAM STREET SUITE 800 NEW YORK, NY 10038
T: 212.791.1881 F: 212.918.1556 E: neoffice@earthjustice.org W: www.earthjustice.org

- EPA has not evaluated or determined each state's reasonable progress goals, and thus cannot reasonably conclude that CSAPR achieves greater reasonable progress than BART. 40 C.F.R. § 51.308(d), (e)(3).

- Governing regulations require that BART alternatives provide emission reductions surplus to those resulting from programs implemented to meet other requirements of the Clean Air Act. *See* 40 C.F.R. § 51.308(e)(2)(iv). CSAPR, as a program implemented to meet § 110 of the Clean Air Act, cannot satisfy this requirement.

Even putting aside these issues, each of which is dispositive, EPA has failed to establish that CSAPR will achieve greater reasonable progress than BART in keeping with the agency's own criteria under existing regulations. In determining whether an alternative program with a substantially different emissions distribution is "better than BART," EPA rules demand a showing based on dispersion modeling that: (1) "visibility does not decline in any Class I area;" and (2) "[t]here is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas." 40 C.F.R. § 51.308(e)(3). EPA has yet to provide a satisfactory demonstration that substituting participation in CSAPR for source-specific BART controls will satisfy either condition. Fundamentally, flaws in EPA's methodology preclude the agency from reaching a credible conclusion that CSPAR is better than BART.

In this regard, EPA improperly averaged visibility improvements across all Class I areas, instead of undertaking the state-by-state analysis required by its own regulations. *See* 40 C.F.R. § 51.308(e)(2)(i) (requiring "[a] demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART *in the State* and covered by the alternative program"). Given that an emissions trading program necessarily carries the risk of creating pollution hot spots, spatial averaging of emissions across the broad swath of the 28 CSAPR states cannot provide any assurance of reliable state-by-state emissions reductions needed to achieve visibility improvement.

Further, EPA's analysis precludes a fair comparison between application of BART and sole reliance on CSAPR instead. In comparing the visibility impacts attributable to CSAPR and BART respectively, EPA modeled an artificial BART scenario in which nationwide BART would apply without CSAPR. As CSAPR is independently required by Section 110 of the Clean Air Act and will apply in any case (assuming it withstands legal challenge), it is incumbent on EPA to evaluate what BART would add to CSAPR in the way of emission reductions that could contribute to reasonable progress.

EPA also discounted the improvement that would be seen under a Nationwide BART scenario by failing to model emission limits that actually reflect BART. Instead, EPA relied on outdated presumptive BART limits that fail to account for significant advances in air pollution control technologies that have prompted the agency itself to impose far more stringent BART determinations. In many cases, EPA did not actually calculate presumptive BART in the manner it purported to do and instead arbitrarily assumed limits that are far less stringent even than lax presumptive BART limits.

In addition, EPA used a base case that ignores emissions reductions already achieved by other federal and state air programs and enforcement actions. These omissions in the base case further operate to give CSAPR an artificial and unfair advantage over BART in EPA's analysis. These and other issues are discussed in further detail below.

Finally, EPA cannot approve partial FIPs for Alabama, Florida, Georgia, Indiana, Iowa, Louisiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas in reliance on CSAPR. EPA has not demonstrated that any of these states can meet reasonable progress goals without imposing BART requirements on power plants. Because each regional haze SIP or FIP must set forth a comprehensive plan for attaining natural visibility conditions by 2064, EPA cannot evaluate a BART exemption in isolation, without reference to reasonable progress goals and the other measure in place in each state to meet those goals. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A); 40 C.F.R. §§ 51.308(d), (e). Moreover, for all of the reasons listed above and discussed in further detail below, EPA cannot lawfully approve FIPs that rely on CSPAR as a substitute for BART.

I. BACKGROUND

A. The Clean Air Act's Visibility Program: Protecting Public Lands and People

The Clean Air Act's visibility program requires clean up of visible air pollution at the country's national parks, wilderness areas, and other premier public lands, encompassing a total of 156 protected "Class I Areas" that include many of the nation's most iconic vistas. Preservation of these views has an obvious and demonstrable intrinsic value; as National Park Service studies confirm, visitors' enjoyment of a national park is tied to visibility.[1] Preserving visibility also helps sustain the healthy tourism industry centered on visits to the nation's landmarks. The same National Parks Service studies demonstrate that visibility conditions affect the amount of time and money visitors are willing to spend at national parks.[2] In 2010 alone, national parks tourism contributed approximately $31 billion to the United States economy, sustaining over 250,000 jobs.[3]

Notwithstanding the recognized value of our Class I Areas, EPA has recognized that longstanding visibility problems continue to mar the landscape and obscure views of our most treasured —and economically important— landmarks. For example, in the preamble to the proposed "better than BART" rulemaking, EPA explained that data from the existing visibility monitoring network shows that visibility is impaired "virtually *all the time* at most national park

[1] National Parks Service, Visibility Effects of Air Pollution: Importance of Visual Air Quality to Visitor Experience, http://www.nature.nps.gov/air/AQBasics/visibility.cfm (last accessed February 13, 2012).
[2] *Id.*
[3] Southwick Associates, *The Economics Associated with Outdoor Recreation, Natural Resources Conservation and Historic Preservation in the United States*, at 17 (October 10, 2011), *available at* www.nfwf.org/Content/ContentFolders/NationalFishandWildlifeFoundation/HomePage/ConservationSpotlights/TheEconomicValueofOutdoorRecreation.pdf; United States Department of the Interior, Office of Policy Analysis, *The Department of the Interior's Economic Contributions*, at 9 (June 21, 2011), *available at* www.doi.gov/ppa/upload/DOI-Econ-Report-6-21-2011.pdf.

and wilderness areas."[4] Visibility in the western United States is about 60-100 miles, or half to two-thirds what it would be in the absence of anthropogenic air pollution, whereas in the eastern United States, the average visual range is less than 20 miles, or approximately one-fifth of the visibility range under natural conditions.[5]

Without a strong commitment to the Clean Air Act's visibility program, these problems will persist indefinitely. Despite expansion of the visibility program to address regional haze in 1999, progress has been slow, and thirteen years later, the states and EPA are still working to develop and finalize statewide regional haze plans for achieving visibility goals. Thus it is deeply regrettable, but not surprising, that the National Parks Service estimates that visibility conditions at approximately 90% of 241 studied national parks are showing no significant improvement or degradation on the haziest days, while approximately 70% are showing no significant improvement or degradation in visibility on the clearest days.[6] More troubling, the study also indicates that there is a significant decline in visibility at approximately 3% of the surveyed national parks on the haziest days.[7]

While the visibility program is designed to restore priceless vistas across the country, it also provides important ancillary health benefits as well. Haze-forming pollutants, including fine particles and their precursors sulfur dioxide and nitrogen oxides, also contribute to health problems. Any program that requires controls to target and reduce these pollutants will also improve public health. For example, exposure to fine particles has been linked to a variety of health issues, including increased respiratory symptoms, decreased lung function, aggravated asthma, development of chronic bronchitis, irregular heartbeat, nonfatal heart attacks, and premature death in people with heart or lung disease.[8] Likewise, sulfur dioxide is associated with serious lung ailments, and can even result in premature death,[9] while nitrogen oxides are a precursor to ground level ozone, or smog, which can reduce lung function and increase respiratory symptoms as well as respiratory-related emergency department visits, hospital admissions, and possibly premature deaths.[10] In 2011, there were more than 262 exceedances of the EPA's ozone air pollution standard at national parks—the highest number of exceedances since 2008.[11] Even healthy adults are urged to limit outdoor exercise on days with high ozone.[12] Given the overlap between the haze forming pollutants and the serious health problems they are known to cause, EPA has estimated that in 2015, the Regional Haze Rule will prevent 1,600

[4] Regional Haze: Revisions to Provisions Governing Alternatives to Source-Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans; Proposed Rule; 76 Fed. Reg. 82219, 82221 (Dec. 30, 2011) (emphasis added).
[5] *Id.* at 82221-82222 (citing 64 Fed. Reg. 35715 (July 1, 1999)).
[6] National Parks Service, Air Quality in National Parks: 2009 Annual Performance & Progress Report, Natural Resource Report NPS/NRPC/ARD/NRR-2010/266, at Table 1.
[7] *Id.*
[8] United States EPA, Particulate Matter, Health http://www.epa.gov/pm/health.html.
[9] United States EPA, Sulfur Dioxide, Health, http://www.epa.gov/air/sulfurdioxide/health.html.
[10] United States EPA, Nitrogen Dioxide, Health, http://www.epa.gov/air/nitrogenoxides/health.html.
[11] Compare National Park Service, Ozone Standard Exceedances in National Parks, http://www.nature.nps.gov/air/monitoring/exceed.cfm with National Park Service, 2008 Ozone Standard Exceedances in National Parks, http://www.nature.nps.gov/air/monitoring/exceed2008.cfm.
[12] *See* note 10, *supra*.

premature deaths, 2,200 non-fatal heart attacks, 960 hospital admissions, and over 1 million lost school and work days — benefits valued at $8.4 to $9.8 billion annually.[13]

B. Visibility Protection Under the Clean Air Act

Recognizing that manmade haze diminishes visibility and degrades the integrity of many of the nation's national parks and wilderness areas, Congress in 1977 amended the Clean Air Act, "declar[ing] as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." *See* CAA § 169A(a)(1), 42 U.S.C. § 7491(a)(1); *see also* 40 C.F.R. pt. 81, subpt. D (listing the 156 protected Class I areas, including certain national parks, wilderness areas, and national memorial parks, as well as certain international parks). Among other things, Congress mandated that EPA adopt regulations that would require states to develop SIPs containing measures necessary to make reasonable progress toward the national goal of improving visibility, including installation and operation of BART at BART-eligible sources[14] that could be reasonably anticipated to cause or contribute to visibility impairment. CAA §§ 169A(a)(4), (b)(2)(A), 42 U.S.C. §§ 7491(a)(4), (b)(2)(A).

EPA's visibility program initially focused on controlling plume blight, or visibility degradation caused by air pollution reasonably attributable to a source or small group of sources. To address plume blight, EPA required installation of BART at sources to which visibility impairment at the Class I areas could be reasonably attributed. Under the regulations, 36 states containing Class I areas were required to determine which existing stationary sources should install and operate BART for controlling pollutants that impair visibility. *See* Visibility Protection for Federal Class I Areas, 45 Fed. Reg. 80084, 80086 (Dec. 2, 1980). The Federal Land Managers play an important role in assessing the need for BART in this context; if a Federal Land Manager certifies to the state that there exists reasonably attributable impairment of visibility in any Class I area, then, at least 6 months prior to the state's SIP submission or revision, the state is required to identify and analyze BART for those sources and, where appropriate, require installation BART as expeditiously as practicable. *See* 40 C.F.R. § 51.302(c)(1); *id.* § 51.302(c)(4). This provision for addressing reasonably attributable visibility impairment or RAVI[15] laid the groundwork for reaching the national goal or restoring natural visibility. From the outset, however, EPA acknowledged that RAVI BART could only take the nation so far toward remedying the visibility problem at our nation's Class I areas. In the original rulemaking, the agency explained that widespread, regionally homogenous haze also impaired visibility, but it deferred action on regional haze until the agency had better monitoring,

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[13] *See* United States EPA, Visibility, Fact Sheet - Final Amendments to the Regional Haze Rule and Guidelines for Best Available Retrofit Technology (BART) Determinations, *available at* http://www.epa.gov/visibility/fs_2005_6_15.html.

[14] A source is BART-eligible if it is a stationary source within one of 26 enumerated categories, was not in operation before August 7, 1962 but was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any pollutant. CAA § 169A(b)(2)(A), (g)(7), 42 U.S.C. § 7491(b)(2)(A), (g)(7).

[15] "Reasonably attributable visibility impairment" is "visibility impairment that is caused by the emission of air pollutants from one, or a small number of sources." 40 C.F.R. § 51.301. Visibility impairment, in turn, is "any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions." *Id.*

modeling, and scientific knowledge about the relationship between emission of certain pollutants and visibility. *See* 45 Fed. Reg. at 80086.

In 1999, as promised, EPA expanded the visibility program, promulgating the Regional Haze Rule. *See* Regional Haze Regulations, 64 Fed. Reg. 35714 (July 1, 1999). Under that Rule, states are directed to submit SIPs containing emissions limitations representing BART and schedules for compliance for each BART-eligible source that may be anticipated to cause or contribute to any visibility impairment in a Class I area. *See* 40 C.F.R. § 51.308(e). BART is determined for each source based on a case-by-case analysis. *Id.* § 51.308(e)(1)(ii). With the adoption of the regional haze rule, in addition to RAVI BART, a source may have to install and operate BART as required to combat regional haze (as differentiated from plume blight).

Implementation of the Regional Haze Rule has lagged since many states fell behind in their duty to develop Regional Haze SIPs, triggering EPA's duty to step in and impose FIPs. Now, EPA is proposing to further undermine implementation of the Act's haze clean-up mandates by skipping evaluation and implementation of source-specific BART in all 28 states where the CSAPR emissions trading program applies.

C. CSAPR

CSAPR is designed to reduce emissions of air pollutants that affect the ability of downwind states to attain and maintain compliance with the 1997 and 2006 fine particulate National Ambient Air Quality Standards ("NAAQS") and the 1997 ozone NAAQS. *See* Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP approvals, 76 Fed. Reg. 48208, 48208 (Aug. 11, 2011). CSAPR, like its predecessor, the Clean Air Interstate Rule ("CAIR"),[16] was promulgated to satisfy the requirements in Section 110(a)(2)(D)(i)(I) of the Clean Air Act. *See* 42 U.S.C. § 7410(a)(2)(D)(i)(I).

To reduce interstate pollution that currently precludes attainment of the NAAQS, CSAPR establishes trading programs covering sulfur dioxide ("SO_2") and nitrogen oxide ("NOx") emissions from electric generating units ("EGUs"), including two separate programs addressing annual SO_2 emissions; a program addressing annual NOx emissions; and a program addressing NOx emissions during the ozone season, which runs from May through September. *See* 76 Fed. Reg. at 48271-72. Under each of these programs, EPA established an overall emission budget for each covered state, which is then apportioned among the covered power plants within the state via allowances. *See id.* at 48271, 48284. The plants can either reduce their emissions to meet their allowance budget or purchase allowances from other sources covered by the same relevant CSAPR program, whether or not they are located within the same state. *Id.* at 48271-72. CSAPR thus allows both intra- and inter-state trading. If emissions exceed allowances, a source is liable for penalties. *See id.* at 48296. Further, penalties may be imposed on sources that contribute to a state's exceedance of its "assurance level," which is the sum of the state's emissions allocation plus an additional buffer allocation for emissions variability. *I See id.* at 48294-96.

[16] The D.C. Circuit Court of Appeals remanded the rule to EPA, without vacatur, allowing CAIR to remain in effect until it is replaced by a rule consistent with the Court's opinion. *See North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008), *modifying* 531 F.3d 896 (D.C. Cir. 2008).

This regulatory design seeks to achieve broad regional-scale emissions reductions from power plants. As a matter of course though, CSAPR's trading programs do not prescribe where these emissions reductions will occur within a state. Rather, CSAPR allows individual power plants—including those subject to BART—to buy emissions allowances in lieu of reducing emissions. Thus, CSAPR does not guarantee emissions reductions, or even prevent emission increases, at the plants that cause or contribute to regional haze problems at Class I areas.

Currently, the CSAPR states are subject to the rule's trading programs under FIPs that were finalized along with the rule itself, but States have the option of replacing the FIPs with SIPs. Before the D.C. Circuit Court of Appeals issued its stay, compliance with CSAPR was scheduled to commence on January 1, 2012 for SO_2 and annual NOx reductions and on May 1, 2012 for ozone season NOx reductions. *See* 76 Fed. Reg. at 48211; *EME Homer City Generation, L.P. v. EPA*, No. 11-1302, Order (D.C. Cir. Dec. 30, 2011) (staying CSAPR). On January 1, 2014, CSAPR would impose more stringent requirements to reduce SO_2 emissions for states within the SO_2 Group 1 trading program, which covers those states that EPA determined are the greatest contributors to air quality problems in downwind areas. *See* 76 Fed. Reg. at 48211, 48320.

II. THE PLAIN LANGUAGE OF THE CLEAN AIR ACT PRECLUDES RELIANCE ON CSAPR TO EXEMPT SOURCES FROM BART

EPA cannot consistent with the plain language of the Clean Air Act authorize states to rely on CSAPR to opt out of BART. Nor can EPA satisfy its FIP obligations (as proposed at 76 Fed. Reg. at 82221) by promulgating a FIP that substitutes CSAPR for BART in each state where a haze FIP is required. Under the Clean Air Act, BART is a mandatory measure that must be implemented to achieve reasonable progress toward restoration of natural visibility conditions. Section 169A(b)(2)(A) expressly requires states to adopt SIPs that "contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal . . . *including*" installation and operation of BART at "*each*" BART-eligible source that emits "*any"* air pollutant which may reasonably be anticipated to cause or contribute to "*any*" impairment of visibility in "*any*" Class I area. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A) (emphasis added). The only permissible exemption from BART is expressly set forth in § 169A(c). *See* CAA § 169A(c), 42 U.S.C. § 7491(c). Under § 169A(c), a source can be exempt from BART only if EPA, by rule promulgated with sufficient notice and opportunity for public comment, determines that the source does not either by itself or in combination with other sources "emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory class I federal area." CAA § 169A(c)(1), 42 U.S.C. § 7491(c)(1). Further, EPA cannot exempt a fossil-fuel fired power plant with a design capacity of 750 megawatts or more, unless the owner or operator of the plant can demonstrate that the power plant is located far enough away from the class I areas and "does not or will not" by itself or in conjunction with other facilities cause or contribute to visibility impairment. CAA § 169A(c)(2), 42 U.S.C. § 7491(c)(2). Finally, the appropriate Federal Land Manager or Managers must agree with the exemption before it can go into effect. CAA § 169A(c)(3), 42 U.S.C. § 7491(c)(3).

Thus, EPA's authority to exempt sources from BART is very narrowly defined. Nowhere in Section 169A did Congress contemplate or sanction alternative programs that would operate in lieu of BART. "Where Congress explicitly enumerates certain exceptions to a general prohibition, additional exceptions are not to be implied, in the absence of evidence of a contrary legislative intent." *Andrus v. Glover Constr. Co.*, 446 U.S. 608, 616–17 (1980); *see also TRW Inc. v. Andrews*, 534 U.S. 19, 28 (2001) (quoting same). This follows from the "cardinal principle of statutory construction" that "a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant." *TRW*, 534 U.S. at 31. Neither EPA nor the Courts can read the Clean Air Act in such a way that would render an "express exception . . .insignificant, if not wholly superfluous." *Duncan v. Walker*, 533 U.S. 167, 174 (2001).

In short, there is no statutory authority for EPA to authorize reliance on CSAPR in place of BART as it has proposed to do here. EPA relies on two court decisions as authority for its proposal: *Center for Energy & Economic Dev. v. EPA*, 398 F.3d 653 (D.C. Cir. 2005) ("*CEED*") and *Utility Air Regulatory Group v. EPA*, 471 F.3d 1333, 1340 (D.C. Cir. 2006) ("*UARG*"). However, the force of such holdings has been undermined by subsequent D.C. Circuit decisions. In *North Carolina v. EPA*, 531 F.3d 896, 906-08 (D.C. Cir. 2008), the Court invalidated the CAIR trading program because it failed to conform with the underlying statutory mandate to "measure *each state's* significant contribution to specific downwind nonattainment areas and eliminate them *in an isolated state-by-state manner*." *Id*. at 907 (emphasis added). Likewise here, EPA's BART substitution proposal fails to conform with the Act's express mandate that EPA rules require haze plans to include BART at "each" BART eligible source for the purpose of eliminating or reducing visibility impairment caused or contributed to by *that* source in "any" Class I area. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A). In *NRDC v. EPA*, 571 F.3d 1245, 1255-58 (D.C. Cir. 2009), the Court rejected an EPA attempt to substitute an emissions trading program for the Clean Air Act's express mandate for reasonably available control technology ("RACT") at existing sources in ozone nonattainment areas. EPA claimed its substitution should be allowed because the trading program was estimated to achieve a beyond-RACT degree of control regionally, and would better serve statutory purposes, but the Court said the region-wide approach "did not meet the statutory requirement that the reductions be from sources in the nonattainment area." *Id.* at 1256. Likewise, EPA's region-wide approach here flouts the statutory mandate that "each" BART eligible source causing or contributing to visibility impairment in "any" Class I area must install BART to prevent or reduce such impairment.

More broadly, other decisions post-dating *CEED* and *UARG* have emphasized that the terms "each" and "any" must be given their literal, expansive meanings when used in the Act. *See Massachusetts v. EPA*, 549 U.S. 497, 528-29 (2007) ("repeated use of the word 'any'" in Clean Air Act provision demonstrated that statutory language was "sweeping" in its protective reach); *Sierra Club v. EPA*, 536 F.3d 673, 678 (D.C. Cir. 2008) ("If Congress meant that potentially thousands of permits could be issued without adequate monitoring requirements, then it would not have said *[e]ach permit* ... shall set forth ... monitoring ... requirements to assure compliance with the permit terms and conditions. There can be no doubt about the plain meaning of this phrase. 'Each' means [e]very one of a group considered individually." (internal quotations and citations omitted)); *New York v. EPA*, 443 F.3d 880, 886 (D.C. Cir. 2006) (holding that there

is "no reason why 'any' should not mean 'any'"); *New Jersey v. EPA*, 517 F.3d 574, 582 (D.C. Cir. 2008) (affirming that "[i]n the context of the CAA, the word 'any' has an expansive meaning")(internal quotations omitted)); *NRDC v. EPA*, 489 F.3d 1250, 1257-58 (D.C. Cir. 2007) ("[a]pplying the usual meaning" of "any" under Chevron step one).

For all the foregoing reasons, EPA's proposal to substitute CSAPR for BART violates the plain language of the Act. If *CEED* and *UARG* could be read as authorizing such substitution, those decisions would be in conflict with the plain language of the Act, and therefore in error. The Act does not allow EPA's rules to waive the statutory mandate for BART at "each" BART-eligible source based on a claim that other control methods will achieve greater reasonable progress on average. *See also* CAA § 169A(a)(4), 42 U.S.C. § 7491(a)(4) (requiring EPA's haze rules to "assure (A) reasonable progress…., *and* (B) compliance with the requirements of this section," requirements that include BART as a separate mandate (emphasis added)).[17]

III. EPA CANNOT RELY ON A RULE THAT IS NOT IN EFFECT TO SUBSTITUTE FOR BART

EPA cannot rely on CSPAR as a BART alternative because CSAPR's future is uncertain. CSAPR is the subject of a legal challenge, and on December 30, 2012, the D.C. Circuit Court of Appeals issued an order staying implementation of the rule. *See* Order, *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. Dec. 30, 2011). EPA cannot finalize a better-than-BART rule and several implementing FIPs on the strength of a regulation that has been temporarily enjoined and that is therefore not in effect.

To reduce the air pollution that contributes to haze, the CAA requires each state to include in its SIP "a requirement" that certain major stationary sources "shall procure, install, and operate . . . the best available retrofit technology."[18] CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A); 40 C.F.R. § 51.308(e). As discussed above, substituting a trading program for BART requirements is contrary to the statute, but to the extent EPA seeks to rely on an "alternative" program in place of BART, that program must constitute a "requirement" as well. So long as CSAPR is stayed, it cannot qualify as a requirement that could apply in place of BART.

Further, all elements of any FIP imposed by EPA must be enforceable. *See* CAA

[17] The *CEED* opinion erroneously states that the addition of § 169B in 1990 "clarified" that the focus of the Act "was to achieve 'actual progress an improvement in visibility,' 42 U.S.C. § 7492(b), not to anoint BART the mandatory vehicle of choice." 398 F.3d at 660. This assertion reads far more into § 169B(b) than the language of that subsection can possibly bear, as the provision merely directs EPA to assess and report to Congress the actual progress and improvement in visibility in Class I areas. It does not amend or limit the Act's pre-existing BART mandate, much less suggest that progress goals can supplant that mandate. Indeed, elsewhere in § 169B, Congress reinforced the BART mandate by directing EPA to "carry out the Administrator's regulatory responsibilities under section 7491 of this title," the section that includes the BART mandate. 42 U.S.C. § 7492(e)(1). Likewise, there is nothing in § 169B's authorization of visibility transport regions and commissions to suggest authority to waive the BART mandate, as *CEED* erroneously implies.

[18] Clean Air Act § 169A requires SIP revisions for each state that either (a) has within its borders a Class I area that has been designated by the Secretary of the Interior as an area where visibility is an important value or (b) is reasonably anticipated to cause or contribute to visibility impairment in such a Class I area in another state. *See* CAA § 169A(b)(2), 42 U.S.C. § 7491(b)(2).

§§ 110(a)(2)(A), (C), 42 U.S.C. §§ 7410(a)(2)(A), (C) (requiring haze plans to include "enforceable emissions limitations" and "to provide for the enforcement of" all adopted measures in the plan). Thus, EPA cannot rely on CSAPR while a stay renders the program's requirements unenforceable.

Given the pressing need to finalize regional haze plans around the country and to put all states on course to achieving Congress' visibility goals, which have now languished for decades, it is reckless for EPA to propose reliance on CSAPR in place of BART. Unless the program is upheld in its entirety, EPA will be obliged to revisit the many plans that seek to rely on CSAPR. Even if CSAPR is upheld, it is unclear how long it will take for ongoing litigation to play out in the Courts, and in the meantime, haze plans in as many as 28 states could be stalled because they rely on CSAPR as a substitute for BART. For this practical reason alone, EPA should abandon its "better than BART" approach and associated FIP proposals.

IV. EPA HAS NOT ATTEMPTED TO SHOW THAT CSAPR AS REVISED CAN SUBSTITUTE FOR BART

EPA recently finalized revisions to CSAPR, but has yet to evaluate whether, in light of these changes, CSAPR can be deemed better than BART. Earlier this month, EPA finalized revisions that: (1) change the state budgets and assurances levels for Florida, Louisiana, Michigan, Mississippi, Nebraska, New Jersey, New York, Texas, and Wisconsin; (2) alter the new unit set-asides in Arkansas and Texas; and (3) delay implementation of the assurance penalty provisions until January 1, 2014. *See* Revisions to Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone, 77 Fed. Reg. 10324 (Feb. 21, 2012). These recent revisions all weaken CSAPR, further undermining EPA's dubious conclusion that CSAPR is better than BART. As should be clear, EPA cannot determine if CSAPR is better than BART until EPA has considered what CSAPR actually and currently requires.

V. EPA CANNOT CONCLUDE THAT CSAPR ACHIEVES GREATER REASONABLE PROGRESS THAN BART WITHOUT REFERENCE TO EACH STATE'S REASONABLE PROGRESS GOALS

EPA's proposed better-than-BART finding is improper because it looks at BART in isolation, without reference to or consideration of the reasonable progress goals that BART and all of the other measures incorporated into regional haze plans are intended to achieve. EPA's proposal states that the Agency will act on reasonable progress goals (and other regional haze requirements) "for each state in an individual notice at or after the time of the final rule for this action." 76 Fed. Reg. 82219, 82221 (Dec. 30, 2011). Further, EPA will not disapprove any 2018 reasonable progress targets. Without defining or even referencing those goals, EPA cannot reasonably conclude that CSAPR achieves reasonable progress at all, much less greater reasonable progress than BART under 40 C.F.R. § 51.308(e)(3).

Achieving reasonable progress is the fundamental objective that must be met by regional haze SIPs or FIPs. *See* 40 C.F.R. § 51.308(d)(1) (listing the reasonable progress goals as a core requirement of the regional haze plan); *see also UARG*, 471 F.3d at 1340 (explaining that the regulatory scheme places reasonable progress at its center, and state regional haze plans must

contain sufficient measures to achieve reasonable progress). Thus, each statewide regional haze plan must contain regional progress goals, which are set based on the uniform rate of progress to attain natural visibility conditions by 2064, and each plan must prescribe the immediate and long term strategy measures, including BART, that are necessary to meet those progress goals. *See* 40 C.F.R. §§ 51.308(d)(1) & (3); *id.* § 51.308(e). Because BART is critical to the state's ability to reach its reasonable progress goals, EPA cannot exempt sources from BART without considering how the exemption will affect the overarching reasonable progress mandate. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A). Concluding that CSAPR achieves greater reasonable progress toward achieving natural visibility conditions than BART without regard to defined reasonable progress goals is arbitrary and contrary to law under the Clean Air Act and implementing federal regulations.

Failure to consider the impact of the proposed BART exemption is most obviously improper in instances where states expressly relied on emissions reductions consistent with presumptive BART to meet reasonable progress goals. As the U.S. Forest Service ("USFS") has made clear in comments to EPA on the current proposal:

> [W]hile EPA states "we believe that the reasonable progress goals in the SIPs for the states addressed in this proposed action do not need to be revised by the states at this time or replaced by goals established by us via FIPs," the reality is that the allowance for creation of visibility "hot spots" through the application of the Transport Rule as a BART alternative creates inconsistencies where the established reasonable progress goals relied upon presumptive BART levels. We do not agree that progress goals would not need to be revised under this rulemaking.[19]

VI. EPA CANNOT DEMONSTRATE THAT CSAPR YIELDS SURPLUS EMISSIONS REDUCTIONS

EPA's reliance on CSAPR also fails at the outset because CSAPR cannot supply emission reductions for purposes of the regional haze program that are additive to what other programs of the Clean Air Act already require. Under 40 C.F.R. § 51.308(e)(2)(iv), a state that seeks to use an alternative program in lieu of BART must demonstrate not only that the alternative achieves greater reasonable progress toward reaching natural visibility conditions at Class I areas but also that "the emission reductions resulting from the emissions trading program or other alternative measure will be *surplus* to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP." EPA cannot make this showing when adopting CSAPR FIPs or promulgating a regulation allowing states to adopt SIPs that rely on CSAPR in lieu of BART. CSAPR was adopted prior to EPA's issuance of this better-than-BART proposal, and it is slated to achieve emissions reductions in 2012, well in advance of the 2014 baseline date for the proposed FIPs and in advance of any SIPs that may seek to rely on CSAPR as an alternative to BART. Moreover, under Sections 110(a)(1) and

[19] United States Forest Service Comments on Better than BART NPRM ("USFS Comments") at 1 (Nov. 28, 2011). The USFS Comments on EPA's Draft Notice of Proposed Rule Making were obtained on February 28, 2012 in response to a Freedom of Information Act request. These comments are incorporated by reference herein and attached as Attachment 1.

(a)(2)(D)(i) of the Act, states were required to adopt SIPs by the year 2000—3 years after promulgation of the 1997 ozone and PM NAAQS—to prohibit emissions from within the state from contributing significantly to nonattainment or interference with maintenance by any other state with respect to such NAAQS. Thus, any emission reductions that were required to meet that mandate cannot be credited toward the calculation of "greater" reasonable progress attributed to CSAPR. Because CSAPR cannot possibly satisfy the surplus emissions requirement of § 51.308(e)(2)(iv), EPA's proposal is necessarily inconsistent with its own governing regulations.

Similarly, because BART can produce greater visibility improvement than CSAPR at one or more Class I area (*see* Section VII.A, *infra*), the proposed rule violates 40 C.F.R. § 51.308(d)(1)(vi), which establishes that a state may not adopt a progress goal that represents less visibility improvement than would be expected from complying with requirements under the Clean Air Act, including BART. *See also* USFS Comments at 14-15 (explaining that EPA cannot adopt the proposed rule because it would sanction the adoption of reasonable progress goals that provide less visibility improvement than BART in contravention of 40 C.F.R. § 51.308(d)(1)(vi)).

VII. EPA HAS NOT DEMONSTRATED THAT CSAPR IS BETTER THAN BART

Putting aside the problem that CSAPR cannot substitute for BART for all of the reasons stated above, EPA has not provided a credible demonstration that CSAPR can achieve greater reasonable progress than BART under the relevant regulatory test set forth at 40 C.F.R. § 51.308(e)(3). The test provides that where, as here, the distribution of emissions under BART and the alternative are substantially different, the entity proposing to rely on a BART-alternative must conduct dispersion modeling to show the difference in visibility under each program for each impacted Class I area on the worst and best 20 percent of days. *See id.; see also* Technical Support Document for Demonstration of the Transport Rule as a BART Alternative ("TSD"), EPA Dkt. No. EPA-HQ-OAR-2011-0729, at 3 (explaining that the distribution of emissions is different under CSAPR and BART). The modeling will demonstrate greater reasonable progress only if: (1) "visibility does not decline in any Class I area;" and (2) "[t]here is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas." 40 C.F.R. § 51.308(e)(3)(i)-(ii).

A. EPA Improperly Averaged Visibility Impacts Based on Emission Reductions at All Sources Across All Class I Areas

Under the pre-existing regulations that purport to allow for implementation of alternative programs in place of BART, an agency seeking to impose an alternative to source-specific BART must demonstrate that "the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART *at all sources subject to BART in the State* and covered by the alternative program." 40 C.F.R. § 51.308(e)(2)(i) (emphasis added). This demonstration requires that the entity proposing the alternative calculate BART and the emission reductions achievable from BART at *each* BART-eligible source that would be covered by the alternative. *Id.* § 51.308(e)(2)(i)(C); *see*

also Am. Corn Growers Ass'n v. EPA, 291 F.3d 1 (D.C. Cir. 2002) (expressly requiring states, in determining what constitutes the best available retrofit control, to engage in a source-by-source analysis of the visibility impacts achievable from application of BART); 40 C.F.R. § 51.309(d)(2) (explaining that where a state within the Grand Canyon Visibility Transport Region elects to adopt the Grand Canyon Visibility Commission's recommendations for the region in lieu of complying with the requirements, including BART, under § 51.308, it must submit a plan to EPA that projects visibility conditions at *each* of the 16 Class I areas in the transport region, based on consultation with other transport region states). As the Forest Service has affirmed in its comments to EPA, "[T]he appropriate analysis technique should limit the geographic scope of both 'affected' Class I areas and modeled emissions relative to each state as is implied in 40 C.F.R. § 51.308(e)(3)." USFS Comments at 1 Thus, to be consistent with its existing rules, EPA must determine whether a given program is better than BART on a state-by-state basis based on a source-by-source five-step BART analysis, a requirement the agency has arbitrarily refused to follow as it steps into the shoes of the states.

The failure to look at CSAPR versus BART on a state-by-state basis precludes leaves states that intend to opt out of BART in reliance on CSAPR without the requisite showing that CSPAR is "better than BART." *See id.* at 7 (explaining that "[f]rom a regulatory perspective," EPA should look at impacts of the alternative as would the states because the rule allows the states to opt out of the individualized analysis). "Because this rulemaking essentially allows for the interpretation that the Transport Rule is a BART alternative program that a State may opt to participate in and rely upon to satisfy the 308(e) requirements, the dispersion modeling conducted by EPA should have identified the 'affected' Class I areas relative to each State in the Transport region rather than simply looking at the aggregate across each 'affected' scenario that was analyzed." *Id.*

In fact, the failure to look across all Class I areas on a state by state basis poses a serious threat to visibility in Class I areas. As discussed below, by averaging results across the entire United States, EPA was able to ignore CSAPR's inferiority to BART at many Class I areas.

1. Averaging Visibility Impacts Across the Entire United States or Within Regions Masks CSAPR's Failure to Achieve Greater Reasonable Progress at Many Class I Areas in Many States

Instead of evaluating whether CSAPR achieved greater reasonable progress than BART on a state-by-state, source-by-source basis, EPA approached the second prong of the reasonable progress test, 40 C.F.R. § 51.308(e)(3)(ii)—which asks if the alternative provides greater visibility improvement at all affected class I areas—by spatially averaging the visibility reductions seen under each program across all Class I areas in the CSAPR region and all Class I areas the nation. Averaging across this expansive area masks the failure to obtain greater visibility improvements that are possible with the application of BART both regionally and state by state.

For example, EPA's own modeling analysis shows that "Nationwide BART"[20] scenario provides greater visibility improvement than the alternative "Transport Rule + BART-elsewhere" scenario in many Class I Areas across an entire region.[21]

Table 1. Class I Areas Where EPA's Modeling Shows "Nationwide BART" to Have Greater Visibility Improvement Compared to the "Transport Rule + BART-elsewhere"

Class I Area	Best 20% Days	Worst 20% Days
Badlands National Park		X
Bandelier National Monument		X
Caney Creek Wilderness	X	
Hercules-Glades Wilderness	X	
Salt Creek Wilderness	X	
San Pedro Parks Wilderness		X
Theodore Roosevelt National Park		X
Upper Buffalo Wilderness	X	
White Mountains Wilderness	X	
Wind Cave National Park	X	X

See D. Howard Gebhart, Expert Report: Technical Review of US Environmental Protection Agency Dispersion Modeling Supporting the "Transport Rule is Better than BART" Analysis 7-9 & Table 3-1 (Feb. 21, 2012) (hereinafter, "the Gebhart Report") [Attachment 2].

All of these Class I areas that EPA's modeling predicted would experience better visibility improvement under Nationwide BART are west of the Mississippi River, covering much of the central plains. *Id.* Yet, because EPA chose to look at spatial averages across all Class I areas in the CSPAR region, EPA ignored the fact that CSAPR is decidedly not better than BART in many affected Class I Areas in many states. In other words, EPA's approach sacrifices progress on visibility in the central plains,[22] a result the USFS forecast to EPA. *See* USFS Comments at 8 ("The net effect of this proposal creates subregions within the Transport Rule domain where emissions reductions under CSAPR would be significantly less than under BART," including those in the "Mississippi-West" subregion where the USFS predicts that "the Transport Rule domain will have SO_2 emissions 164% greater under CSAPR than would have been assumed by presumptive BART.").

[20] The "Nationwide BART" scenario estimated the effect of applying BART controls at specific BART-eligible source across the entire nation, including sources in the CSAPR region in the east and sources in the non-CSAPR region in the west.

[21] EPA's "Transport Rule + BART-elsewhere" scenario estimated the effect of relying on CSAPR, or the Transport Rule, in CSAPR states, yet applying BART at BART-eligible sources outside of the CSAPR region.

[22] It is not surprising that visibility in the central plains will suffer if CSAPR is substituted for BART; emission allocations under CSAPR were allotted based on the impact that each state had on the ability of downwind states in the CSAPR region, which is predominantly east of the central plains, to attain and maintain the fine particulate and ozone NAAQS. For this reason, certain CSAPR border states such as Nebraska and Minnesota, which were found to impact attainment in only one county in Wisconsin, are able to emit more than other CSAPR states, sacrificing visibility conditions west of the CSAPR region. *See* U.S. EPA, Cross-State Air Pollution Rule (CSAPR), Where You Live, http://www.epa.gov/airtransport/whereyoulive.html (showing that emissions from Nebraska and Minnesota are only linked to nonattainment at one point in Wisconsin).

The above example illustrates how spatial averaging can be used to manipulate conclusions as to whether CSAPR is better than BART. For example, if EPA chose to average visibility at the 27 Class I areas west of the Mississippi River but east of the Rocky Mountains—areas that for practical purposes should be considered separately from the eastern scenario because they react differently to sulfate aerosols—EPA would have found based on its own data that Nationwide BART is superior to the "Transport Rule + BART-elsewhere" on the best 20% days. *See* Gebhart Report at 8-9 & Table 3-2. Again, the USFS confirms this point, stating that "BART controls for SO_2 are an essential component to meeting the subregional progress goals for the Class I areas in and surrounding the 'Mississippi-West' subregion." USFS Comments at 9.

This problem in the "Mississippi-West" region underscores the importance of evaluating the performance of alternative programs as compared to BART across a more limited geographic area—*i.e.* on a state-by-state basis as governing regulations require. EPA cannot discount the many instances in which BART yields greater progress toward visibility goals than CSAPR by averaging visibility impacts across the entire CSAPR region, much less the entire country. Instead, EPA must determine whether a given program is better than BART on a state-by-state basis having considered what an alternative would achieve in the way of emissions reductions relative to BART at each relevant source. Not only has EPA failed to undertake this analysis, any such appropriate analysis would preclude the conclusion that CSAPR is better than BART, as the above examples confirm. EPA offers no lawful or reasoned explanation for departing from the approach required in its existing rules, nor can it do so.

2. Arithmetic Averaging Cannot Accurately Demonstrate Whether CSAPR Provides Greater Visibility Benefits than BART

EPA also improperly used a simple arithmetic mean to conclude that visibility improvements in the aggregate would be greater under CSAPR than BART per 40 C.F.R. § 51.308(e)(3)(ii). Whether improperly averaging across all the affected Class I areas or doing so in connection with a state-by-state evaluation, relying on an arithmetic mean is likely to misconstrue progress by heavily weighting outlier results such as large emissions reductions at a single area. In other words, significant improvements in a small number of Class I areas—even on just a few days each year—have apparently skewed EPA's averaging to yield a conclusion that visibility is improving notwithstanding lackluster progress in a majority of Class I areas. EPA's analysis must correct for this fundamental problem.

B. EPA's Analysis Fails to Compare the Proper BART Scenario to the Proposed Alternative

EPA's analysis suffers from an overarching flaw: it proceeds as if CSAPR were developed only to serve as a BART alternative, ignoring the fact that CSAPR programs will be implemented regardless of BART.[23] Thus, EPA compared a "Nationwide BART" scenario[24] that

[23] Any discussion of the method EPA has used to determine whether CSAPR is better than BART must proceed as if CSAPR has been upheld. Thus, for the purpose of comments on EPA's methodology, we assume that CSAPR will

does not account for any emissions reductions due to CSAPR, to the "Transport Rule + BART elsewhere" scenario,[25] estimating the emissions in each scenario based on a base case that likewise does not account for CSAPR.[26] Because CSAPR is mandated under § 110 of the Clean Air Act, EPA's "Nationwide BART" scenario is pure fiction; CSAPR and BART will operate simultaneously unless EPA approves this proposal to rely solely on CSAPR.

By failing to take account of any emission reductions from CSAPR in the "Nationwide BART" scenario, EPA arbitrarily and unlawfully rewards the "Transport Rule + BART-elsewhere" scenario for accomplishing emission reductions associated with the status quo, while punishing "Nationwide BART" scenario for failure to keep up with the status quo. Where the alternative to BART is itself mandated to meet the requirements of the Clean Air Act, the pertinent question under the reasonable progress test must be whether the mandated program will achieve more than what is necessary to fulfill its own obligations such that it can achieve better visibility gains in Class I areas than BART. Isolating visibility improvements under CSAPR and making a comparison to improvements from nationwide BART in the absence of CSAPR is an artificial enterprise that ignores the requirements of Clean Air Act § 110. EPA cannot read either Section 110 or Section 169A out of the statute but must give all statutory provisions their effect. *See TRW*, 534 U.S. at 31 (explaining that it is "a cardinal principle of statutory construction" that "a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant") (quoting *Duncan v. Walker*, 533 U.S. 167 (2001); *see also United States v. Menasche*, 348 U.S. at 538–39 ("It is our duty 'to give effect, if possible, to every clause and word of a statute.'") (quoting *Montclair*, 107 U.S. at 152 (1883).

Thus, to correct for the fact that CSAPR is independently required, EPA must compare a CSPAR-only scenario to a scenario where BART applies in concert with CSAPR as would be the case if EPA abided by the mandate of both programs.[27] This comparison would allow EPA to determine whether BART would achieve aggregate visibility benefits above and beyond what CSAPR will achieve, or whether the emissions reductions from CSPAR by itself overwhelm any potential incremental benefit from BART.[28]

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apply as per the final CSAPR rulemaking. However, as discussed in Section III, *supra*, given the legal challenge and the stay, CSAPR is not a viable BART alternative.

[24] For a discussion of the "Nationwide BART" scenario, *see* note 20, *supra*.

[25] For a discussion of the "Transport Rule + BART-elsewhere" scenario, *see* note 21, *supra*.

[26] Additional issues with the base case that skew the analysis in favor of CSAPR when EPA improperly compared BART without CSAPR to CSAPR are described in Section VII.J, *infra.*

[27] The better than BART rule is focused on whether CSAPR can substitute for BART in the CSAPR region, thus BART will always apply in the non-CSAPR region. Given this reality, emissions reductions from BART in the non-CSAPR states can be placed in the base case. However, the analysis in these comments simply corrects for the primary flaw, ensuring that Nationwide BART is never evaluated in the absence of CSAPR.

[28] Because CSAPR was scheduled to come online at the beginning of 2012, CSAPR reductions are part of the status quo and could have been included in the 2014 base case. However, adding CSAPR to the 2014 base case could make it difficult to determine whether the "Transport Rule + BART-elsewhere" scenario will cause a decline in visibility over the 2014 base case. Using an artificial base case that does not include CSAPR reductions is thus appropriate to isolate what CSAPR and BART in the CSAPR region each incrementally achieve in the way of visibility improvements. *Cf.* USFS Comments at 14 ("EPA, by analyzing the BART-alternative emissions as the same emission year relative to the modeled future baseline conditions in the absence of any BART or alternative program control requirements, . . . seemingly creates a guaranteed 'no degradation' test.").

Looking at the emission reductions achieved from applying BART at the sources EPA assumed were subject to BART per the "Nationwide BART" scenario and from CSAPR at the sources EPA assumed were not subject to BART per the "Transport Rule + BART-elsewhere" scenario, it is highly unlikely that EPA could show that CSAPR provides advantages over CSAPR combined with BART. As the summary table below demonstrates, the correct BART + CSAPR scenario would further reduce NOx emissions by 80,886 tons per year compared to EPA's "Transport Rule + BART-elsewhere" scenario, while reducing SO_2 emissions by an additional 625,913 tons per year.[29]

Table 2. Comparison of proper BART + CSAPR Scenario to "Transport Rule + BART-elsewhere" and "Nationwide BART" Scenarios[30]

Scenario	Emissions, NOx Tons/yr	Emissions, SO_2 Tons/yr
TR + BART Elsewhere	1,671,352	2,784,271
BART + CSAPR	1,590,466	2,158,358
Difference	**80,886**	**625,913**
Nationwide BART	1,712,505	3,696,304
BART + CSAPR	1,590,466	2,158,358
Difference	**122,038**	**1,537,946**

Likewise, on a statewide basis, the alternative BART + CSAPR scenario produces better results than the "Transport Rule + BART-elsewhere" scenario. For example, the Conservation Organization's Technical Support Attachment to Earthjustice's Comments on the Proposed Approval of the Minnesota State Implementation Plan for Regional Haze ("Minnesota Technical Support")[31] compared the subset of *BART-subject* EGUs in Minnesota under the Nationwide BART scenario to EPA's CSAPR emissions projections for the same units to estimate whether CSAPR alone can accomplish both its own goals and those of the regional haze program.[32] Because it is reasonable to assume that CSAPR emissions predictions for non-BART-subject EGUs will be similar under both the CSAPR scenario and the Nationwide BART scenario at

[29] The alternative BART + CSAPR scenario is only an estimate as it is difficult to create a new emissions scenario reflecting BART at all BART-subject units plus CSAPR at all non-BART-subject units without running the Integrated Planning Model to project EGU utilization and pollution control decisions. However, this scenario—which simply adds emission reductions predicted in EPA's modeling of BART at the sources EPA assumed were BART-subject in the Nationwide BART scenario plus CSAPR at the sources EPA did not assume were subject to BART per EPA's modeling of the Transport Rule + BART-elsewhere scenario—provides a reasonable estimate of the emissions reductions in the preferred BART + CSAPR scenario.

[30] The input values supporting the alternative BART + CSAPR scenario are included in Table 1-2, which is filed concurrently herewith.

[31] *See* Minnesota Technical Support at 18-20. Earthjustice's comments and the Technical Support Attachment, which were submitted on behalf of National Parks Conservation Association, the Minnesota Center for Environmental Advocacy, the Friends of the Boundary Waters Wilderness, Voyageurs National Park Association, and the Sierra Club, were filed on February 24, 2012 in Docket No. EPA-R05-OAR-2010-0037. Those comments and the Technical Support Attachment are incorporated by reference herein.

[32] The Technical Support Attachment recognized the difficulty of predicting emissions without running the Integrated Planning Model. Nonetheless, this example gives an estimate of whether CSAPR + BART will reduce emissions over CSAPR alone, thereby providing for greater reasonable progress than CSAPR.

non-BART eligible sources, it follows that CSAPR + BART will be better than CSAPR alone if BART provides greater emissions reductions than CSAPR at BART-subject sources. To this point, Table 3 below demonstrates that BART would result in significantly fewer emissions at BART-subject units than the emissions EPA projected for those units under CSAPR.

Table 3. Comparison of EPA's Emission Projections under the "Nationwide BART" Scenario to EPA's Emission Projections under the "Transport Rule + BART-elsewhere" Scenario Only For the EGUs Determined to be Subject to BART in Minnesota.

Plant Name	Unit ID	EPA's Projected 2014 SO_2 Emissions from "Nationwide BART," tons[33]	EPA's Projected 2014 SO_2 Emissions from "Transport Rule + BART-elsewhere," tons[34]	EPA's Projected 2014 NOx Emissions from "Nationwide BART," tons[35]	EPA's Projected 2014 NOx Emissions from "Transport Rule + BART-elsewhere," tons[36]
Clay Boswell	3	884	884	991	991
Sherburne County	1	1,504	7,822	3,761	4,713
Sherburne County	2	1,462	7,604	3,656	4,582
Silver Bay Power	BLR 2	2,490	2,490	566	597
Silver Lake	4	265	229	236	238
Taconite Harbor	3	605	604	415	846
BART-Subject Totals		***7,210***	***19,633***	***9,625***	***11,967***

The emissions projections in Table 3 above are EPA's emissions projections for the BART-subject EGUs in Minnesota under EPA's Nationwide 2014 Emissions Scenario and its CSAPR Plus BART Elsewhere 2014 Scenario. No revisions were made to EPA's BART emission estimates in Table 3, from which it is clear that EPA's emission projections show much greater pollutant reductions with BART than with CSAPR. For SO_2, EPA's CSAPR emissions scenario results in more than twice the emissions represented in EPA's Nationwide BART

As the above examples show, BART provides benefits over CSAPR at the BART-eligible units. Thus, a proper analysis comparing CSAPR + BART to CSAPR alone would not allow EPA to conclude that substituting CSAPR for BART would result in greater reasonable progress at the Class I areas.

[33] From EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[34] From EPA's CSAPR+BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[35] From EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[36] From EPA's CSAPR+BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

C. EPA's Arbitrary Modeling Assumptions Preclude a Finding that CSPAR Is "Better than BART"

1. EPA Unlawfully Assumed that SO_2 BART Controls Would Only Apply to EGUs with Greater than 100 MW Generating Capacity

EPA stated that "it was assumed that the threshold for BART-eligibility was 100 MW for SO2 and 25 MW for NOx and no sources were eliminated based on their annual total emissions. Appendix A lists the EGUs that were assumed to be BART-subject for the purpose of this analysis." *See* TSD at 4. In our review of EPA's assumed SO_2 emission rates below, it was assumed that all EGUs listed in Appendix A of EPA's Technical Support Document for Demonstration of the Transport Rule as a BART Alternative were assumed to be BART-subject in EPA's analysis, as stated in the Technical Support Document and at Appendix A. However, to the extent that EPA may argue that it only assumed EGUs over 100 MW in generating capacity were subject to BART for SO_2, the application of such a generating capacity threshold is arbitrary and unjustified. The only size limitation on BART-eligibility is for fossil-fuel fired steam electric plants, which must have more than 250 million British thermal units per hour heat input, which is approximately equivalent to about 25 MW generating capacity.[37] *See* CAA §§ 169A(b)(2), (g)(7), 42 U.S.C. §§ 7491(b)(2), (g)(7); *see also* 40 C.F.R.§51.301 (defining "existing stationary facility" and "BART-eligible source"). Nowhere in the statute or the implementing regulations is BART-eligibility limited to units less than 100 MW for SO_2. In fact, all visibility impairing pollutants from a source are modeled together to determine whether the source is subject to BART.

In fact, there are several examples of units of less than 100 MW generating capacity that have been determined to be subject to BART, and that have been required to install SO_2 scrubbers to comply with BART. For example, Silver Bay Boiler 2 in Minnesota, which impairs visibility more than any other BART-eligible EGU in the state,[38] only has a generating capacity of 69 MW. Silver Lake Unit 4 in Minnesota, which has a generating capacity of 59.2 MW, was also determined to be subject to BART and required to install a scrubber to comply with BART.[39] Martin Drake Unit 6 in Colorado has a generating capacity of 77 MW and was determined to be subject to BART and required to install a new spray dryer to meet BART.[40] Based on the foregoing, it is improper for EPA to impose a 100 MW generating capacity floor on SO2 BART, a flaw that renders EPA's Nationwide BART 2014 emissions scenario arbitrary and unlawful.

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[37] Based on an assumed heat rate of 10,000 Btu/kWhr.

[38] *See* December 2009 Minnesota Regional Haze State Implementation Plan, Table 9.2 (at 68), *available at* http://www.pca.state.mn.us/index.php/air/air-quality-and-pollutants/general-air-quality/minnesota-regional-haze-plan.html).

[39] *Id.* Table 9.4 (at 71).

[40] *See* Colorado Visibility and Regional Haze State Implementation Plan for the Twelve Mandatory Class I Federal Areas in Colorado, Approved January 7, 2011, Table 6-2 (at 43), *available at* http://www.cdphe.state.co.us/ap/RegionalHaze/RHSIPFINAL07JAN2011.pdf).

2. EPA Discounted the Visibility Improvements in the Nationwide BART Scenario by Relying on Presumptive BART

EPA analyzed whether CSAPR is better than BART without conducting individual BART determinations for affected coal plants. Instead, the agency assumed that presumptive BART for SO_2 and NOx represents BART, unless an actual emission rate at a given unit with existing controls is lower. *See* 76 Fed. Reg. at 82225; TSD at 4-5.[41] However, as discussed above, pre-existing regulations require EPA to analyze what controls would be imposed as BART at each BART-eligible source to be covered by an alternative program. *See* 40 C.F.R. § 51.308(e)(2)(i)(C); *see also* Section VII.A., *supra*. Relying on presumptive BART is not consistent with this regulatory requirement. Again, EPA offers no lawful or rational justification for departure from this requirement.

The "presumptive BART" emission limits for EGUs included in EPA's BART Guidelines were based on EPA's broad review of the control technologies and emission limits that could be met cost effectively at a wide range of coal-fired power plants. *See* Sections IV.E.4 and 5 of the BART Guidelines in 40 C.F.R. Part 51, Appendix Y. Presumptive limits are not *de facto* BART standards; they do not meet the minimum requirements for BART that federal law mandates and do not negate the need for a case-by-case five-factor analysis for each BART source. *See* Partial Approval and Partial Disapproval of Arkansas Regional Haze SIP, advance notice of final rulemaking at 21 ("the RHR and BART Guidelines do not exempt states from a five factor BART analysis"). For this reason, EPA recently disapproved Arkansas's SO_2 and NOx BART determination for AEP Flint Creek Boiler No. 1 and Entergy White Bluff Plant Units 1 and 2, even though the BART determination met the presumptive BART limits. As EPA explained, it was under no obligation to approve presumptive BART where the state had not conducted an individual analysis and the presumptive BART controls did not reflect the best controls available at Arkansas's subject to BART sources. *See id.* at 18-67, 79; *id.* at 23 ("EPA reiterates that the RHR and the BART Guidelines make clear that the presumptive limits are rebuttable and may not necessarily be the appropriate level of control for all EGUS. Therefore, EPA is not required to approve every BART determination that meets the presumptive emission limits, especially when there is no analysis that supports the state's decision in adopting the presumptive limit instead of a more or less stringent emission limit.").

Reliance on presumptive BART is not only procedurally improper, it also skews EPA's alternatives analysis in favor of CSAPR. Actual BART determinations are often one half or one third of the presumptive limits, given the demonstrated ability of available air pollution control technology to reduce emissions at increasingly high levels of control efficiency. For example, EPA partially approved Oklahoma's SIP and issued a partial FIP for Oklahoma adopting SO_2 BART limits of 0.06 lb/MMBtu for several EGUs, a control that is 60% lower than presumptive BART of 0.15 lb/MMBtu that applies to scrubbed units that achieve less than 95% efficiency. *See* 76 Fed. Reg. 81728, 81730 (Dec. 28, 2011) (adopting the 0.06 lb/MMByu SO_2 limit for Units 4 and 5 of the OG&E Muskogee plant, Units 1 and 2 of the OG&E Sooner plant, and Units 3 and 4 of the AEP/PSO Northeastern plant). For unscrubbed units, presuming that SO_2 BART limits will be commensurate with installing a scrubber with 95% efficiency likewise underrepresents BART; modern scrubbers today reduce SO_2 emissions by 99%. *See* Proposed

[41] As discussed in the following section, EPA did not follow its own rules regarding presumptive BART.

Rule, 76 Fed. Reg. 16168, 16188 (March 22, 2011) (EPA Region 6 partial approval of Oklahoma SIP; noting that according to an industry contractor, "[w]et scrubbing is the predominant technology for large-scale utility applications in most parts of the world").[42] Similarly, EPA has required emission limits that go beyond NOx limits imposed as presumptive BART. Table 2-1 in the Technical Support Document sets forth the presumptive BART NOx emission limits based on boiler configuration, and the lowest limit, imposed on cyclone boilers firing bituminous, subbituminous, or lignite coal, was 0.10 lbs/MMBtu. Yet EPA has required San Juan Units 1-4 to install SCR and meet a NOx limit of 0.05 lb/MMBtu on a 30-day operating average. 76 Fed. Reg. 52388, 52388 (Aug. 22, 2011). EPA also has proposed to require SCR to meet BART at Milton R. Young Units 1 and 2 and Leland Olds, to meet a NOx rate of 0.07 lbs/MMBtu on a 30 boiler operating day average. *See* 76 Fed. Reg. 58570, 58599, 58647 (Sept. 21, 2011). These requirements and limits, which represent BART based on EPA's own source-specific analyses, go well beyond EPA's presumptive NOx BART limits.

Because sources often are subject or should be subject to BART limits significantly more stringent than presumptive BART limits, reliance on presumptive BART arbitrarily short-changes the visibility benefits that could be realized by installing and operating controls that are genuinely representative of BART. Indeed, EPA's own analysis acknowledges the reality that presumptive BART is often less stringent than actual BART—i.e., EPA did not rely on presumptive BART where actual emissions at a unit with existing controls were lower than presumptive BART.

In addition, source-specific BART limits take into account the remaining useful life of emission units. *See, e.g.*, CAA § 169A(g)(2), 42 U.S.C. § 7491(g)(2). For many emission units, owners may choose to retire a source instead of complying with requirements for BART control technologies. In effect, those units would have a BART emission rate of zero not only for SO_2 and NOx but also for direct PM2.5 and ammonia. EPA completely failed to consider this potential.

For all of these reasons, EPA acted arbitrarily in assuming that presumptive BART would be found adequate where BART determinations have yet to be made. In failing to evaluate BART and the associated emissions reductions achievable for each source within the CSAPR

[42] Other technical sources likewise indicate that modern scrubbers can achieve SO_2 reduction efficiencies up to 99%. *See, e.g.*, Sargent & Lundy LLC, Wet Flue Gas Desulfurization Technology Evaluation, Project No. 11311-001 §§ 1.3.1-.2, at 10 (May 2006) (explaining that "[r]ecent contracts for LSFO [Limestone Forced Oxidation or conventional wet scrubber] technology in the US market have included guarantees of 99%," and that "MEL [Magnesium Enhanced Lime] forced oxidation systems have achieved a better level of performance than the LSFO process, with SO_2 removal efficiencies between 98% and 99% in power plants also firing a variety of high- and low-sulfur coals") [Attachment 3]; Kevin Smith, William Booth, & Stephane Crevecoeur, Evaluation of Wet FGD Technologies to Meet Requirements for Post CO_2 Removal of Flue Gas Streams, Mega Paper No. 49 (2008) [Attachment 4]; Chuck Dene, Lesley A. Baker & Robert J. Keeth, FGD Performance Capability, Mega Paper No. 62 (2008) (identifying several technologies that have achieved or are capable of achieving 99% SO_2 control) [Attachment 5]. We also incorporate by reference the discussion of concerning high efficiency scrubbers, pages 54-56, included in Earthjustice's comments filed on behalf of the Sierra Club, the National Parks Conservation Association, and the Clean Air Council on the Approval and Promulgation of Air Quality Implementation Plans Commonwealth of Pennsylvania; Regional Haze State Implementation Plan Proposed Rule, 77 Fed. Reg. 3984 (Jan. 26, 2012), Docket ID Number EPA-R03-OAR-2012-0002, filed Feb. 27, 2012 and any supporting materials filed therewith.

region subject to BART, EPA arbitrarily and unlawfully discounted the visibility improvement capability of the source-specific BART limits that would apply if the five-factor analyses required by the Clean Air Act were actually undertaken.

Finally, EPA cannot credibly claim that because it broadly applied BART to sources that might not be BART eligible, it overestimated emissions reductions, cancelling out the potential undercounting of emissions reductions stemming from its reliance on presumptive BART. First, applying limits reflective of actual BART to those units that would be subject to BART might achieve lower overall emissions on a national level than presumptive BART applied to all BART eligible EGUs. *See* Gebhart Report at 16. Second, if EPA assumed a source was subject to BART that does not in fact cause or contribute to visibility impairment at the Class I areas, and thus should not be subject to BART, any modeled emission reductions at that source would not result in modeled visibility improvements that would weigh in favor of BART. *Id.*

3. EPA Must Model The Visibility Improvement Expected By Applying BART at Gerald Gentleman Unit 2 in Nebraska

EPA acknowledged that it inadvertently omitted Gerald Gentleman Unit 2 from the inventory of BART-eligible units under the Nationwide BART emissions scenario. *See* TSD at 10 n.9. As a result, instead of applying BART controls at the unit, EPA assumed the unit would continue emitting at its current, uncontrolled SO_2 emission rate. Had EPA applied BART SO_2 controls at this unit, EPA itself estimated that the SO_2 emissions for Nebraska would be about 12,000 tons lower under the Nationwide BART. *Id.* Inexplicably EPA did not expect this omission to change the outcome of its analysis even though emissions from Gerald Gentleman affect visibility at Badlands National Park[43] and Wind Cave National Park,[44] parks where Table 1 above shows that BART is outperforming CSAPR in visibility improvement. With an additional 12,000 tons of SO_2 reductions, it is likely that the differences between CSAPR and BART at Badlands and Wind Cave National Parks would be even more pronounced, potentially changing whether CSAPR is better than BART in Nebraska. *See* Section VII.A, *supra*. For example, with the 12,000 ton reduction of SO_2, EPA's estimate of the emissions in Nebraska under the Nationwide BART scenario would have been 36% lower than modeled in the rule.[45] Likewise, with these reductions, the SO_2 emissions in Nationwide BART scenario for Nebraska would have been 71% lower than EPA's projected SO_2 emissions in the CSAPR + BART-elsewhere scenario.[46]

Moreover, if EPA had applied NOx controls to Gerald Gentleman Unit 2, Nebraska's NOx emissions would be at least 3,100 tons per year less (reflective of the NOx emission reductions expected at presumptive NOx BART rate of 0.23 lb/MMBtu for the wall-fired, dry

[43] *See* Table 10.3 of the Nebraska Department of Environmental Quality State Implementation Plan for Regional Haze and Best Available Retrofit Technology (BART), June 30, 2011, at 40, *available at* http://www.deq.state.ne.us/AirDivis.nsf/Pages/Haze. Specifically, the 98th percentile visibility contribution from Gerald Gentleman Station at Badlands National Park ranged from 2.828 to 3.121 deciviews. *Id.*

[44] *Id.* at 62.

[45] This was determined by subtracting 12,000 tons from the Nationwide BART SO_2 projection for Nebraska of 32.9 thousand tons of SO_2 in Table 2-4 of the TSD.

[46] This was determined by comparing a revised projection for Nebraska sources under BART of 20,900 tons (i.e., 32,900 tons – 12,000 tons) to EPA's projected SO_2 emissions under CSAPR of 71,200 tons in Table 2-4 of the TSD.

bottom boiler that burns subbituminous coal [47]) and more likely 7,700 tons less (reflective of application of SCR to achieve a NOx rate of 0.05 lb/MMBtu 0.05 lb/MMBtu[48]). Under either scenario, NOx emissions for Nebraska would be well below the NOx emission projections in the CSPAR + BART-elsewhere scenario,[49] making it likely that in Nebraska CSAPR is not better than BART. EPA must revise its modeling to account for reductions in emissions at Gerald Gentleman.

D. EPA Arbitrarily Did Not Follow Its Own Method of Applying Presumptive BART

Putting aside the problem that it is arbitrary and unlawful to rely on presumptive BART, which in itself fatally undermines EPA's analysis, EPA failed even to properly apply presumptive BART at many BART-eligible units in the CSAPR states. In these instances, EPA modeled emissions limits that were far greater than the already overestimated presumptive BART values. This failure to properly apply presumptive BART calls into question the accuracy of EPA's modeling and renders its analysis and "better than BART" conclusion arbitrary. Moreover, a review of the modeling assumptions that EPA actually used demonstrates that CSAPR is wrongly projected to achieve greater reductions at BART-eligible power plants than imposition of properly calculated presumptive BART limits.

In the preamble for the proposed rule and the accompanying Technical Support Document, EPA purports to apply, with respect to EGUs with scrubbers, a presumptive SO_2 BART limit that reflects either the emissions limit actually achieved if the scrubber operated at 95% efficiency or 0.15 lbs/MMBtu. If the scrubber was operating at 95% or higher efficiency, EPA said it relied on the actual emission rate achieved, even if greater than 0.15 lbs/MMBtu. Conversely, if the scrubbed achieved an emission rate of 0.15 lbs/MMBtu or lower, that rate was used even if the scrubber was less than 95% efficient. For BART-eligible units operating without a scrubber, EPA stated that it would apply a presumptive BART limit that reflected 95% control based on installation of a highly efficient scrubber. *See* 76 Fed. Reg. at 82225-26; TSD at 4-5.

At the national level, examples of EPA's failure to properly and consistently model presumptive BART were selected by identifying all BART-eligible units where the SO_2 emission rate modeled in EPA's "Nationwide BART" scenario was greater than 0.30 lb/MMBtu (*i.e.* double the presumptive BART floor) and where the historic emission rate, as reported in Clean Air Markets Database ("CAMD") for 2010 or 2011, was less than the emission rate modeled.

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[47] *See* TSD Table 2-1, at 5.

[48] *See*, e.g., 76 Fed. Reg. 52388, 52388 (Aug. 22, 2011) (NOx BART determinations for San Juan Units 1 – 4); *see also* Section VII.C.2, *supra*.

[49] Assuming that source-specific BART would result in a NOx limit of 0.05 lb/MMBtu, NOx emissions from Nebraska sources would be significantly less than the CSAPR scenario (22.5 thousand tons under BART compared to 28.1 thousand tons under CSAPR). *See* TSD Table 2-4, at 10 (adjusting the Nationwide BART prediction by 7,700 tons). Yet even if EPA only assumed a presumptive BART NOx rate of 0.23 lb/MMBtu at Gerald Gentleman Unit 2 (as promised in the TSD), the NOx emissions from Nebraska sources would be less under the Nationwide BART scenario than under the CSAPR scenario (27.1 thousand tons under BART compared to 28.1 thousand tons under CSAPR). *See id.(* adjusting the Nationwide BART prediction by 3,100 tons)

This provides a subset of the most egregious instances of EPA's failure to apply presumptive BART uniformly. Other examples exist throughout the model.

As set forth in greater detail in the accompanying Tables 2-1 to 2-4, EPA failed to properly calculate presumptive BART at a number of units that include scrubbers. For example, at the following scrubbed units that are achieving 95% efficiency, EPA failed to model the actual SO_2 emission rate.

Table 4. SO_2 BART Emissions Modeled in Nationwide BART Scenario as Compared to Actual Emissions and Properly Calculated Presumptive BART at Scrubbed Units Achieving 95% Efficiency

Plant	Unit	Nationwide BART, SO_2 lb/MMBtu[50]	Nationwide BART, SO_2 tons[51]	2010 Annual SO_2 lb/MMBtu[52]	Properly Calculated Presumptive BART, SO_2 tons[53]
Kenneth C Coleman (KY)	C3	0.30	1,585	0.26[54]	1,397
Dickerson (MD)	3	0.91	5,121	0.18	1,039
Cumberland (TN)	1	0.31	13,984	0.15	6,865
Cumberland (TN)	2	0.31	13,995	0.17	7,816
Total			**34,685**		**17,117**

Likewise, for the following scrubbed unit, which is achieving less than 95% efficiency, EPA failed to model an emission rate that reflected the actual emission limit, which was less than

[50] The SO_2 emission rate used in the Nationwide BART was calculated from the data in EPA's National BART 2014 spreadsheet by dividing the Total SO_2 Emissions (MTons) by the Total Fuel Use (TBtu) and converting to lb/MMBtu. *See* EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

[51] The tons of SO_2 modeled in the Nationwide BART scenario are reported in EPA's National BART 2014 spreadsheet, available at http://www.epa.gov/visibility/actions.html.

[52] The 2010 SO_2 emission rate was calculated from the data reported on CAMD by dividing the Total SO_2 Emissions by the Total Fuel Use and converting to lb/MMBtu. 2010 data was used for each unit in the chart except for Kenneth C Coleman C3, as described in more detail in footnote 54, *infra*.

[53] For units operating a scrubber at 95% efficiency, the properly calculated presumptive BART was determined, as EPA purported to do, by applying the actual emission rate to the heat input assumed in EPA's Nationwide BART modeling scenario.

[54] For Kenneth C Coleman C3, the emission rate was calculated using 2011 data. Using 2010 annual coal feed, coal heat content and coal sulfur content reported in EIA Form-923 along with AP-42 emission factor [(38 *S lb SO2/ton of coal) * (tons of coal) * (2000 lb/ton)], where S = fuel sulfur content, for wall-fired boiler firing bituminous coal, annual uncontrolled 2010 SO_2 emissions were calculated to be 27,347 tons SO_2 with an emission factor of 4.67 lb SO_2/mmBtu. EPA CAMD reported annual SO_2 emissions of 2,607 tons SO_2 at an emission rate of .43 lb SO_2/mmBtu which represents a RE of 90.5% [(27347-2607)/27347)]. If the RE had been 95%, actual reported emissions would have been 1,367 tons SO_2 [(1-.95)*27347] and an emission rate of 0.23 lb SO_2/mmBtu. The 2011 reported emission rate for Kenneth Coleman C3 was 0.26 lb SO_2/mmBtu which closely approximates operation with a 95% SO_2 RE. Although emissions estimates made using AP-42 emission factors have be prone to some error, if the error in the AP-42 estimate were a 10% low bias, and actual emissions were 30,082 tons, then an emission of 2,607 tons would be yielded by 91.3% RE. In either case, Kenneth Coleman C3 did not achieve 95% RE in 2010.

0.15 lbs/MMBtu. As further support for the argument that presumptive BART does not reflect best available controls, the limit applied as presumptive BART, 0.30 lbs/MMBtu, exceeds actual historic emissions.

Table 5. SO_2 BART Emissions Modeled in Nationwide BART Scenario as Compared to Actual Emissions and Properly Calculated Presumptive BART at Scrubbed Units Achieving Less than 95% Efficiency but an Emission Limit Less than 0.15 lbs/mmBtu

Plant	Unit	Nationwide BART, SO_2 lb/MMBtu[55]	Nationwide BART, SO_2 tons[56]	2010 Annual SO_2 lb/MMBtu[57]	Properly Calculated Presumptive BART, SO_2 tons[58]
Shiras (MI)	3	0.30	359	0.10	126

Finally, at the following non-scrubbed units in the CSAPR states, EPA applied emissions limits for SO_2 that are greater than would be achieved by applying a scrubber with 95% efficiency. Not only do the modeled BART emissions limits depart from the promised presumptive BART values, the modeled BART emission limits exceed actual historic emissions rates for either 2010 as deduced from reported emissions and heat input in CAMD. Likewise, the emissions limits EPA applied far exceed the limits that would be obtained if the source was required to use a highly effective scrubber, achieving 99% reduction efficiency. *See* Section VII.C.2, *supra*.

[55] The SO_2 emission rate used in the Nationwide BART was calculated from the data in EPA's National BART 2014 spreadsheet by dividing the Total SO_2 Emissions (MTons) by the Total Fuel Use (TBtu) and converting to lb/MMBtu. *See* EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[56] The tons of SO_2 modeled in the Nationwide BART scenario are reported in EPA's "National BART 2014 Unit Specific Results" spreadsheet, available at http://www.epa.gov/visibility/actions.html.
[57] The 2010 SO_2 emission rate was calculated from the data reported on CAMD by dividing the Total SO_2 Emissions by the Total Fuel Use and converting to lb/MMBtu.
[58] For the scrubbed unit that is less than 95% efficient, but that is achieving an emission rate less than 0.15 lb/mmBtu, the properly calculated presumptive BART was determined, as EPA purported to do, by applying the actual emission rate to the heat input assumed in EPA's Nationwide BART modeling scenario.

Table 6. SO_2 BART Emission Limits Modeled in Nationwide BART Scenario as Compared to Actual Emission Limits, Properly Calculated Presumptive BART Emissions Limits, and Projected BART Emission Limits at Unscrubbed Units

Plant	Unit	Nationwide BART, SO_2 lb/MMBtu [59]	2010 Annual SO_2 lb/MMBtu [60]	Properly Calculated Presumptive BART, SO_2 lb/MMBtu [61]	Projected BART, SO_2 lb/MMBtu [62]
Charles R Lowman (AL)	1	2.46	1.42	0.12	0.02
Whitewater Valley (IN)[63]	2	6.15	3.55	0.31	0.06
Ames Elec. Servs. (IA)	7	0.94	0.45	0.05	0.01
Muscatine Plant #1 (IA)	8	0.94	0.59	0.05	0.01
Streeter Station (IA)	7	1.00	0.83	0.05	0.01
Quindaro (KS)	1	0.94	0.60	0.05	0.01
Eckert Station (MI)	4	0.94	0.43	0.05	0.01
Eckert Station (MI)	5	0.94	0.53	0.05	0.01
Eckert Station (MI)	6	0.94	0.54	0.05	0.01
Presque Isle (MI)	5	1.05	0.85	0.05	0.01
Presque Isle (MI)	6	1.05	0.85	0.05	0.01
Presque Isle (MI)	7	0.62	0.48	0.03	0.01
Presque Isle (MI)	8	0.62	0.48	0.03	0.01
Presque Isle (MI)	9	0.62	0.48	0.03	0.01
Hoot Lake (MN)	3	1.49	0.71	0.07	0.01
Silver Bay (MN)	2	1.00	Not Reported	0.05	0.01
James River Power Station (MO)	4	0.94	0.55	0.05	0.01
James River Power Station (MO)	5	0.98	0.54	0.05	0.01
Lake Road (MO)	6	0.87	0.58	0.04	0.01
Dolphus M Grainger (SC)	1	4.72	2.44	0.24	0.05
Dolphus M Grainger (SC)	2	5.52	2.45	0.28	0.06

[59] The SO_2 emission rate used in the Nationwide BART was calculated from the data in EPA's National BART 2014 spreadsheet by dividing the Total SO_2 Emissions (MTons) by the Total Fuel Use (TBtu) and converting to lb/MMBtu. *See* EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

[60] The 2010 SO_2 emission rate was calculated from the data reported on CAMD by dividing the Total SO_2 Emissions by the Total Fuel Use and converting to lb/MMBtu.

[61] For the unscrubbed units, the properly calculated presumptive BART was determined by applying a scrubber achieving 95% efficiency to the tons of SO_2 that EPA predicted these plants would emit under the National BART scenario. A review of EPA's National BART 2014 spreadsheet indicates that EPA did not consider these units to have been scrubbed. As such, the emissions in tons reported in the spreadsheet represent uncontrolled emissions that must be reduced by 95%.

[62] Projected BART is calculated applying a scrubber achieving 99% reduction efficiency. *See* Section VII.C.2 & n.42 *supra*.

[63] Although Whitewater Valley Unit 2 is reported to have installed an FGD scrubber in 2006, in 2010, the plant reported that the scrubber for that unit was on standby, so it is treated as unscrubbed.

EPA's failure to calculate presumptive SO_2 BART in the manner described in its modeling methodology incorrectly projects CSAPR to achieve greater reductions at a number of BART-eligible power plants. Moreover, when compared to emissions that could be achieved with projected BART controls imposed, CSAPR is clearly not better than BART at a number of plants, as the following table demonstrates:

Table 7. Comparison of EPA's "Transport Rule + BART-elsewhere" and "Nationwide BART" Scenarios to Properly Calculated Presumptive BART and Projected BART, all units evaluated

Plant	Unit	Transport Rule + BART-elsewhere (SO_2 tons)[64]	Nationwide BART (SO_2 tons)[65]	Properly Calculated Presumptive BART (SO_2 tons)[66]	Projected BART (SO_2 tons)[67]
Charles R Lowman (AL)	1	865	8,778	439	88
Whitewater Valley (IN)	2	1,218	13,280	664	133
Ames Electric Services Power Plant (IA)	7	611	993	50	10
Muscatine Plant #1 (IA)	8	1,051	1,393	70	14
Streeter Station (IA)	7	893	1,114	56	11
Quindaro (IA)	1	1,674	2,413	121	24
Kenneth C Coleman (KY)	C3	1,084	1,585	1,397	1,397
Dickerson (MD)	3	627	5,121	1,039	1,039
Eckert Station (MI)	4	1,143	2,230	111	22
Eckert Station (MI)	5	1,235	2,410	121	24
Eckert Station	6	1,165	2,273	114	23

[64] From EPA's CSAPR+BART 2014 spreadsheet, available at http://www.epa.gov/visibility/actions.html.
[65] From EPA's National BART 2014 spreadsheet, available at http://www.epa.gov/visibility/actions.html.
[66] Properly calculated presumptive BART is described for each type of unit as above, scrubbed units with a reduction efficiency of 95% or greater (*see* footnote 53, *supra*), scrubbed units with a reduction efficiency of less than 95% yet achieving an emission rate less than 0.15 lb/MMBtu (*see* footnote 58, *supra*), or unscrubbed units (*see* footnote 61, *supra*).
[67] For the unscrubbed units, projected BART is calculated as described in footnote 62, supra, by applying a scrubber achieving 99% reduction efficiency. *See* Section VII.C.2 & n.42 *supra*. For the scrubbed units, projected BART conservatively assumes the historic achieved emission rate as applied to the heat input EPA assumed in the Nationwide BART scenario. Thus, it is the same as the "Properly Calculated Presumptive BART" for the scrubbed units, as described in footnotes 53 & 58, *supra*.

Plant	Unit	Transport Rule + BART-elsewhere (SO_2 tons)[64]	Nationwide BART (SO_2 tons)[65]	Properly Calculated Presumptive BART (SO_2 tons)[66]	Projected BART (SO_2 tons)[67]
(MI)					
Presque Isle (MI)	5	2,709	2,969	148	30
Presque Isle (MI)	6	2,697	2,956	148	30
Presque Isle (MI)	7	1,940	1,993	100	20
Presque Isle (MI)	8	1,862	1,913	96	19
Presque Isle (MI)	9	1,865	1,915	96	19
Shiras (MI)	3	151	359	126	126
Hoot Lake (MN)	3	1,882	4,491	225	45
Silver Bay (MN)	2	2,490	2,491	125	25
James River Power Station (MO)	4	1,105	2,043	102	20
James River Power Station (MO)	5	2,016	3,726	186	37
Lake Road (MO)[68]	6	-	2,360	118	24
Dolphus M Grainger (SC)	1	3,305	14,884	744	149
Dolphus M Grainger (SC)	2	3,359	17,122	856	171
Cumberland (TN)	1	11,246	13,984	6,865	6,865
Cumberland (TN)	2	11,255	13,995	7,816	7,816
Total		**59,447**	**128,791**	**21,931**	**18,181**

The consequences of EPA's failure to properly apply SO_2 presumptive BART become particularly apparent when EPA's conclusion that CSAPR is "better than BART" is tested within individual states, as seen in particular in Minnesota, where commenters have had the opportunity to undertake indepth analysis. As explained in the Technical Support Attachment to Comments of Conservation Organizations on the Minnesota Regional Haze SIP, EPA modeled SO_2 emissions limits higher than presumptive BART in several instances. For example, EPA modeled Austin Northeast at 1.05 lb/MMBtu, Hoot Lake Unit 3 at 1.49 lb/MMBtu, and Silver Bay Boiler 2 at 1.00 lb/MMBtu, but because none of these units have scrubbers, EPA should have assumed SO_2 emission rates reflecting 95% control. If EPA's assumed SO_2 emission rates for these three EGUs reflected 95% control, then the uncontrolled SO_2 emission rates of the coal would range from 20 to 30 lb/MMBtu which is not credible. These units all burn only

[68] EPA has classified this unit in the CSAPR + BART spreadsheet as "Coal Withdrawn as Uneconomic" and included no heat input or SO*2* emissions. *See* EPA's CSAPR+BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

subbituminous coal,[69] which is typically low sulfur coal. In fact, the EPA's assumed emission rates for Hoot Lake Unit 3 and Silver Bay Boiler 2 not only reflect uncontrolled emissions but also are significantly higher than actual historical emission rates. Over 2003-2011, the highest annual average SO_2 emission rate at Hoot Lake Unit 3 was only 0.71 lb/MMBtu according to CAMD, but EPA modeled the unit based on an SO_2 emission rate of 1.49 lb/MMBtu. Had EPA truly followed its purported methodology in its Nationwide BART emissions projections, it should have assumed 95% reductions, which would have resulted in much lower emission rates than EPA actually used in its emission projections.

In addition, EPA assumed an SO_2 rate for the unscrubbed Taconite Harbor Unit 3 of 0.22 lb/MMBtu.[70] At maximum, the unit had an annual average SO_2 rate of 0.67 lb/MMBtu over the last nine years.[71] Thus, if EPA were to apply presumptive BART limits to Taconite Harbor Unit 3, it should have assumed an SO_2 emission rate reflecting 95% control at that unit. Instead, EPA inexplicably assumed an SO_2 emission rate of 0.22 lb/MMBtu.

For Clay Boswell Unit 4, EPA assumed an SO_2 emission rate of 0.15 lb/MMBtu. However, Boswell Unit 4 has a wet scrubber, as indicated in EPA's National BART 2014 spreadsheet, and CAMD data shows that the unit is actually achieving lower SO_2 emission rates than 0.15 lb/MMBtu. In 2010-2011, the annual average SO_2 emission rate at the unit ranged from 0.10 to 0.05 lb/MMBtu. Nevertheless, EPA assumed an SO_2 BART rate of 0.15 lb/MMBtu, which was inconsistent with what EPA purported to assume (*i.e.*, presumptive BART levels unless actual emissions were lower).

Likewise, a review of EPA's assumed SO_2 emission rates in its 2014 Nationwide BART emissions scenario for BART-eligible units in Missouri shows that EPA did not consistently apply this methodology to all BART-eligible units. Missouri has 21 BART-eligible EGUs, and all but one of the units have no SO_2 scrubbers, according to CAMD. Because these units were uncontrolled for SO_2 (Iatan Unit 1 was uncontrolled through 2007), data from CAMD from 2003 to 2010 will reveal the maximum historical uncontrolled SO_2 emission rate. Using an uncontrolled emission rate equal to the high annual emission rate from 2003-2010, it is possible to calculate the approximate SO_2 removal efficiency that EPA should have assumed in its Nationwide BART 2014 scenario, as shown below.

For the fifteen units in Missouri with projected SO_2 emission rates of 0.15 lb/MMBtu or less, EPA assumed SO_2 rates in the Nationwide BART 2014 scenario ranging from 0.06 lb/MMBtu to 0.15 lb/MMBtu.[72] However, the SO_2 removal that these projected emission rates

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[69] *See* EPA's National BART 2014 Spreadsheet, Columns regarding Total Subbituminous Fuel Use and Total Bituminous Fuel Use.

[70] The Minnesota Pollution Control Agency ("MPCA") has adopted as BART the requirement to install Rotating Opposed Fired Air ("ROFA")/Rotomix system that includes Furnace Sorbent Injection for SO_2 control. *See* MPCA BART Determination for Minnesota Power Taconite Harbor Unit 3 in Appendix 9.4 of the Minnesota Regional Haze Plan at 910. However, it does not appear that these controls have been installed yet at Unit 3. CAMD does not indicate any scrubber or other SO_2 controls installed at Taconite Harbor Unit 3, nor have SO_2 rates declined in recent years to indicate application of SO_2 controls.

[71] Based on a review of SO_2 emission rates from CAMD for 2003-2011.

[72] The assumed SO_2 emission rate was calculated from the data in EPA's National BART 2014 spreadsheet by dividing the Total SO_2 Emissions (MTons) by the Total Fuel Use (TBtu) and converting to lb/MMBtu.

reflected ranged from a low of 76% to a high of 96%, with the average SO_2 removal efficiency being 88%. Thus, if EPA assumed an uncontrolled emission rate equal to the high annual emission rate from 2003-2010, EPA did not assume SO_2 rates in the BART scenario of 95% control at units with no scrubbers in Missouri.

For three other units in Missouri, EPA's projected SO_2 emissions under the Nationwide BART scenario only reflected 5% to 48% SO_2 removal from historical maximum uncontrolled SO_2 emission rates. And there are three units for which EPA's SO_2 emission rates with BART applied no SO_2 controls and instead reflected increases in SO_2 emission rates of 17% to 70%, as seen in the table below.

Table 8. Review of EPA's Assumed SO_2 Emission Rates for BART-Eligible Units in Missouri in the Nationwide BART 2014 Emissions Scenario

Plant	Unit	EPA's Assumed SO_2 Emission Rate in Nationwide BART 2014 Emissions Scenario, lb/MMBtu	Percent SO_2 Removal Efficiency Reflected by EPA's Assumed BART SO_2 Emission Rate Compared to Historical Uncontrolled SO_2 Emission Rates
Iatan	1	0.06	91%
Asbury	1	0.07	96%
Thomas Hill	MB1	0.08	82%
Montrose	3	0.08	91%
Labadie	1	0.08	89%
Labadie	2	0.08	89%
Labadie	3	0.08	89%
Labadie	4	0.08	89%
New Madrid	2	0.08	80%
New Madrid	1	0.08	82%
Rush Island	2	0.08	88%
Rush Island	1	0.08	88%
Sioux	1	0.12	93%
Sioux	2	0.12	93%
Sikeston Power Station	1	0.15	76%
Sibley	3	0.88	6%
Sibley	2	0.88	5%
James River Power Station	5	0.94	-64%
James River Power Station	4	0.94	-70%
Lake Road	6	0.94	-17%
Blue Valley	3	2.68	48%

As shown by the above table, EPA did not always project SO2 emissions under BART for unscrubbed units based on 95% SO2 removal in Missouri. EPA did not even assume that scrubbers would be installed at several unscrubbed BART-eligible units in its SO2 BART emission projections.

In addition, at Fair Station in Iowa, if EPA assumed an uncontrolled emission rate equal to the high annual emission rate from 2003-2010, EPA assumed an SO_2 emission rate of 0.95 lb/MMBtu in its Nationwide BART scenario, which reflects only 82% SO2 removal from the unit's maximum annual average uncontrolled SO_2 rate from 2003 to 2010. Likewise, based on the same assumptions, for Big Cajun 2 in Louisiana, both units burn the same low sulfur coal, have no scrubbers, and emit SO2 at a maximum uncontrolled rate of 0.77 lb/MMBtu. Yet, in its Nationwide BART scenario, EPA projected SO_2 emissions for Big Cajun 2 Unit 1 at 0.08 lb/MMBtu and for Big Cajun 2 Unit 2 at 0.58 lb/MMBtu, reflecting 89% control for Unit 1 and only 25% control for Unit 2. Finally, in Kentucky, EPA assumed Robert Reid Unit 1 would emit SO_2 at a rate of 4.28 lb/MMBtu in the Nationwide BART scenario. This emission rate reflects historical uncontrolled SO_2 emission rates at the unit from 2003 to 2010. Thus, for this unit, EPA assumed no control equals BART.

As all of the above examples make clear, EPA's projections of SO_2 emissions for BART-eligible sources did not reflect the assumptions that EPA claimed to have made in its Technical Support Document.

EPA's treatment of Minnesota sources in its alternatives analysis is also illustrative of EPA's failure to properly apply presumptive NOx BART. The presumptive NOx BART limits vary with coal type and boiler configuration. If a source had existing NOx controls, EPA assumed those controls would be operated year round. If those controls did not meet presumptive BART limits, EPA would assume installation of post-combustion controls, such as selective catalytic reduction ("SCR") or selective non-catalytic reduction ("SNCR") that would meet the BART guidelines. The limits are as follows (*see* TSD at 5):

Table 9. Presumptive BART for NOx per the Technical Support Document

	Bituminous	**Subbituminous**	**Lignite**
Dry bottom wall-fired	0.39	0.23	0.29
Tangential-fired	0.28	0.15	0.17
Cell burners	0.40	0.45	n/a
Dry turbo-fired	0.32	0.23	n/a
Wet bottom tangential-fired	0.62	n/a	n/a
Cyclone	0.10	0.10	0.10

Given this purported methodology for projecting NOx emissions under BART, EPA should have assumed installation of an SCR at Sherburne County Units 1 and 2 in Minnesota. These units have already installed combustion controls, but the units have failed to meet the 0.15 lb/MMBtu presumptive BART limits for tangential-fired boilers burning subbituminous coal. According to actual annual emissions data from CAMD, the units have averaged 0.18 lb/MMBtu

NOx rates on an annual basis in 2009-2011. In instances where installed combustion controls do not meet presumptive BART limits, EPA represented that it would assume post-combustion controls (SCR or SNCR) would be installed.[73] However, EPA did not assume the Sherburne County Units 1 and 2 would be retrofitted with post-combustion controls. Had EPA projected BART emissions in the manner it purported, it should have projected NOx emissions for Sherburne County Units 1 and 2 at 0.05 lb/MMBtu.[74]

Similarly, Northshore Mining's Silver Bay Boiler 2 was not projected to meet the presumptive NOx BART limit of 0.23 lb/MMBtu for wall-fired subbituminous coal-fired boilers with combustion controls. Instead, MPCA found the unit could only meet a NOx rate of 0.40 lb/MMBtu with combustion controls[75] Thus, according to EPA's methodology, EPA should have assumed installation of post-combustion NOx controls for this unit, but EPA did not do so. Given that the Silver Bay power plant causes more visibility impairment to the Boundary Waters Class I area than any other coal-fired power plant in Minnesota[76] and given that installation of SCR would be cost effective at the unit, a proper NOx BART determination for the unit would have resulted in a NOx BART limit of 0.05 lb/MMBtu.

By improperly applying presumptive NOx BART limits at these units, EPA's Nationwide BART scenario includes 5,385 tons more NOx emissions in Minnesota than it should. Correcting for presumptive BART at these units would result in the Nationwide BART scenario producing 7,294 fewer tons of NOx from these plants than the CSAPR scenario.

In sum, failure to apply presumptive BART in the manner stated in the preamble and the Technical Support Document is both arbitrary and consequential, fatally undermining the credibility of EPA's analysis. By failing to apply presumptive BART, which is too weak in any case, with any uniformity, EPA arbitrarily discounted the emissions achieved in the BART scenarios.

E. EPA Did Not Properly Account for Different Averaging Times under CSAPR and BART When Comparing Visibility Impacts

In failing to consider the different averaging times that are used to establish compliance with CSAPR and BART, EPA's analysis cannot establish that CSAPR provides greater reasonable progress than BART. Under the established reasonable progress test, EPA was required to show that reliance on CSAPR in lieu of BART will not cause visibility to degrade at any Class I area on the 20 percent best and worst days, and that CSAPR provides an overall improvement in visibility over BART on the 20 percent best and worst days. 40 C.F.R.

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[73] *See* TSD at 5.

[74] *See* Letter from Soug Aburano, U.S. EPA Region 5 to John M. Seitz, Chief, Minnesota Pollution Control Agency at 2 (June 6, 2011) (finding that SCR could be applied at Xcel Energy's Sherburne County facility) [Attachment 6]; *See also* National Park Service's October 3, 2009 Comments Entitled "Xcel Energy's Sherburne County Generating Station (SHERCO) MPCA 5/19/09 report and Subsequent Response to Comments" in Appendix 2.5 of Minnesota Regional Haze SIP at 377.

[75] *See* MPCA BART Determination for Northshore Mining Silver Bay Power Boiler 2, in Appendix 9.4 of Minnesota Regional Haze plan at 848.

[76] *See* Table 9.5.3 of Appendix P.5 of Minnesota Regional Haze Plan at 933.

§ 51.308(e)(3)(i)-(ii). The difference in how emission impacts are measured or averaged can significantly affect the outcome of this analysis.

Visibility impacts are measured based on a twenty-four hour averaging time,[77] whereas BART emission limits are set based on 30-day averaging times. The BART Guidelines require enforceable emission limits reflecting BART requirements and specify that permits reflecting BART limits for EGU's must "specify an averaging time of a 30-day rolling average." *See* 70 Fed. Reg. 39104, 39172 (July 6, 2005). Moreover, BART emissions limits must be met on a continuous basis. *See* 42 U.S.C. § 7602(k); CAA § 302(k). In contrast, CSAPR provides for averaging of emissions over a year for the annual SO_2 and NOx programs, and over a five-month period for the ozone season NOx program. Because pollutants are not emitted at a constant rate throughout a given day, month, or year, longer averaging times will "smooth out" variations including hourly spikes in emissions that impact visibility. Without accounting for the averaging times, it is impossible to accurately determine whether CSAPR will provide greater benefits than BART on the 20 percent best or worst days. 40 C.F.R. § 51.308(e)(3)(ii). Also, because CSAPR has such a long averaging time, EPA has failed to show that its analysis accurately assesses whether CSAPR will cause or allow visibility to decline at any Class I area on the 20 percent best or worst days. *Id.* § 51.308(e)(3)(i). For all the foregoing reasons, EPA's proposed finding that CSAPR provides for greater reasonable progress than BART is arbitrary.

F. EPA's Modeling Does Not Include Realistic Nitrate Levels

EPA's CSAPR better than BART visibility modeling does not reflect realistic nitrate levels, precluding a credible comparison between CSAPR and BART. In response to a data request, EPA provided its intermediate modeling results, which revealed a high frequency of near zero nitrate levels. *See* Gebhart Report at 11. This revelation conflicts with real-world measurements of atmospheric nitrate concentrations from IMPROVE monitors. *See id.* EPA's failure to produce modeling results that accord with real-life atmospheric conditions severely undermines the credibility of the agency's analysis. *See Columbia Falls Aluminum Co. v. EPA*, 139 F.3d 914, 923 (D.C. Cir. 1998) ("An agency's use of a model is arbitrary if that model 'bears no rational relationship to the reality it purports to represent.'") (internal citation omitted).

Because nitrate and sulfate concentrations contribute to overall atmospheric extinction, a core component of visibility, the model's failure to contain sufficient nitrate concentrations could significantly affect whether the model accurately predicts visibility impacts. Sulfate and nitrate typically affect extinction relative to their concentrations in the atmosphere. Thus, in the east where there is more sulfate in the atmosphere, sulfate has a greater effect on extinction, whereas the relative importance of sulfate extinction diminishes as one approaches the central plains, northern plains, and upper Midwest. *See* Gebhart Report at 11-12. EPA's model does not reflect this reality, but instead shows an extremely high sulfate to nitrate concentration on the 20% best days at Isle Royale National Park in Michigan where one would expect more nitrate concentrations, and a higher than normal sulfate to nitrate concentrate at Dolly Sods Wilderness in West Virginia on the 20% worst days. *Id.* at 13-14. The nitrate levels in the model could be low for two reasons: failure to provide enough ammonia, which preferentially converts SO_2 to

[77] *See* BART Guidelines, 40 C.F.R. Pt. 51, Appx. Y, § III.A.3, Option 2.

sulfate before converting NOx to nitrate, or an overestimation of SO_2, which could consume all of the ammonia leaving little left for nitrate conversions. *Id.* at 14. Either deficiency would result in less NOx in the model than in reality, which in turn would mask improvements in visibility from NO_X reductions that would be expected to increase where BART is required. *See id.* at 15 (explaining that "[w]ith nitrate levels at or near zero in USEPA's modeling, the NOx emission controls assumed by USEPA probably achieve little if any modeled benefit toward improving Class I visibility."). This failure to replicate real life conditions renders the agency's modeling analysis arbitrary and precludes EPA from using its modeling results to justify reliance on CSAPR in place of BART. *See Columbia Falls*, 139 F.3d at 923. EPA "retains a duty to examine key assumptions as part of its affirmative burden of promulgating and explaining a non-arbitrary, noncapricious rule." *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 534 (D.C. Cir. 1983); *see also Eagle-Picher Indus., Inc. v. EPA*, 759 F.2d 905, 921 (D.C. Cir.1985) (agency must provide a full analytic defense when its model is challenged).

G. EPA Has Failed to Demonstrate that CSAPR is Better than BART in States Subject Only to the Seasonal Ozone Trading Program

1. CSAPR is Not Better Than BART in the Ozone Season States

EPA's analysis does not attempt to demonstrate that CSAPR is better than BART in those states where power plants are only subject to the five-month ozone season NOx trading program. Under the better than BART proposal, BART-eligible sources in Arkansas, Florida, Louisiana, Mississippi, and Oklahoma—which are only covered by the ozone season program and thus only required to hold allowances and limit emissions during May through September—would escape the BART requirement to install and operate year-round controls designed to reduce NOx emissions that harm the nation's Class I areas. This creates a palpable risk of visibility degradation during the seven months of the year when the sources have no incentive to operate controls, causing CSAPR to fail under prong 1 of the reasonable progress test. *See* 40 C.F.R. § 51.308(e)(3)(i). EPA has not attempted to show that for these states CSAPR can nevertheless be better than BART, and based on the analysis below it will not likely be able to make that showing. *See* USFS Comments at 1 ("We do not support the provision for reliance upon ozone season NOx limitations as providing for greater reasonable progress than source-specific BART.").

For example, as the USFS has explained, summertime NOx controls may not improve visibility given the atmospheric chemistry of particulate nitrate formation. As they explained,

> Particulate nitrate formation is largely dependent upon cooler temperatures and higher humidity values, conditions most common during the late autumn through the early spring months. This translates into a significantly higher contribution of particulate nitrate to the extinction budget during the winter season. Correspondingly, summer time nitrate concentrations are typically very low and contribute very little to light extinction. . . . NOx controls which are limited to ozone season will have little effect on reducing particulate nitrate levels during the period of the year when nitrate contribution to light extinction is greatest.

USFS Comments at 1-3, Figs.1-2. Thus, at a minimum, in Oklahoma and Arkansas, where modeling predicts the highest nitrate levels between November and February, CSAPR is not likely to be better than BART. *Id.* at 3. Moreover, independent of the nitrate chemistry, it is not certain that CSAPR can be better than partial-BART because, in many of these states, CSAPR is not predicted to reduce NOx emissions over ozone-only BART.

a. Arkansas

Arkansas is one of the five states in which CSAPR only applies during the five-month ozone season for NOx emissions from EGUs. In Arkansas, the three BART-eligible coal-fired units, White Bluff Units 1 and 2 and Flint Creek Unit 1, have been determined by Arkansas to be subject to BART.[78]

The state of Arkansas adopted the presumptive NOx BART emission rates from EPA's BART Guidelines as BART limits for these units, but EPA recently disapproved these state BART determinations for failing to consider post-combustion controls such as selective catalytic reduction (SCR).[79] As EPA noted in its proposed disapproval of the Arkansas NOx BART determinations, NOx emission rates with SCR as low as 0.05 lb/MMBtu have been routinely met.[80] In comparison, the presumptive NOx BART rates for White Bluff Units 1 and 2 and Flint Creek are 0.15, 0.15, and 0.23 lb/MMBtu, respectively.

In its BART projections for these three EGUs in the National BART 2014 scenario, EPA ignored its October 2011 proposed disapproval of the presumptive NOx BART limits. Instead, EPA assumed that meeting the presumptive NOx limits reflected source-specific BART at these units. EPA has now made clear in its final disapproval of those same limits that presumptive BART does *not* equal source-specific BART for White Bluff Units 1 and 2 and Flint Creek Unit 1 in Arkansas. *See also* Section VII.C.2, *supra*.

As the table below shows, EPA assumed that these three units would not reduce emissions in the CSAPR scenario. EPA essentially projected the same level of emissions for these three units under CSAPR as the units were projected to emit in the 2014 base case (without BART). It is not clear how EPA can claim that ozone-season only CSAPR requirements in Arkansas will be better than BART when EPA's own projections show that CSAPR will not result in any NOx reductions at BART-subject units in Arkansas.

Table 10. Comparison of Proper NOx BART Emissions for BART-Subject Coal-Fired EGUs in Arkansas Compared to EPA's NOx Emissions Projections for these Units.

Plant	Unit	NOx	EPA's	EPA's	EPA's

[78] *See* 76 Fed. Reg. 64186, 64199 (Oct. 17, 2011).
[79] *See* EPA Final Rule signed February 13, 2012 (unofficial signed rule, not yet published in the Federal Register), Arkansas Regional Haze State Implementation Plan; Interstate Transport State Implementation Plan to Address Pollution Affecting Visibility and Regional Haze, at 36-37.
[80] *See* 76 Fed. Reg. 64186, 64203 (Oct. 17, 2011).

		Emissions with Proper BART (including SCR), tons[81]	Projected Emissions under "Nationwide BART," tons[82]	Projected Emissions under "Transport Rule + BART-elsewhere," tons[83]	Projected 2014 Base Case NOx Emissions, tons[84]
White Bluff	1	683	1,867	6,659	6,510
White Bluff	2	683	2,174	7,755	7,580
Flint Creek	1	1,043	4,799	5,446	5,446
	Total	**2,409**	**8,840**	**19,860**	**19,536**

Not only has EPA demonstrated that BART would result in much greater NOx reductions than CSAPR in Arkansas, but proper source-specific NOx BART, based on application of SCR to meet a NOx limit of 0.05 lb/MMBtu, would result in substantially more NOx reductions than CSAPR at the BART-subject coal-fired EGUs in the state.

As it stands, EPA's modeling of its projected BART emissions versus modeling of its projected CSAPR emissions shows that visibility will actually degrade on the 20% best days at the Class I areas within Arkansas and affected by Arkansas.[85] Those Class I areas are listed in the following table.

Table 11. Class I Areas In or Impacted by Arkansas Emissions Where EPA's Modeling Shows BART Will Improve Visibility More than CSAPR on the 20% Best Days[86]

Class I Area	Location	Visibility Improvement that BART Provides over CSAPR on 20% Best Days Based on EPA's Modeling
Caney Creek	Arkansas	0.2 dv
Upper Buffalo	Arkansas	0.1 dv
Hercules-Glades	Missouri	0.2 dv

This makes sense given that EPA has essentially stated that CSAPR will not result in any NOx emission reductions at the Arkansas coal-fired EGUs subject to BART. Thus, EPA's emissions scenarios and modeling fail to show that the NOx reductions under CSAPR will

[81] Proper BART is calculated based on application of SCR to meet a NOx limit of 0.05 lb/MMBtu. This rate was applied to the heat input assumed for each unit in EPA's Nationwide BART scenario.
[82] From EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[83] From EPA's CSAPR+BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[84] From EPA's 2014 Basecase spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[85] *See* 76 Fed. Reg, 64186, 64193 (October 17, 2011).
[86] Data extracted from Table 3-5 of EPA's Technical Support Document for Demonstration of the Transport Rule as a BART Alternative (at 34-36). For the larger list of Class I areas where EPA projects visibility to be better under BART than CSAPR, see Table 1 in Section VII.A, *supra*.

achieve greater reasonable progress than BART in the Class I areas within Arkansas or affected by Arkansas sources.

In the summer ozone season, the NOx emitted by coal-fired power plants such as White Bluff or Flint Creek is more likely to be converted to ozone in the atmosphere rather than visibility-impairing nitrate particulates. However, during the months outside of the ozone season, the data on the worst 20% days for Caney Creek wilderness in Arkansas shows that nitrates are often the major component of visibility impairment.[87] And, on the best 20% of days, nitrates are more often the major component of visibility impairment.[88] Similar non-ozone season nitrate contributions occur at the Upper Buffalo wilderness in Arkansas, especially in the month of November for the worst 20% of days and in the spring, winter, and fall of the best 20% of days.[89] The Missouri Class I areas show similar patterns.[90] Based on this data, it would not be protective of visibility on a year-round basis if the NOx controls at Arkansas EGUs only applied during the ozone season. Given that EPA's NOx emission projections do not predict any NOx emission reductions at the BART-subject EGUs in Arkansas under CSAPR, EPA has not, and could not, demonstrated that ozone-season only CSAPR requirements would result in greater reasonably progress towards achieving natural background visibility conditions than source-specific BART would.

b. Other Ozone-Season-Only CSAPR States

A review of the four remaining ozone-season-only CSAPR states show that EPA has not demonstrated that CSAPR is better than source-specific BART in those states either. For example in Florida, Crystal River Units 1 and 2 are 25 km, or about 15.5 miles, from the Chassahowitzka Wilderness, part of the larger Chassahowitzka National Wildlife Refuge on the Gulf Coast of Florida. They are also within 300 km of Okefenokee, St. Marks, and Wolf Island wildernesses. Currently, both of these 1960s-era units have some form of combustion control for NOx, but no add-on controls. Under CSAPR, Units 1 and 2 at Crystal River would be required to reduce their ozone season NOx emissions by about 75% over 2010 actual emissions. Since CSAPR does not compel reductions during the remaining part of the year, this amounts to only about 35% reduction annually. Particularly given their impacts on multiple Class I areas, these units are good candidates for add-on NOx controls such as Selective Catalytic Reduction (SCR), which would not be required for the facility to meet its CSAPR allocations. These controls could provide reductions in NOx emissions of over 90%.

In addition, as shown in the table below, EPA has projected that emissions will be lower under BART than under CSAPR in the states of Florida and Oklahoma andthat emissions would be the same under BART or CSAPR in Louisiana and Mississippi.

[87] *See* Technical Support Document for CENRAP Emissions and Air Quality Modeling to Support Regional Haze State Implementation Plans, prepared by ENVIRON International Corporation and University of California Riverside, September 12, 2007 at 3-18 (in Docket for EPA's proposed rulemaking on the Arkansas Regional Haze SIP, under Appendix A references, Docket ID EPA-R06-OAR-2008-0727-0008).
[88] *Id.*
[89] *Id.* at 3-19.
[90] *Id.* at 3-23 to 3-24.

Table 12. Comparison of EPA's NOx Emission Projections Under BART and Under CSAPR for BART-Eligible EGUs in Ozone-Season-Only States.

State	EPA's Projected NOx Emissions in "Nationwide BART" for BART-Eligible EGUs, tons[91]	EPA's Projected NOx Emissions in "Transport Rule + BART-elsewhere" for BART-Eligible EGUs, tons[92]
Arkansas	8,840	19,860
Florida	23,051	32,229
Oklahoma	14,479	17,658
Mississippi	15,738	15,765
Louisiana	15,542	15,542

Thus, for almost all of the five ozone-season-only states, EPA's analyses shows that NOx emissions will be lower under BART than under ozone-season-only CSAPR requirements. Yet, as discussed above regarding the EPA's emission projections under BART for Arkansas EGUs, EPA mainly assumed presumptive NOx BART rates reflected BART. which is not an appropriate assumption because source-specific BART determinations may be lower than presumptive BART. Even so, EPA's ana;ysis has shown that BART will result in greater NOx emission reductions in almost all of the ozone-season-only CSAPR states. Had EPA determined proper source-specific NOx BART emission rates for the BART-subject EGUs, NOx emissions under BART would be even lower than projected by EPA, as we have demonstrated above in the case of Arkansas. In any event, EPA has failed to demonstrate that CSAPR will result in greater NOx emission reductions than source-specific BART in these ozone-season-only states.

2. EPA Must Analyze Whether a Seasonal Program is Better than Application of Year-Round BART controls

In addition to addressing the obvious concern that limiting emissions under CSAPR for less than half a year cannot provide greater reasonable progress than installing and operating effective controls year-round, EPA must also account for the possibility that BART-eligible sources in these states may simply purchase allowances from newer, cleaner sources located in states subject to both the seasonal NOx and annual program alike[93]—that is, sources that are more likely to install controls. This likely scenario risks degradation at the Class I areas impacted by sources in ozone season states and could cause CSAPR to fail prong 1 of the reasonable progress test. 40 C.F.R. § 51.308(e)(3)(i). While EPA purported to model some trading in the IPM, EPA's failure to undertake a meaningful evaluation of the likely worst case scenario and CSAPR's impacts in these states renders its proposal arbitrary and unlawful.

[91] From EPA's National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[92] From EPA's CSAPR+BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.
[93] These states include Alabama, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

H. EPA Cannot Reliably Evaluate Visibility Impacts at All Class I Areas Using Only Data from IMPROVE Monitors

EPA's analysis is further flawed because it fails to consider differences in visibility across each Class I area, instead estimating visibility based on a single IMPROVE monitor, where available. In this way, EPA's analysis does not show whether CSAPR would cause a decline in visibility across all or parts of any Class I area. *See* 40 C.F.R. § 51.308(e)(3)(i). In some instances, EPA relied on a single monitor in a Class I Area to make conclusions about visibility in another Class I Area entirely. *Cf.* 40 C.F.R. § 51.308(e)(3) (requiring dispersion modeling "to determine differences in visibility between BART and the trading program for *each* impacted Class I area, for the worst and best 20 percent of days" (emphasis added)). For example, in EPA's analysis, Otter Creek Wilderness in West Virginia is represented by the IMPROVE Monitor at Dolly Sods Wilderness in West Virginia. *See* Gebhart Report at 10.

Evaluating visibility impairment at a single monitor location, whether that monitor is within the Class I area or is a proxy for a nearby Class I area, is unlikely to accurately describe visibility conditions across the Class I area. *See* Gebhart Report at 10. This problem is particularly pronounced for large Class I areas such as Shenandoah National Park, which covers 70 miles and stretches from Front Royal, Virginia to Wayneboro, Virginia. *See id.* Certainly, given its size, visibility would be expected to differ throughout the area. Nonetheless, EPA's modeling represents Shenandoah based on the single 12 km x 12 km grid square where its IMPROVE monitor is located. This approach conflicts with both conventional and EPA wisdom; even EPA's own BART Guidelines recognize that a single IMPROVE monitor cannot represent visibility impact, particularly where multiple Class I areas are at issue:

> [I]f there are multiple Class I areas in relatively close proximity to a BART-eligible source, a State may model a full field of receptors at the closest Class I area. Then a few strategic receptors may be added at the other Class I areas (perhaps at the closest point to the source, a receptor at the highest and lowest elevation in the Class I area, a receptor at the IMPROVE monitor, and a few receptors that are expected to be at the approximate plume release height).

70 Fed. Reg. 39104, 39126 (July 6, 2005).

Thus, analysis based on a single monitor location cannot provide assurance that visibility will not degrade across any Class I area, and EPA must rely on more than evaluation of the impacts at IMPROVE monitor locations to demonstrate that visibility will not decline in any Class I area if CSAPR is relied on in lieu of source-specific BART. *See* 40 C.F.R. § 51.308(e)(3)(i). EPA's failure to consider other means of estimating visibility across the Class I areas, or to explain why it departed from the BART Guidelines, renders its analysis arbitrary.

I. EPA's Estimates of the Visibility Improvements Under CSAPR Do Not Attempt to Capture CSAPR's Real World Impacts

EPA's analysis does not reasonably account for CSAPR's regulatory flexibility and what it may yield in the way of differing emissions scenarios. Most fundamentally, EPA arbitrarily

assumes that CSAPR will achieve greater reductions than required. In addition, EPA's analysis is not premised on reasonable assumptions about *which* sources will purchase allowances and *when* the allowances will in fact be used. These issues plague EPA's analysis of the key questions whether EPA has established that visibility will not decline at any Class I under CSAPR, and whether CSAPR provides greater overall improvement at the Class I areas than BART. *See* 40 C.F.R. § 51.308(e)(3)(i)-(ii).

3. EPA's Assumptions About Emission Reductions Under CSAPR Are Not Consistent with CSAPR's Own Requirements

In the better than BART rule, EPA has assumed that both Alabama and Georgia will emit fewer tons of SO_2 than allowed under each state's respective emission budget in the original CSAPR rulemaking as described in the table below. Similarly, EPA has assumed that Alabama, Kansas, Pennsylvania, and West Virginia each will emit fewer tons of NOx than allowed in each state's respective emission budget in the original CSAPR rulemaking as described in the table below. Assuming that these CSAPR states will emit less SO_2 or NOx than CSAPR requires is not only unfounded, but also may under-predict visibility impairment, preventing detection of a likely decline in visibility in Class I areas. *See* 40 C.F.R. § 51.308(e)(3)(i). Further, in EPA's current analysis, which considers BART in a vacuum without CSAPR, overstating SO_2 emissions reductions arbitrarily attributes added visibility improvements to CSAPR over BART, rendering CSAPR more likely to satisfy the second prong of the reasonable progress test undeservedly. *See id.* § 51.308(e)(3)(ii).

Table 13. Comparison of 2014 SO_2 Emission Allocations under CSAPR and SO_2 Emissions Modeled in the "Transport Rule + BART-elsewhere" scenario

State	2014 Annual SO_2 Emissions, per CSAPR (tons)[94]	2014 SO_2 Emissions for "Transport Rule + BART-elsewhere" (tons)[95]
Alabama	213,258	168,500
Georgia	95,231	93,600

Table 14. Comparison of 2014 NOx Emission Allocations under CSAPR and NOx Emissions Modeled in the "Transport Rule + BART-elsewhere" scenario

State	2014 Annual NOx Emissions, per CSAPR (tons)[96]	2014 NOx Emissions for "Transport Rule + BART-elsewhere" (tons)[97]
Alabama	71,962	70,300
Kansas	25,560	24,400

[94] *See* 76 Fed. Reg. 48208, 48269, Table VI.F-1 (Aug. 8, 2011).
[95] *See* TSD, Table 2-4.
[96] *See* 76 Fed. Reg. at 48208, 48269, Table VI.F-2 (Aug. 8, 2011).
[97] *See* TSD, Table 2-5.

Pennsylvania	119,194	118,400
West Virginia	54,582	53,200

Accordingly, EPA's proposal is arbitrary because it assumes without rational support that CSAPR will achieve greater emissions reductions than the trading program requires. This approach is flatly at odds with the agency's proper refusal in other instances to allow states or sources to claim credit for emission limitations or reductions that are not federally enforceable. *See, e.g.,* CAA § 110(a)(2), 42 U.S.C. § 7410(a)(2); 40 C.F.R. § 51.308(d)(3).

4. EPA Failed to Adequately Consider the Potential for Trading to Degrade Visibility at the Class I Areas

CSAPR is designed to give sources flexibility in meeting their emission allocations, and as such, allows BART-eligible sources—sources that may have been required to install pollution controls to comply with BART requirements—to purchase allocations rather than control emissions. These trading decisions can significantly impact whether and where CSAPR will create hot spots that could degrade visibility at the Class I areas, causing CSAPR to fail the first prong of the reasonable progress test. *See* 40 C.F.R. § 51.308(e)(3)(i).

As discussed above, CSAPR allows sources covered by the same trading program—e.g., the annual NOx program or the SO_2 Group 1 program—to trade allowances regardless of whether the sources are in the same state, creating inherent uncertainties about where and, as discussed in the next section, when states will choose to emit. Given these inherent uncertainties, EPA's analysis for the proposed CSAPR "better than BART" rule does not and likely cannot assess the visibility impact of complex trading under CSAPR on the Class I areas. EPA has not provided any assurance in light of trading that CSAPR will not degrade visibility at any Class I area, or that CSAPR will achieve as much visibility improvement in those areas as BART would. Thus, regardless of whether trading flexibility will assist the states in complying with the NAAQS, this flexibility is at odds with ensuring emissions reductions and visibility improvement at specific Class I areas under the regional haze rule.

To remedy potential hot spots arising from trading decisions, EPA proposes to allow geographic enhancements, which, among other measures, could require installation of BART to remedy visibility impairment that is reasonably attributable to a source or group of sources (RAVI BART). *See, e.g.*, 76 Fed. Reg. 82219, 82224 & n.13. Certainly RAVI BART is critical to remedying existing impairment and must be implemented no matter what the fate of the "better than BART" proposal. *See* 40 C.F.R. § 51.302 (setting forth the control strategies to address reasonably attributable visibility impairment).[98] However, RAVI BART cannot be relied upon to *prevent* hot spots and associated degradation under CSPAR. RAVI BART is reactive; it

[98] In the CAIR better than BART rulemaking, EPA went to great lengths to explain that it recognized that a BART-alternative under the Regional Haze Rule does not eliminate the requirement that states impose BART where necessary to address reasonably attributable visibility impairment. *See* 70 Fed. Reg. 39104, 39137 (July 6, 2005) (explaining, when finalizing the CAIR better than BART rule, that "[e]ven if a BART alternative is deemed to satisfy BART for regional haze purposes, . . . CAA section 169A(b)(2)'s trigger for BART based on impairment at any Class I area remains in effect, because a source may become subject to BART based on 'reasonably attributable visibility impairment' at any area" (citing 40 C.F.R. § 51.302)).

requires FLMs to voluntarily take action to address an existing problem, and thus will not spur proactive permitting or other actions to avoid degradation in the first instance. *See id.* §§ 51.302(c)(1), (4); *see also* USFS Comments at 14 (explaining that relying on RAVI BART "shifts the burden of insuring that individual Class I area progress goals are maintained in areas where BART would have achieved greater visibility improvement than the Transport Rule from the State to the affected Federal Land Manager").

Thus, given the barriers and procedural hurdles of imposing RAVI BART, EPA cannot rely on RAVI or other geographic enhancements to mitigate the level of impairment at the multiple Class I areas to save its "better than BART" proposal, but instead must ensure in the first instance that the trading allowed under CSAPR will not degrade the Class I areas, as prohibited under the first prong of the reasonable progress test, 40 C.F.R. § 51.308(e)(3)(i). *See* USFS Comments at 14 ("While we believe preserving the RAVI BART process under 302(c) is of paramount importance and should be explicitly reaffirmed in this rulemaking, we believe that using the RAVI regulations to serve as the 'regulatory backstop' to be an unreasonable expectation and contrary to the intended purposes of the requirements of Section 308(e) of the [Regional Haze Rule]."); *see also Sierra Club v. EPA*, 356 F.3d 296, 298 (D.C. Cir. 2004) ("We agree with Sierra Club's principal contention that EPA was not authorized to grant conditional approval to plans that did nothing more than promise to do tomorrow what the Act requires today.").

5. EPA Failed to Consider When States Will Use Allowances, Potentially Overstating the Visibility Benefits Provided by CSAPR

EPA's analysis potentially overstates the air quality benefits provided by CSAPR because EPA failed to consider that while allowances are issued for a given year, sources are under no obligation to ration the allowances out over the year. Instead, as some coal plants are already planning to do, a source might choose to save its allowances for use during the summer ozone period when demand for electricity is at its peak and to idle during the rest of the year, failing to reduce emission during the months when Class I areas may be most especially likely to experience degradation in visibility. This, in turn, makes it unlikely that CSAPR will pass the first prong of the reasonable progress test. *See* 40 C.F.R. § 51.308(e)(3)(i).

For example, Luminant Generation Co. has indicated that it would idle units at Monticello in Texas when demand is low, but for D.C. Circuit Court of Appeals' recent decision to stay implementation of the rule,[99] and the Tennessee Valley Authority has likewise indicated it is considering idling when demand is low at many of its plants in Kentucky.[100] If each of these sources chooses to emit during peak ozone season and idle in the off season, the visibility benefits that BART could achieve will not materialize, and it is possible that visibility will

[99] Declaration of David A. Campbell at 3-4, *Luminant Generation Co., LLC v. EPA*, No. 11-1315 (D.C. Cir. Sept. 12, 2011).

[100] Attachment 2 to Comment submitted by John S. Lyons, Director, Kentucky Division for Air Quality (KYDAQ), Kentucky Department of Environmental Protection; re: Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Docket # EPA-HQ-OAR-2009-0491, Document ID # EPA-HQ-OAR-2009-0491-3709, at 2 (Oct. 15, 2010).

degrade at nearby Class I areas. Under these circumstances, CSAPR cannot be deemed better than BART. *See* 40 C.F.R. §§ 51.308(e)(3)(i)-(ii). .

In addition, because the comparison under 40 C.F.R. § 51.308(e)(3)(ii) is based on the worst and best days rather than every day, EPA cannot say that CSAPR will improve visibility more than BART because EPA cannot say during what days CSAPR sources will emit at their highest level. This problem is not only intra-year but inter-year. That is CSAPR allows banking of allowances so that sources can emit at a high level and thus have high visibility impacts in a particular year versus source-specific BART that guarantees visibility at the same level every year. *See* 40 C.F.R. §§ 97.426, .526, .626, .726. Failure to account for the temporal implications of the use of allowances renders EPA's analysis of the visibility benefits under CSAPR inadequate to demonstrate that CSAPR is better than BART

J. EPA's 2014 Base Case Does Not Account for Historic Emissions Reductions at Non BART-eligible Sources, Thereby Overestimating the Benefits from CSAPR

EPA relied on a base case that ignores SO_2 emissions reductions that non-BART eligible sources have already achieved in response to other federal and state air programs and enforcement actions.[101] In so doing, EPA gave CSAPR an artificial advantage over BART on prong 2 of the reasonable progress test in EPA's already skewed analysis, which evaluates Nationwide BART in the absence of CSAPR. 40 C.F.R. § 51.308(e)(3)(ii).

In assessing CSAPR as a potential BART alternative, EPA established the 2014 base case as its visibility baseline. EPA then used this base case to calculate the expected visibility reductions under "Nationwide BART"[102] and the "Transport Rule + BART-elsewhere"[103] over and above the base case. *See* 76 Fed. Reg. 82,219, 82,224. As EPA recognizes, the 2014 base case is central to the analysis. *See* TSD at 12 (explaining that "[t]he cornerstone of [EPA's] modeling process was the 2014 base case modeling scenario, which contains emissions for 2014 based on predicted growth and existing emissions controls").

[101] EPA's base case also failed to take account of historic SO_2 emission reductions at BART-eligible sources. The most egregious example of this failure is at units 1-3 of the Harrison Power Plant in West Virginia. Although these three units have operated wet scrubbers since 1995, EPA's base case estimated that each unit would emit SO_2 at a rate of 4.28 lb/MMBtu, a rate that is more than four times greater than the 0.14 lb/MMBtu (Unit 1), 0.10 lb/MMBtu (Unit 2), and 0.11 lb/MMBtu (Unit 3) SO_2 rate that each unit averaged over 2005-2010 according to information on CAMD. *See* EPA Scrubber and SCR Retrofit Data submitted to the Senate Committee on Environment and Public Works, *available at* http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=a0437dd3-b584-4796-9ad0-926bb0dc3de9 (indicating that Harrison installed scrubbers in 1995). The failure to account for historic emission reductions result at Harrison Units 1-3 alone overstated SO_2 emissions in the base case by 263,289 tons. Any failure to properly account for long-standing emission control technology and historically low emissions in the base case could impact the technology assumed in the BART and CSAPR scenarios, which in turn affects how the IMP model will predict emissions at other sources and ultimately visibility impairment at the Class I areas. Rather than point out all such errors, these comments focus on problems in the base case at units that are not subject to BART, as in this situation only the Transport Rule + BART-elsewhere scenario, and not the Nationwide BART scenario, has an opportunity to make up for EPA's error. However, EPA must review the assumptions in its base case to ensure accurate modeling.

[102] The Nationwide BART scenario is defined in footnote 24, *supra*.

[103] The Transport Rule + BART-elsewhere scenario is defined in footnote 25, *supra*.

However, EPA's projected base case fails to provide a realistic basis for evaluating reliance on CSPAR in place of BART. The base case purports to include "constraints on EGU emissions from the Acid Rain Program, the NOx SIP Call, New Source Performance Standards, Title V permits, any state laws and consent order requiring emission reductions, and any other permanent and enforceable binding reduction commitments." 76 Fed. Reg. at 82224.[104] However, it fails to accurately reflect emissions reductions at non-BART eligible sources from historic fuel switching decisions or failure to account for historic installation of scrubbers that were unrelated to CAIR. Likewise, the base case does not include emissions reductions already achieved under the CAIR program at non BART-eligible sources. To the extent that these emission reductions are permanent—i.e., will apply regardless of whether CAIR is replaced with another trading program—they should be reflected in the baseline. To the extent that CSAPR preserves these emissions reductions, they should be reflected in both the CSAPR and the BART + CSAPR scenarios described in Section VII.B, *supra*.

For example, as explained in more detail in Tables 3-1 to 3-2 submitted as an attachment, in the following instances, EPA failed to account for historically low SO_2 emissions due to pre-CAIR decisions to install scrubbers or switch fuel type[105] at non-BART eligible sources in the CSAPR states in the 2014 base case — a failure that translated to higher than appropriate emissions in the Nationwide BART scenario. This failure also credited CSAPR with far greater emission reductions than it actually can be expected to induce.

Table 15. Units Where EPA's Base Case and "Nationwide BART" Scenario Fail to Account for Historically Low Emissions

Plant	Unit	Base Case (SO_2 tons)[106]	"Nationwide BART" (SO_2 tons)[107]	Historic Emissions (SO_2 tons)[108]
Kraft (GA)	1	6,393	6,393	2,236
Kraft (GA)	2	6,219	6,219	2,355

[104] It is unclear whether EPA's modeling has taken into account all consent decrees as the modeling input spreadsheets do not break down limits imposed at each source. EPA must apply the consent decrees and must make it clear that it has. Failure to do so renders the modeling arbitrary.

[105] It is safe to assume that the historic 2003-2010 SO_2 emissions were not constrained by CAIR because the emission rates and annual emissions for the post-CAIR years 2006-2010 were consistent with the rates and annual emissions for the pre-CAIR period viewed, 2003-2005.

[106] The emissions included for the base case were taken from the results of EPA's Integrated Planning Model for this proposal, 2014 basecase, *available at* http://www.epa.gov/visibility/actions.html.

[107] The emissions included for the 2014 Nationwide BART scenario were taken from the results of EPA's Integrated Planning Model for this proposal, National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

[108] The historic emissions values were selected based on the highest emissions reported from 2003-2010. The data for the years 2006-2010 were the values EPA used in the CSAPR better than BART rulemaking to make its unit level allocations. *See* EPA, Technical Information and Support Documents, Technical Support Documents for the Final Cross-State Air Pollution Rule (CSAPR) and the Supplemental Notice of Proposed Rulemaking (SNPR), *Final CSAPR Unit Level Allocations under the FIP and Underlying Data, *available at* http://www.epa.gov/airtransport/techinfo.html. For the years 2003-2005, the historic emissions were generated from the Clean Air Markets website, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=emissions.wizard.

Plant	Unit	Base Case (SO_2 tons)[106]	"Nationwide BART" (SO_2 tons)[107]	Historic Emissions (SO_2 tons)[108]
Yates (GA)	Y1BR	1,857	1,857	613
Yates (GA)	Y2BR	15,229	15,229	7,051
Yates (GA)	Y3BR	16,254	16,254	6,878
Yates (GA)	Y4BR	18,478	18,478	9,214
Yates (GA)	Y5BR	18,723	18,723	8,637
A B Brown (IN)	2	8,871	9,387	4,060
Clifty Creek (IN)	1	54,091	37,623	12,265
Clifty Creek (IN)	2	37,665	36,667	12,230
Clifty Creek (IN)	3	37,439	36,448	13,447
Clifty Creek (IN)	4	37,283	36,295	12,977
Clifty Creek (IN)	5	36,479	35,513	12,998
Clifty Creek (IN)	6	51,749	35,994	12,341
Harding Street (IN)	50	15,138	15,138	11,159
Harding Street (IN)	60	15,093	15,093	10,411
Whitewater Valley (IN)	1	7,337	7,337	4,633
E W Brown (KY)	1	14,026	14,026	9,184
Clay Boswell (MN)	2	4,191	4,191	2,958
Thomas Hill (MO)	MB3	23,482	23,482	11,281
B L England (NJ)	2	18,057	9,244	1,183
Avon Lake (OH)	10	11,433	12,796	6,553
Eastlake (OH)	1	16,709	16,709	6,689
Eastlake (OH)	2	16,407	16,407	9,360
Eastlake (OH)	3	15,973	15,973	8,890
Eastlake (OH)	4	28,470	28,470	9,220
Kyger Creek (OH)	1	32,180	32,180	21,857
Kyger Creek (OH)	2	32,554	32,554	23,298
Kyger Creek (OH)	3	32,587	32,587	18,914
Kyger Creek (OH)	4	32,901	32,901	23,029
Kyger Creek (OH)	5	32,458	32,458	22,565
Niles (OH)	1	13,244	13,244	9,084
Niles (OH)	2	13,289	13,289	8,936
R E Burger (OH)	5	5,667	5,667	723
R E Burger (OH)	6	5,667	5,667	671
Allen Steam Plant (TN)	1	11,129	11,129	8,136
Allen Steam Plant (TN)	2	11,129	11,129	8,170
Allen Steam Plant (TN)	3	11,129	11,129	7,576
Gallatin (TN)	1	35,891	35,891	7,133
Gallatin (TN)	2	35,891	35,891	6,167
Gallatin (TN)	3	42,656	42,656	8,773

Plant	Unit	Base Case (SO_2 tons)[106]	"Nationwide BART" (SO_2 tons)[107]	Historic Emissions (SO_2 tons)[108]
Gallatin (TN)	4	42,656	42,656	8,989
Tolk (TX)	171B	10,701	17,279	13,633
Tolk (TX)	172B	10,197	16,464	13,333
Willow Island (WV)	2	10,950	11,847	8,305
Total		**955,921**	**926,563**	**428,115**

These examples of EPA's failure account for historic emission decreases were selected by identifying all BART-eligible units where the SO_2 emission rate modeled in EPA's "Nationwide BART" scenario was greater than 0.30 lb/MMBtu and where the historic emission rate, as reported in CAMD for 2010 or 2011, was less than the emission rate modeled. This provides a subset of the most egregious instances of EPA's failure to account for lower historic emission rates, and other examples may well exist throughout the model.

Notably, three of the EGUs included in Table 14 above operate FDG scrubbers installed prior to 1996. A B Brown Unit 2 installed an FGD in 1986 with a design SO_2 removal efficiency of 90% (as reported on DOE EIA Form-860R) and operated during 2008 (the year with the highest SO_2 emissions during 2003-2010 time period) with a removal efficiency of 88.4% (as reported on DOE EIA Form 923). Clay Boswell Unit 2 installed an FGD in 1980 with a design removal efficiency of 83.2% (as reported on DOE EIA Form-860R) and operated during the maximum SO_2 emissions year 2007 with a removal efficiency of 25.4% (as reported on DOE EIA Form 923). B L England Unit 2 installed an FGD in 1995 with a design removal efficiency of 93% (as reported on DOE EIA Form-860R) and operated during the maximum SO_2 emissions year 2003 with an SO_2 removal efficiency of 93% (as reported on DOE EIA Form-923).

In each of these three examples, the FGD was installed many years before implementation of CAIR, and the units operated during 2003-2010 with annual SO_2 emissions equal to or less than the maximum SO_2 emissions reported in Table 14 above. Furthermore, in each case, both the design removal efficiency, and the actual operating SO_2 removal efficiency for these EGUs are less than the 95% presumptive BART SO_2 removal efficiency EPA has prescribed for National BART. Yet EPA has assigned SO_2 annual emissions and emission rates in the Nationwide BART scenario that greatly exceed even the highest reported emission rates for the maximum SO_2 emissions years when the FGDs operated at less than EPA's presumptive BART removal efficiency.

EPA's failure to account for historic emission reductions is critically wrong where EPA ignored reductions required by mandatory emission limits that the plants themselves disclosed to the Department of Energy's Energy Information Administration. For example, at the following 19 units included in Table 14 above, EPA's failed to apply these mandatory limits, overstating the Nationwide BART scenario by 220,389 tons of SO_2.

Table 16. Units Where EPA's Nationwide BART Scenario Failed to Reflect Mandatory Emission Limits Reported to DOE/EIA

Plant	Unit	"Nationwide BART" (SO_2 tons)[109]	Emissions in National BART if Using Emission Limit Reported to DOE/EIA (SO_2, tons)[110]	Difference between modeled "Nationwide BART" and Emission Limit (SO_2, tons)
Kraft (GA)	1	6,393	4,485	1,909
Kraft (GA)	2	6,219	4,362	1,856
Yates (GA)	Y2BR	15,229	10,682	4,546
Yates (GA)	Y3BR	16,254	11,402	4,852
Yates (GA)	Y4BR	18,478	12,962	5,516
Yates (GA)	Y5BR	18,723	13,134	5,589
A B Brown (IN)	2	9,387	6,020	3,367
Clifty Creek (IN)	1	37,623	18,571	19,052
Clifty Creek (IN)	2	36,667	18,260	18,407
Clifty Creek (IN)	3	36,448	18,810	17,638
Clifty Creek (IN)	4	36,295	18,503	17,792
Clifty Creek (IN)	5	35,513	17,840	17,673
Clifty Creek (IN)	6	35,994	18,777	17,217
B L England (NJ)	2	9,244	1,056	8,188
Kyger Creek (OH)	1	32,180	17,770	14,410
Kyger Creek (OH)	2	32,554	17,104	15,450
Kyger Creek (OH)	3	32,587	16,504	16,083
Kyger Creek (OH)	4	32,901	17,242	15,659
Kyger Creek (OH)	5	32,458	17,273	15,185
Total		**481,147**	**260,757**	**220,389**

By failing to take account of any emission reductions from pre-CAIR historic fuel switching decisions or installation of scrubbers, per the above examples, and for permanent changes prompted by CAIR in the base case at non-BART-eligible sources, EPA placed the "Nationwide BART" scenario at an arbitrary disadvantage, affording CSAPR undeserved credit

[109] The emissions included for the 2014 Nationwide BART scenario were taken from the results of EPA's Integrated Planning Model for this proposal, National BART 2014 spreadsheet, *available at* http://www.epa.gov/visibility/actions.html.

[110] Date reported on http://www.eia.gov/cneaf/electricity/page/eia860.html (file name EnviroEquipY2010); 2010 DOE Form EIA-860. Where the SO_2 emission limit was reported in lbs/mmBtu, the tons of SO_2 expected in the Nationwide BART scenario if EPA had applied the mandatory emission limits was calculated by taking the reported limits multiplied by the heat input in the Nationwide BART scenario (mm/Btu), and dividing by 2000. Where the SO_2 emission limit was reported in pounds per hour of SO_2, we assumed an operating time of 8760 hours, and converted to tons by dividing by 2000. *See* Table 3-1, filed concurrently herewith.

for requiring emissions reductions on sources that were already achieving those reductions. Indeed, historic emissions are less than half of those modeled in the "Nationwide BART" scenario. Even where CSAPR achieves significant further reductions, it is fundamentally improper to compare CSPAR to a Nationwide BART scenario with excess emissions. This flaw renders EPA's analysis arbitrary.

VIII. EPA CANNOT PARTIALLY REJECT THE REGIONAL HAZE SIPS AND ISSUE PARTIAL REGIONAL HAZE FIPS

A. EPA Cannot Approve FIPs Without Ensuring Reasonable Progress

EPA cannot partially reject regional haze SIPs and propose partial regional haze FIPs for Alabama, Florida, Georgia, Indiana, Iowa, Louisiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas.[111] In proposing to reject the SIP and issue partial FIPs, EPA illegally and arbitrarily addressed only part of the regional haze equation, BART, without accounting for reasonable progress goals in these states and whether they can be achieved without the emissions reductions at power plants that BART would provide. *See* 76 Fed. Reg. at 82221. Each regional haze SIP or FIP must ensure reasonable progress with a comprehensive strategy that includes an array of measures that collectively put the state on a glide path toward restoration of natural visibility by 2064. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A); 40 C.F.R. § 51.308(b) (requiring states to submit regional haze plans addressing the reasonable progress goals and long term strategy as required in section (d) and BART as required in section (e)). Thus, in approving each plan, EPA must determine that the sum of its parts will result in required visibility improvements. EPA cannot evaluate individual components of a regional haze plan in isolation, unmoored from the fundamental question whether reasonable progress will be achieved.

Under the Clean Air Act and implementing federal regulations, reasonable progress is the cornerstone and over-arching mandate of each statewide regional haze plan. *See UARG*, 471 F.3d at 1340. Indeed, among the "core requirements" of each regional haze plan are the reasonable progress goals and the long term strategy to attain those goals. 40 C.F.R. § 51.308(d)(1), (3). BART, as one of the statutorily enumerated means of achieving reasonable progress, must also be evaluated along side the reasonable progress goals and long term strategy. *See* CAA § 169A(b)(2)(A), 42 U.S.C. § 7491(b)(2)(A).

B. The Proposed Partial FIPs Do Not Make Reasonable Progress

In many of these states for which EPA has proposed to issue a limited disapproval of the regional haze SIP and replace the SIP with a partial regional haze FIP, substituting CSAPR for BART does not promise to result in greater reasonable progress. As the discussion below

[111] EPA cannot approve the proposed FIPs for the additional reasons set forth in comments on EPA's proposed approval of regional haze SIPs for Ohio, Minnesota, Pennsylvania, and Indiana that were submitted on behalf of conservation groups including NPCA and the Sierra Club. Those comments are incorporated here by reference. Likewise, EPA cannot approve the proposed FIPs for the additional reasons set forth in state-specific comments on this proposal that have been submitted concurrently on behalf of conservation groups including NPCA and the Sierra Club. Those comments also are incorporated here by reference..

demonstrates, in Alabama, Georgia, Indiana, Michigan, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas, BART will likely provide significant emissions reductions over CSAPR at the BART-eligible sources neighboring Class I Areas. These emissions reductions are very likely needed to ensure that each state either meets its own reasonable progress goals or does not preclude achievement of reasonable progress in downwind states.

The discussion below is not intended to capture every instance where BART is needed in addition to CSAPR to ensure reasonable progress. We looked exclusively at units that: (1) do not currently have SO_2 or NOx controls; and (2) are located within 300 km of Class I areas, in an effort to target the most obviously problematic implications of exempting sources from BART requirements in the proposed FIP states. (We expect similar concerns to be present in all states across the CSAPR regions). Based on these examples alone, however, EPA cannot finalize these reasonable haze FIPs without undertaking state-specific demonstrations that CSPAR somehow achieves greater reasonable progress than BART.

6. Alabama

Alabama contains five BART-eligible units located within 300 km of Alabama's Sipsey Wilderness, each of which is unequipped with readily available SO_2 BART controls. As described in Section VII.C.2 above, modern scrubbers, which is likely to represent BART for SO_2, can reduce emissions by 99%. Thus, assuming installation of effective BART controls, these five units would be able to reduce their annual SO_2 emissions over 62,000 tons a year to a mere 622 tons, much less than the 37,997 tons allocated to these units under CSAPR. Not only is it unreasonable to conclude without analyzing the reasonable progress goals that these units can be exempt from BART, exempting these units from BART will likely preclude Alabama from meeting those goals.

Table 17. Units in Alabama near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[112]	Projected BART SO_2 Emissions (tons)[113]	CSAPR 2014 SO_2 Annual Emissions (tons)[114]	Additional Emissions Under CSAPR (tons)
Barry	4	None	7,704	77	5,639	5,562
Greene County	1	None	18,979	190	5,030	4,840
Greene County	2	None	14,641	146	5,211	5,065
James H Miller Jr.	1	None	13,716	137	15,357	15,220
Colbert	5	None	7,237	72	6,760	6,688
Total			**62,277**	**623**	**37,997**	**37,374**

7. Georgia

Allowing sources in Georgia to avoid installing adequate SO_2 BART controls is also likely to preclude Georgia from achieving its reasonable progress goals. Georgia contains seven units that do not have SO_2 controls that are also located within 300 km of two of its Class I areas, Cohotta Wilderness Area and Wolf Island Wilderness Area. Applying proper BART emission limits would reduce overall SO_2 emissions from these units by approximately 95% over CSAPR allocations for these units, as the table below demonstrates. EPA cannot approve a FIP for Georgia without analyzing whether Georgia will still be on track to meet its reasonable progress goals even if it opts out of BART controls that reduce emissions by 95% over CSAPR. Given that CSAPR allows for 29,459 tons of SO_2 emissions per year at uncontrolled plants, whereas BART would limit SO_2 emissions to an estimated 1,235 tons per year, Georgia will not likely be able to make reasonable progress without BART.

[112] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[113] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[114] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Table 18. Units in Georgia near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[115]	Projected BART SO_2 Emissions (tons)[116]	CSAPR 2014 SO_2 Annual Emissions (tons)[117]	Additional Emissions Under CSAPR (tons)
Harllee Branch	1	None	7,232	72	1620	1548
Harllee Branch	2	None	7,880	79	2036	1957
Harllee Branch	3	None	20,291	203	3274	3071
Harllee Branch	4	None	17,855	179	3090	2911
Jack McDonough[118]	MB1	None	7,413	74	1696	1622
Kraft	3	None	3,736	37	793	756
McIntosh (6124)	1	None	2,505	25	910	885
Scherer	1	None	20,075	201	6864	6663
Scherer	2	None	19,395	194	7054	6860
Yates	Y7BR	None	17,082	171	2122	1951
Total			**123,463**	**1,235**	**29,459**	**28,224**

8. Indiana

Although Indiana does not contain any Class I areas, four units in Indiana that lack SO_2 controls are located within 300 km of Mammoth Cave in Kentucky. Under governing regulations, Indiana's regional haze SIP (or FIP) must include controls as necessary to ensure that its sources do not prevent Kentucky from meeting its reasonable progress goals. *See* 40 C.F.R. § 51.308(d)(3). Because projected BART at these sources would reduce emissions by

[115] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.

[116] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.

[117] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

[118] It is also worth noting that Jack McDonough Unit 2 closed in September, 2011. See Energy Information Administration, Electric Power Monthly, ES-4 (Jan. 30, 2012), *available at* http://205.254.135.24/electricity/monthly/. To the extent that the McDonough Plant receives allocations under CSAPR based on its emissions from both Units 1 and 2, those allocations now will be available for trading to other plants, including BART-subject plants that will be able to forego emissions reductions in the absence of BART requirements.

90% over CSAPR, BART is likely needed to ensure reasonable progress. EPA cannot propose a regional haze FIP without considering this reality.

Table 19. Units in Indiana near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[119]	Projected BART SO_2 Emissions (tons)[120]	CSAPR 2014 SO_2 Annual Emissions (tons)[121]	Additional Emissions Under CSAPR (tons)
Frank E Ratts	1SG1	None	11,133	111	1,096	985
Frank E Ratts	2SG1	None	10,174	102	1,151	1,049
Tanners Creek	U4	None	19,280	193	3,254	3,061
Wabash River Gen Station	6	None	34,733	347	2,763	2,416
Total			**75,320**	**753**	**8,264**	**7,511**

9. Michigan

Allowing BART-eligible sources in Michigan to escape SO_2 and NOx BART controls is also likely to preclude Michigan from achieving its reasonable progress goals. Michigan contains five units that do not have SO_2 controls that are located within 300 km of two of its Class I areas, Isle Royale National Park and Seney Wilderness Area. Three of those units are also uncontrolled for NOx. Applying projected SO_2 BART controls at these units would reduce SO_2 emissions by approximately 5,845 tons over CSAPR. Likewise, applying projected NOx BART controls such as selective catalytic reduction (SCR) technologies at these units will reduce NOx emissions by more than 90%,[122] the equivalent of 1,129 tons over CSAPR.

These results strongly suggest that in Michigan, substituting CSAPR for BART will prevent reasonable progress toward achieving natural visibility conditions at Isle Royale

[119] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.

[120] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.

[121] The annual CSAPR unit level allocations for the listed units in Indiana reflect changes to the original allocations per Final Cross-State Air Pollution Rule Revisions. *See* EPA's Final Revisions Rule Unit Level Allocations under the FIPs spreadsheet, *available at* http://www.epa.gov/airtransport/techinfo.html.

[122] *See, e.g.*, 76 Fed. Reg. 52388 (Aug. 22, 2011) (EPA Region 6 BART determination for San Juan Generating Station); *see also* U.S. Environmental Protection Agency, Technical Bulletin EPA 456/F-99-006R, Nitrogen Oxides (NOx), Why and How They Are Controlled, 18 (Nov. 1999) (noting that SCR "can achieve up to a 94% [efficiency] and is one of the most effective NOx abatement techniques").

National Park and Seney Wilderness Area by 2064. EPA cannot approve a partial FIP for Michigan without analyzing whether Michigan will still be on track to meet its reasonable progress goals absent BART controls that reduce emissions by 95% over CSAPR.

Table 20. Units in Michigan near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[123]	Projected BART SO_2 Emissions (tons)[124]	CSAPR 2014 SO_2 Annual Emissions (tons)[125]	Additional Emissions Under CSAPR (tons)
Presque Isle	5	None	1,987	20	1,035	1,015
Presque Isle	6	None	1,984	20	1,064	1,044
Presque Isle	7	None	1,489	15	1,202	1,187
Presque Isle	8	None	1,741	17	1,306	1,289
Presque Isle	9	None	1,474	15	1,325	1,310
Total			**8,675**	**87**	**5,932**	**5,845**

[123] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[124] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD.
[125] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Table 21. Units in Michigan near Class I areas Where NOx Emissions under Projected BART would be less than the Unit's NOx Emission Allocations under CSAPR

Plant	Unit	NOx Control	2010 NOx Emissions (tons)[126]	Projected BART NOx Emissions (tons)[127]	CSAPR 2014 NOx Annual Emissions (tons)[128]	Additional Emissions Under CSAPR (tons)
Presque Isle	7	None	1,235	124	477	353
Presque Isle	8	None	1,446	145	518	373
Presque Isle	9	None	1,218	122	525	403
Total			**3900**	**391**	**1,520**	**1,129**

Michigan DEQ has also recognized in its proposed regional haze SIP that other coal plants in the state are impacting visibility in Michigan's Class I Areas, and in areas downwind from the plants. For example, the J.H. Campbell plant contributes to visibility problems at both Isle Royale and Seney.[129] The Monroe Generating Station contributes to haze problems in Isle Royale, and emissions from the Karn-Weadock and B.C. Cobb facilities impact Seney.[130] Reductions from these plants may be needed for Michigan to meet its reasonable progress goals, but Michigan simply concluded that CAIR would be sufficient without any analysis as to whether additional reductions would be needed. EPA cannot similarly conclude with analysis that CSAPR will be sufficient to achieve reasonable progress.

In addition, Michigan sources contribute to visibility impairment in many Class I areas further away in Maine, New Hampshire, New Jersey, and Vermont, each of which are within the MANE-VU region. MANE-VU has requested that upwind states including Michigan make 90 percent or greater reductions in SO_2 emissions from 167 coal-plant stacks whose emissions impact visibility in Class I Areas in the MANE-VU region, and that such states achieve greater overall emission reductions than would have been achieved under CSPAR's predecessor, CAIR. Specific Michigan plants identified by MANE-VU as having visibility impacts are Monroe, Trenton Channel, St. Clair, and Karn.

Of these other units identified by Michigan DEQ or MANE-VU, Trenton Channel Unit 9A, Campbell Unit 2, St. Clair Unit 7, and Monroe Units 1 and 2 are BART-eligible and have no

[126] The 2010 NOx emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[127] Calculated by applying post combustion controls with 90% efficiency to the annual 2010 NOx emissions reported in CAMD.
[128] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.
[129] *See* Michigan Haze SIP Proposal at 47.
[130] *See id.*

SO_2 controls. For such units, BART-level reductions would be significantly better than the allocations provided under CSAPR, as detailed below.

Table 22. Additional BART-Eligible Units in Michigan That Lack SO_2 Controls and Impact Class I Areas

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[131]	Projected BART SO_2 Emissions (tons)[132]	CSAPR 2014 SO_2 Annual Emissions (tons)[133]	Additional Emissions Under CSAPR (tons)
Trenton Channel	9A	None	15,181	152	5205	5053
J.H. Campbell	2	None	9,017	90	4382	4292
St. Clair	7	None	11,564	116	4422	4306
Monroe	1	None	27,636	276	9315	9039
Monroe	2	None	18,850	189	8390	8201
Total			**82,248**	**823**	**31,714**	**30,891**

In addition, J.H. Campbell Unit 2 lacks post-combustion NOx controls. Under BART, its 2010 NOx emissions of 3,364 tons would be reduced to 336 tons, while CSAPR provides a NOx emissions allocation of 1,587 tons to J.H. Campbell Unit 2.

Monroe Units 3 and 4 are BART-eligible and have already installed controls that have brought those units' emissions down to levels that are relatively, though not fully, consistent with BART. Under CSAPR, however, Monroe Units 3 and 4 will receive allocations that are far higher than their actual emissions. For example, 2010 SO_2 emissions from Monroe Unit 3 were 500 tons, while the unit's CSAPR allocation is 9,151 tons of SO_2. For Monroe Unit 4, the 2010 SO_2 emissions were 620.5 tons, while the unit's CSAPR allocation is 9,323 tons. Similarly, for NOx, Monroe Unit 3 emissions in 2010 were 1,999 tons, while the 2014 NOx allocation is 3,314 tons. For Monroe Unit 4, NOx emissions in 2010 were 2,198 tons, while the 2014 NOx allocation is 3,376 tons. As a result, CSAPR will create thousands of tons of SO_2 and NOx emission allocations that the owner of Monroe Units 3 and 4, Detroit Edison, could use to try to avoid installing BART controls on other units.

[131] The 2010 SO2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[132] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD.
[133] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

10. Missouri

Similarly, exempting BART-eligible sources in Missouri from BART in favor of CSAPR would likely preclude Missouri from making reasonable progress at its Class I areas, Hercules-Glades Wilderness Area and Mingo Wilderness Area. For this and additional reasons set forth below, EPA cannot approve a regional haze FIP for Missouri.

First and foremost, EPA's own modeling establishes that SO_2 emissions will be 60% less in Missouri where BART controls are imposed than under CSAPR. *See* TSD at 10, Table 2-4 (under CSAPR + BART elsewhere, SO_2 emissions in Missouri are 181.8 Mtons, whereas under Nationwide BART, SO_2 emissions in Missouri are 107.9 Mtons). Second, as demonstrated below, at the 16 BART-eligible units located within 300 km of Missouri's Class I areas that do not contain SO_2 controls, applying adequate SO_2 BART limits would decrease annual emissions by 95,245 tons over allowable emissions under CSAPR. Thus if EPA finalizes the partial FIP, it is likely that Missouri will not make reasonable progress toward attaining natural visibility conditions at its Class I areas by 2064.

Table 23. Units in Missouri near Class I areas Where SO_2 Emissions under BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[134]	BART SO_2 Emissions (tons)[135]	CSAPR 2014 SO_2 Annual Emissions (tons)[136]	Additional Emissions Under CSAPR (tons)
Labadie	1	None	16,027	160	9,156	8,996
Labadie	2	None	16,113	161	9,367	9,206
Labadie	3	None	17,230	172	9,739	9,567
Labadie	4	None	17,424	174	10,038	9,864
Rush Island	1	None	14,964	150	9,596	9,446
Rush Island	2	None	11,103	111	8,795	8,684
James River	4	None	999	10	857	847
James River	5	None	1,884	19	1,583	1,564
Montrose	3	None	3,882	39	2,714	2,675
Asbury	1	None	9,403	94	3,215	3,121
Southwest	1	None	3,577	36	2,914	2,878
New Madrid Power Plant	1	None	8,850	89	8,280	8,192

[134] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[135] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[136] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Sibley	3	None	10,169	102	5,092	4,990
New Madrid Power Plant	2	None	6,190	62	7,628	7,566
Thomas Hill Energy Center	MB1	None	3,060	31	3,015	2,984
Thomas Hill Energy Center	MB2	None	5,147	51	4,716	4,665
Total			**146,022**	**1,460**	**96,705**	**95,245**

More broadly, EPA cannot credibly claim that CSAPR is "better than" BART in Missouri given that its BART-eligible units are largely uncontrolled for SO_2. Of the 24 BART-eligible units identified by Missouri, at least 19 lack any SO_2 controls.[137] In addition, most—roughly two out of three—lack modern NO_x controls. As discussed above, state-of-the-art scrubbers are capable of reducing SO_2 emissions by 99%, and selective catalytic reduction ("SCR") technologies reduce NO_x emissions by over 90%.[138]

Despite the ready availability of these highly effective technologies, not a single Missouri BART-eligible unit uses both controls. In fact, only one-third of these units use SCR, less than 10% use any SO_2 controls at all, and at least one unit lacks any SO_2 or NO_x controls:

[137] Missouri's Regional Haze Plan identifies 24 BART-eligible units. *See* State of Missouri Regional Haze Plan (June 25, 2009) ("MO SIP"), at 50. For three units (Marshall Municipal Utilities, Boiler EP-05; Trigen—Kansas City, Boiler 1A; and University of Missouri—Columbia, Boiler 10), information regarding these units' emissions and controls is lacking. Such information does not appear to be contained within EPA's Clean Air Markets database, EPA's Technical Support Document for Demonstration of the Transport Rule as a BART Alternative, or Appendix I of the Missouri SIP. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome; U.S. Environmental Protection Agency, Technical Support Document for Demonstration of the Transport Rule as a BART Alternative, Docket Number EPA-HQ-OAR-2011-0729 (Dec. 2011); MO SIP, App. I. While such historical information may exist within Appendix J of the Missouri SIP, the undersigned organizations have not been able to find this appendix on the Missouri Department of Natural Resources website (http://dnr.mo.gov/) or the Internet.

[138] *See, e.g.,* Proposed Rule, 76 Fed. Reg. 16168, 16188 (March 22, 2011) ("Wet scrubbing is the predominant technology for large-scale utility applications in most parts of the world . . . SO_2 removal guarantees of up to 99% (without additives) are available from the system suppliers and have been demonstrated in commercial applications").

Table 24. Existing SO_2 and NO_x Controls at Missouri BART-Eligible EGUs[139]

EGU	Unit	SO_2 Controls	SO_2 Emissions in Tons (2010)	NO_x Controls	NO_x Emissions in Tons (2010)
Labadie	1	None	16,026.8	Low NOx Burners (LNB) with Closed-Coupled (CC) Separated Overfire Air (SOFA)	2,244.8
Labadie	2	None	16,113.3	LNB with CC SOFA	2,392.6
Labadie	3	None	17,230.2	LNB with CC SOFA	2,548.3
Labadie	4	None	17,424.1	LNB with CC SOFA	2,610.7
Rush Island	1	None	14,963.6	LNB with CC SOFA	1,934.8
Rush Island	2	None	11,102.5	LNB with CC SOFA	1,448.6
Sioux	1	Wet Limestone	21,495.1	Overfire Air (OFA) Other	4,027.5
Sioux	2	Wet Limestone	18,836.8	OFA Other	3,472.1
Lake Road	6	None	1,587.5	OFA	1,859.6
Sibley	3-5C	None	10,168.5	OFA and Selective Catalytic Reduction (SCR)	1,087.7
Thomas Hill	1-EP-01	None	3,060.0	OFA and SCR	725.9
Thomas Hill	1-EP-01	None	5,147.4	OFA and SCR	4,950.3
New Madrid	1-EP-01	None	8,849.9	OFA and SCR	2,002.3
New Madrid	2-EP-02	None	6,189.8	OFA and SCR	1,590.1
City of Columbia Municipal Power Plant (a.k.a. Columbia Energy Center)*	7—EP02	None	0.0	Dry LNB	0.2
Southwest (a.k.a.	1—E09	None	3,577.3	Other SCR	587

[139] *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm. As noted earlier, EPA's Clean Air Markets database lacks information on three BART-eligible units identified by Missouri; accordingly, such information was not included here.

John Twitty Energy Center)					
James River	4—EO7	None	998.8	LNB with OFA	389.1
James River	5—E08	None	1,883.5	LNB with OFA	706.7
Asbury	7	None	9,403.4	OFA and SCR	962.5
Blue Valley	3—EP-05	None	561.3	LNB with CC OFA	35.6
Montrose	3	None	3,881.6	None	1,918.2

As a result of these largely uncontrolled units, Missouri's BART-eligible units in 2010 emitted over 188,000 tons of SO_2 and over 32,600 tons of NO_x.[140]

According to Missouri's Regional Haze Plan, these emissions are "reasonably expected" to contribute to visibility impairment at two Missouri Class I areas: Hercules Glades Wilderness Area and a 7,700-acre Wilderness area within the Mingo National Wildlife Refuge. MO SIP, at 10-11. The Hercules Glades Wilderness Area is within the Mark Twain National Forest and contains over 12,000 acres of "the most scenic and unique country in the Midwest."[141] The Mingo National Wildlife Area is a resting and wintering area for migratory waterfowl and other birds.[142] This Refuge contains over 21,000 acres, of which 7,700 acres have been designated by Congress as Wilderness protected under the 1964 Wilderness Act.[143]

Missouri's emission sources are also "reasonably expected" to contribute to visibility impairment at out-of-state Class I areas including Upper Buffalo Wilderness Area and Caney Creek Wilderness Area, both located in Arkansas. MO SIP, at 11, 17. The Upper Buffalo Wilderness Area is located within the Ozarks-St. Francis National Forest and is comprised of roughly 12,000 pristine, unroaded acres.[144] The Caney Creek Wilderness Area encompasses over 14,000 acres within the Ouachita National Forest.[145] Missouri's emission sources have also been identified as contributing to visibility impairment in Wichita Mountains (Oklahoma) and Boundary Waters (Minnesota). Oklahoma and Minnesota have both provided Missouri with modeling data indicating that emission sources located in Missouri are contributing to visibility impairment in these Class I areas. *See* MO SIP, at 17, 18. Although Missouri has so far resisted requiring the installation any additional controls that might help these Class I areas (*see id*. at 18, 19), it has offered no persuasive justification why these sources should not be subject to BART.[146]

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[140] U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm.

[141] U.S. Department of Agriculture, Forest Service, http://www.fs.usda.gov/recarea/mtnf/recreation/hiking/recarea/?recid=21754&actid=51.

[142] U.S. Fish & Wildlife Service, Mingo National Wildlife Refuge, http://www.fws.gov/midwest/mingo/.

[143] *Id*.

[144] U.S. Department of Agriculture, Forest Service, http://www.fs.usda.gov/recarea/osfnf/recreation/hunting/recarea/?recid=43499&actid=55.

[145] Wildnerness.net, http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&WID=95.

[146] Missouri takes the position that "it is counter-intuitive to assume that planned emission controls on Missouri sources would be significant," given the distance between the Wichita Mountains and Missouri's western Class I

Given that Missouri's BART-eligible units are already contributing to visibility impairment at several Class I areas both within and outside of Missouri, it is imperative that EPA not approve a FIP that will preclude emissions reductions that are needed to achieve reasonable progress. For Missouri, a CSAPR "better than BART" determination would allow BART-eligible sources to emit an additional 73,900 tons of SO_2. In other words, BART would achieve an over 40% reduction of SO_2 as compared to CSAPR.[147] Missouri's projected NO_x reductions are similarly reduced under BART and not CSAPR. EPA's data shows that Missouri's BART-eligible units would be allowed to emit roughly 900 additional tons of NO_x under CSAPR. *See* TSD at 11. Thus, based on EPA's data alone, it appears unlikely that CSAPR canachieve "greater reasonable progress" than BART. Moreover, in reality, the SO_2 and NO_x emissions reductions under BART as opposed to CSPAR would be even greater than projected had EPA assumed the installation of more up-to-date BART controls. *See* TSD at 4-5 (assuming presumptive BART).

11. North Carolina

In North Carolina, exempting BART-eligible sources from SO_2 BART controls may preclude the state from achieving its reasonable progress goals. North Carolina contains two units that do not have SO_2 controls that are located within 300 km of one of its many Class I areas, including Great Smoky Mountains, Joyce Kilmer-Slickrock Wilderness Area, Linville Gorge Wilderness Area, Shining Rock Wilderness Area, and Swanquarter Wilderness Area. Applying proper SO_2 BART controls at these units would reduce SO_2 emissions by approximately 2,107 tons over these units' CSAPR allocations. This suggests that substituting CSAPR for BART in North Carolina will prevent reasonable progress toward achieving natural visibility conditions North Carolina's Class I areas by 2064. EPA cannot approve a partial FIP for North Carolina without analyzing whether North Carolina will still be on track to meet its reasonable progress goals in the absence of BART controls that reduce emissions by approximately 90% over CSAPR.[148]

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area—approximately 200 to 250 miles. MO SIP, at 18. Missouri also contends that on a cost-per-ton basis, it would be more efficient to impose controls on facilities located in Oklahoma, Texas, and Louisiana. *See id*. As to the Boundary Waters, Missouri acknowledges that Minnesota's modeling analysis has identified Missouri as a state contributing to ongoing haze problems, but it insists that "it is not reasonable to control the Missouri sources at the same level as MN sources to achieve a very small impact at the Boundary Waters Class I area." *Id*. at 19. None of these arguments is availing. BART-eligible sources that contribute to visibility impairment are subject to BART under the Clean Air Act. *See* 42 U.S.C. § 7491(b)(2); *see also* 40 C.F.R. § 51.308(d)(3)(i) (requires states such as Missouri to develop a coordinated emission strategy to address "reasonably anticipated" visibility impairments).

[147]Under the "Transport Rule + BART-elsewhere" scenario, EPA projects over 181,000 tons of SO_2 being emitted from Missouri BART-eligible sources. *See* TSD at 10. Under the "Nationwide BART" alternative, however, less than 108,000 tons of SO_2 would be emitted. *See id*.

[148] While Progress Energy has announced plans to shutter these two units, we are not aware of any binding obligations that require shutdown on any enforceable schedule. To the extent they do retire, CSPAR allocations for these plant will become available to other BART-subject units in North Carolina that would be able to avoid BART-based emissions reductions under EPA's proposal.

Table 25. Units in North Carolina near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[149]	Projected BART SO_2 Emissions (tons)[150]	CSAPR 2014 SO_2 Annual Emissions (tons)[151]	Additional Emissions Under CSAPR (tons)
H F Lee Steam Electric Plant	3	None	9,744	97	967	870
L V Sutton	3	None	11,861	119	1,356	1,237
Total			**21,605**	**216**	**2,323**	**2,107**

12. Ohio

Although Ohio is not home to any Class I areas, seven sources in Ohio that lack SO_2 controls are located within 300 km of Mammoth Cave National Park in Kentucky, Otter Creek Wilderness area Dolly Sods Wilderness Area in West Virginia, and Shenandoah National Park and James River Face Wilderness area in Virginia. Under governing regulations, Ohio's regional haze SIP (or FIP) must include controls as necessary to ensure that emissions from sources within its boundaries do not prevent Kentucky, Virginia, West Virginia, or other downwind states from meeting their reasonable progress goals. *See* 40 C.F.R. § 51.308(d)(3). Because applying modern SO_2 BART controls at these sources will likely reduce SO_2 emissions 16,680 tons more than CSAPR would, BART is likely needed to ensure reasonable progress, and EPA cannot finalize the partial regional haze FIP for Ohio without demonstrating reasonable progress in the absence of BART.

[149] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[150] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[151] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Table 26. Units in Ohio Near Class I Areas Where SO_2 Emissions Under Projected BART Would Be Less Than the Unit's SO_2 Emission Allocations Under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[152]	Projected BART SO_2 Emissions (tons)[153]	CSAPR 2014 SO_2 Annual Emissions (tons)[154]	Additional Emissions Under CSAPR (tons)
Avon Lake Power Plant	12	None	34,481	345	2879	2534
Conesville	3	None	11,604	116	680	564
Eastlake	5	None	31,527	315	3687	3372
Walter C Beckjord Generating Station	5	None	17,719	177	1123	946
Walter C Beckjord Generating Station	6	None	46,945	469	2476	2007
Cardinal	3	None	26,596	266	4199	3933
Muskingum River	5	None	27,688	277	3602	3325
Total			**196,560**	**1,966**	**18,646**	**16,680**

Similarly, applying post-combustion NOx BART controls at these sources would reduce NOx emissions 4,596 tons more than CSAPR would.

[152] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[153] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD.
[154] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Table 27. Units in Ohio Near Class I Areas Where NOx Emissions Under Projected BART Would Be Less Than the Unit's NOx Emission Allocations Under CSAPR

Plant	Unit	NOx Control	2010 NOx Emissions (tons)[155]	BART NOx Emissions (tons)[156]	CSAPR 2014 NOx Annual Emissions (tons)[157]	Additional Emissions Under CSAPR (tons)
Avon Lake	12	LNB/OFA/ SNCR	4,974	623[158]	1800	1177
Conesville	3	LNB	1,192	119	430	311
Eastlake	5	LNB/OFA/ SNCR	4,434	793[159]	2306	1513
Walter C Beckjord Generating Station	5	LNB/OFA	2,416	242	710	468
Walter C Beckjord Generating Station	6	LNB/OFA	4,399	440	1567	1127
Total			**17,415**	**2217**	**6813**	**4596**

In addition, as set forth in detail in comments submitted by Earthjustice on EPA's proposed "limited" approval of the Ohio SIP,[160] Ohio sources contribute to visibility impairment in many Class I areas further away in Missouri and Michigan, and as far away as New Jersey, and Maine. Maine and New Jersey are both in the MANE-VU region, which has requested that upwind states including Ohio make 90 percent or greater reductions in SO_2 emissions from EGUs and achieve greater overall emission reductions than would have been achieved under CSPAR's predecessor, CAIR. In Ohio, there are 28 EGU stacks at 14 plants that impact Class I areas in the MANE-VU region that accordingly need to achieve these emissions reductions. In the absence of BART requirements, however, these plants would be permitted to contribute to ongoing visibility impairment. Three of these plants—Avon Lake, Eastlake, and Walter C.

[155] The 2010 NOx emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[156] Unless otherwise noted, these figures were calculated by applying post combustion controls with 90% efficiency to the annual 2010 NOx emissions reported in CAMD.
[157] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.
[158] This figure was calculated by multiplying the unit's 2010 heat rate, as found on CAMD, by a NOx emission rate of 0.05lb/mmBtu.
[159] This figure was calculated by multiplying the unit's 2010 heat rate, as found on CAMD, by a NOx emission rate of 0.05lb/mmBtu
[160] Letter from Shannon Fisk, Earthjustice, to Pamela Blakely, U.S. EPA, Comments of the National Parks Conservation Association, Natural Resources Defense Council, and Sierra Club re: Proposed Limited Approval of Revisions to the Ohio State Implementation Plan for Regional Haze, Docket No. EPA-R05-OAR-2011-0239 (Feb. 24, 2012).

Beckjord—do not have scrubbers and do not have any announced plans to install them to comply with CSPAR. (While these plants may retire, they are under no legal obligation to do so).

Additional scrubbed units at the General J.M. Gavin plant are still emitting SO_2 at rates inconsistent with achieving 90 percent control efficiency and have a significant adverse impact on the Dolly Sods/Otter Creek Wilderness Area in West Virginia as a result.[161] Despite having scrubbers, Gavin Unit 1 emitted 11,989 tons of SO2 in 2010, and Gavin Unit 2 emitted 13,339 tons, which suggests that the scrubbers are not very effective and/or that the units are burning very high sulfur coal. While CSAPR would allocate only 6,030 and 5,936 SO2 emission allowances to Units 1 and 2 respectively, scrubbers achieving BART-level controls would reduce SO2 emissions considerably further. Without data on what the scrubbers are currently achieving at Gavin, it is impossible to determine exactly what level of SO2 emissions would result from the BART-required 99% removal efficiency. However, using the 0.06 lb/mmBtu limit recently approved by U.S. EPA in Oklahoma's regional haze SIP, BARt controls would result in SO_2 emissions of 2,515 and 2,762 tons per year, respectively — less than half of the tonnage allocated under CSAPR for Gavin Units 1 and 2.

Given Ohio's recognized contribution to visibility impairment in multiple Class I areas across many states, EPA cannot approve the proposed partial FIP for Ohio without providing a persuasive demonstration that exempting the state's many BART-subject EGUs from BART requirements will not preclude achievement of reasonable progress goals by other states.

13. Pennsylvania

Pennsylvania is another state that does not contain any Class I areas. Thus, like Indiana and Ohio, its regional haze SIP (or FIP) must include measures ensuring that Pennsylvania sources do not preclude reasonable progress at Class I areas in other states. *See* 40 C.F.R. § 51.308(d)(3). As set forth in greater detail in the comments on EPA's proposed approval of Pennsylvania's regional haze SIP, reliance on CSAPR in lieu of BART will not preclude Pennsylvania from interfering with neighboring state's reasonable progress goals, and its FIP therefore cannot be approved. Moreover, as the table below explains, at the four units that are located within 300 km of Class I areas in New Jersey, Virginia, Vermont, and West Virginia, applying BART controls to limit SO_2 emissions instead of allowing the sources to emit up to their CSAPR allocations will reduce emissions by 7,718 tons per year. These additional reductions are likely critical ensure that nearby states can meet their reasonable progress goals.

[161] Ohio Haze SIP at 57.

Table 28. Units in Pennsylvania near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[162]	Projected BART SO_2 Emissions (tons)[163]	CSAPR 2014 SO_2 Annual Emissions (tons)[164]	Additional Emissions Under CSAPR (tons)
New Castle	5	None	3,941	39	522	483
Portland	2	None	13,256	133	1,255	1,122
Homer City	1	None	53,645	536	3,635	3,099
Homer City	2	None	55,695	557	3,571	3,014
Total			**126,537**	**1,265**	**8,983**	**7,718**

14. South Carolina

Exempting BART-eligible sources in South Carolina from applying SO_2 BART controls is likely to preclude South Carolina from achieving its reasonable progress goals. Six units at three plants that do not have SO_2 controls are located within 300 km of South Carolina's Cape Romain Wilderness area. Applying BART at these units would reduce SO_2 emissions by approximately 11,287 tons per year over the annual CSAPR allocations for these units, as the table below demonstrates. EPA cannot approve the FIP without analyzing whether South Carolina will still be on track to meet its reasonable progress goals absent BART controls. The fact that BART provides significant emissions reductions over CSAPR at many units makes it likely that opting out of BART will preclude South Carolina from making reasonable progress.

[162] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[163] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[164] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

Table 29. Units in South Carolina near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[165]	Projected BART SO_2 Emissions (tons)[166]	CSAPR 2014 SO_2 Annual Emissions (tons)[167]	Additional Emissions Under CSAPR (tons)
Jefferies	4		4,062	41	2563	2522
Canadys Steam	CAN2		3,723	37	1721	1684
Canadys Steam	CAN3		6,031	60	2641	2581
Dolphus M Grainger	1		2,569	26	1184	1158
Dolphus M Grainger	2		3,027	30	1161	1131
Jefferies	3		5,990	60	2271	2211
Total			**25402**	**254**	**11,541**	**11,287**

15. Texas

Finally, as explained more fully in Earthjustice's comments on EPA's proposal to partially reject Texas's regional haze SIP and issue a partial FIP, exempting BART-eligible sources in Texas from BART controls in favor of CSAPR would likely preclude Texas from making reasonable progress at its Class I areas, Big Bend National Park and Guadalupe Mountains National Park and from meeting its obligation to ensure that out-of-state Class I areas can achieve reasonable progress goals. For this reason, EPA cannot approve the regional haze FIP for Texas

Indeed, EPA's own modeling establishes that SO_2 emissions will be 50% less if BART controls are imposed. *See* TSD at 10, Table 2-4 (under CSAPR + BART elsewhere, SO_2 emissions in Texas are 266.6 Mtons, whereas under Nationwide BART, SO_2 emissions are 139.3 Mtons). Moreover, as demonstrated below, at the nine BART-eligible units located within 300 km of Texas's Class I areas, applying SO_2 BART controls would decrease annual emissions by 66,829 tons if those units instead used their CSAPR allocations. It is unreasonable to propose a partial FIP allowing these sources to opt out of BART without considering whether increased emissions under CSPAR will impact reasonable progress. Given that BART will likely reduce

[165] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[166] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[167] The annual unit level allocations are taken from EPA's spreadsheet titled "Final CSAPR Unit Level Allocations under the FIP and Underlying Data," listed documents associated with the Final Cross-State Air Pollution Rule (CSAPR) and Supplemental Rulemaking, *available at* http://www.epa.gov/airtransport/techinfo.html.

emissions by over 66,000 tons a year, it is unlikely that Texas will be able to achieve reasonable progress without BART.

Table 30. Units in Texas near Class I areas Where SO_2 Emissions under Projected BART would be less than the Unit's SO_2 Emission Allocations under CSAPR

Plant	Unit	SO_2 Control	2010 SO_2 Emissions (tons)[168]	Projected BART SO_2 Emissions (tons)[169]	CSAPR 2014 SO_2 Annual Emissions (tons)[170]	Additional Emissions Under CSAPR (tons)
Monticello	1	None	19,160	192	8,598	8,406
Monticello	2	None	19,872	199	8,745	8,546
Big Brown	1	None	31,131	311	8,473	8,162
Big Brown	2	None	32,169	322	8,559	8,237
Harrington Station	061B	None	6,327	63	5,361	5,298
Harrington Station	062B	None	5,565	56	5,255	5,199
Harrington Station	063B	None	8,424	84	5,055	4,971
Welsh Power Plant	1	None	8,361	84	6,496	6,412
Welsh Power Plant	2	None	8,792	88	7,050	6,962
Total			139,801	1,398	63,592	62,194

IX. CONCLUSION

For all of the reasons set forth above, we respectfully urge EPA to abandon its proposed "better-than-BART" proposal, and any piecemeal action on Alabama, Florida, Georgia, Indiana, Iowa, Louisiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas's regional haze plans. The agency is now making unprecedented progress toward achieving visibility goals set by Congress 35 years ago. This sweeping exemption from BART requirements would constitute a major setback. Please do not hesitate to contact undersigned counsel with any questions or concerns.

[168] The 2010 SO_2 emissions can be found on CAMD. *See* U.S. Environmental Protection Agency, Clean Air Markets – Data and Maps, http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=iss.isshome.
[169] Calculated by applying a scrubber with 99% efficiency to the annual 2010 SO_2 emissions reported in CAMD. *See* Section VII.C.2 & n.42 *supra*.
[170] The annual CSAPR unit level allocations for the listed units in Texas reflect changes to the original allocations per Final Cross-State Air Pollution Rule Revisions. *See* EPA's Final Revisions Rule Unit Level Allocations under the FIPs spreadsheet, *available at* http://www.epa.gov/airtransport/techinfo.html.

Sincerely,

Abigail Dillen
Jocelyn D'Ambrosio
Earthjustice
156 William Street, Suite 800
New York, NY 10038
212-791-1881
adillen@earthjustice.org
jdambrosio@earthjustice.org

Stephanie Kodish
Attorney Project Manager
National Parks Conservation Association

Elena Saxnhouse
Staff Attorney
Sierra Club

Deborah Sheppard
Executive Director
Altahama Riverkeeper

Georgia Murray
Staff Scientist
Appalachian Mountain Club

Jennifer L. Cassel
Staff Attorney
Environmental Law & Policy Center

Katherine Helms Cummings
Executive Director
Fall-line Alliance for a Clean Environment

Bobby McLendon
Member
Friends of the Chattahoochee

Justine Thompson
Executive Director
GreenLaw

David C. Bender
Attorney
Midwest Environmental Defense Center

Beth Goodpaster
Clean Energy Program Director
Minnesota Center for Environmental Advocacy

Thomas Cmar
Midwest Program Attorney
Natural Resources Defense Council

Dianna Wedincamp
Ogeechee Riverkeeper

Brian Urbaszewski
Director, Environmental Health Program
Respiratory Health Association of Metropolitan Chicago

Ulla Reeves
Regional Program Director
Southern Alliance for Clean Energy

John Suttles
Senior Attorney
Southern Environmental Law Center

Laura Norris
Member
Wiregrass Energy Network

Appendix A.

Modeling and Emission Inventory Development; Review and Analysis for Louisiana's Regional Haze State Implementation Plan Submittal

Prepared and Reviewed by:

Erik Snyder
Michael Feldman

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Chapter 1: Background and Introduction

1.1 BACKGROUND

Regional haze is visibility impairment that is caused overwhelmingly by fine particulates (PM2.5). Visibility impairment occurs when PM2.5 in the atmosphere scatters and absorbs light, thereby creating haze. PM2.5 can be emitted into the atmosphere directly as primary particulates, or it can be produced in the atmosphere from photochemical reactions of gas-phase precursors and subsequent condensation to form secondary particulates. Examples of primary PM2.5 include crustal materials and elemental carbon; examples of secondary PM include ammonium nitrate, ammonium sulfates, and secondary organic aerosols (SOA). Secondary PM2.5 is generally smaller than primary PM2.5, and because the ability of PM2.5 to scatter light depends on particle size, with light scattering for fine particles being greater than for coarse particles, secondary PM2.5 plays an especially important role in visibility impairment. Moreover, the smaller secondary PM2.5 can remain suspended in the atmosphere for longer periods and is transported long distances, thereby contributing to regional-scale impacts of pollutant emissions on visibility.

The sources of PM2.5 are difficult to quantify because of the complex nature of their formation, transport, and removal from the atmosphere. This makes it difficult to simply use emissions data to determine which pollutants should be controlled to most effectively improve visibility. Photochemical air quality models offer opportunity to better understand the sources of PM2.5 by simulating the emissions of pollutants and the formation, transport, and deposition of PM2.5. If an air quality model performs well for a historical episode, the model may then be useful for identifying the sources of PM2.5 and helping to select the most effective emissions reduction strategies for attaining visibility goals. Although several types of air quality modeling systems are available, the gridded, three-dimensional, Eulerian models provide the most complete spatial representation and the most comprehensive representation of processes affecting PM2.5, especially for situations in which multiple pollutant sources interact to form PM2.5.

In Section 169A of the 1977 Amendments to CAA, Congress set forth a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes as a national goal the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Federal Class I areas which impairment results from manmade air pollution." EPA promulgated a rule to address regional haze on July 1, 1999 (64 FR 35713), the Regional Haze Rule (RHR). The RHR established the goal of achieving "natural" visibility conditions in all 156 Federal Class I areas by 2064.

Because the pollutants that lead to regional haze can originate from sources located across broad geographic areas, EPA has encouraged the States and Tribes across the United States to address visibility impairment from a regional perspective. Five Regional Planning Organizations (RPOs) were developed to address regional haze and related issues (Figure 1-1). One of the main objectives of the RPOs is to analyze available data and conduct pollutant transport modeling to assist the States in developing their regional haze plans.

Figure 1-1. Map of Regional Planning Organizations

The Central Regional Air Planning Association (CENRAP) RPO is a collaborative effort of State governments, tribal governments, and various federal agencies established to conduct data analyses, conduct pollutant transport modeling, and coordinate planning activities among the central States. CENRAP members include the State governments of Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, and Louisiana and Tribal governments included in these states.

1.2 TECHNICAL REQUIREMENTS FOR REGIONAL HAZE SIPS

The RHR does not mandate specific milestones or rates of progress, but instead calls for States to establish goals that provide for "reasonable progress" toward achieving natural visibility conditions. In setting Reasonable Progress Goals (RPGs), States must provide for an improvement in visibility for the most impaired days over the ten-year period of the SIP, and ensure no degradation in visibility for the least impaired days over the same period. In setting the RPGs for each 10-year period covered by a SIP, States must also compare the RPGs to the uniform rate of progress needed to reach natural visibility conditions by 2064, referred to as the "glide path", which is the linear rate of reduction in visibility impairment (in deciviews) needed to achieve natural conditions by 2064.

According to the RHR, Regional Haze SIPs must specifically identify and address the following elements:

i. Baseline Visibility Conditions
ii. Natural Visibility Conditions
iii. Uniform Rate of Progress
iv. Best Available Retrofit Technology (BART)
v. Current and Future (2018) Emission Inventories
vi. Source Contribution to Haze
vii. Reasonable Progress Goals

The purpose of this document is to supplement the main TSD and provide review of issues not covered in the main TSD dealing with the technical products developed by the Louisiana Department of Environmental Quality (LDEQ) and CENRAP for the central regional states, in support of their RH SIP. This document evaluated the methods and procedures used by LDEQ and CENRAP to develop the modeling and emission inventory products that assisted Louisiana and the central regional States in addressing the required elements of a RH SIP. Specifically, this document reviewed emission inventory, meteorological, photochemical, and BART modeling conducted by CENRAP and other screening modeling, evaluated the results and determined if these models met applicable guidelines or protocols, and met modeling standards at the time they were conducted.

Chapter 2: Development of Baseline and Natural Visibility Conditions and Glidepath

2.1 INTRODUCTION

Under the Regional Haze Rule (RHR), each State is required to demonstrate reasonable progress in visibility conditions for each of its Class I areas. The State is to determine a uniform rate of progress ("glide path", "glide slope") toward the goal of natural visibility conditions in 2064. Considering various statutory factors, the State is also to define a reasonable rate of progress, and compare this to the benchmark uniform rate; if projected progress is less than the uniform rate, then the State is to explain why. Procedures for assessing progress are described in the Regional Haze Rule and EPA guidance documents.

In brief, the guidance defines a metric to quantify visibility conditions, together with procedures for determining a starting point and an ending point, between which progress is to be made. The metric used is the Haze Index, measured in deciviews, and is designed to correspond to human perception of visibility changes. It is defined as:

$$10*ln(b_{ext}/10) \qquad (1)$$

where b_{ext} is extinction, the fraction of light scattered out of a sight path due to pollutants over a given distance (with units of Mm^{-1} or "inverse megameters"); it is inversely related to visual range. A 24-hour average is used, so there is a deciview value for each day of the year; the average of the 20% most-impaired days, and the average of the 20% least-impaired days during a year are to be assessed. The Regional Haze Rule goal is to improve visibility on the worst 20% of days, while having no degradation on the best 20%.

The starting point for progress is current or baseline visibility conditions, as monitored by the Interagency Monitoring of PROtected Visual Environments (IMPROVE) monitoring network (webpage and data access: http://vista.cira.colostate.edu/improve/Default.htm). 24-hour samples are collected every three days and are sent to a laboratory facility for analysis to obtain dry concentrations of a wide variety of species that impact visibility. Monitored pollutant concentrations are converted to visibility extinction using the IMPROVE equation, which adds up the contribution of each pollutant to extinction, while accounting for the effect of relative humidity. This total extinction is then converted to deciviews in the Haze Index through equation 1. For each of the years of the baseline period (2000-2004), the average of the deciviews on the worst 20% of days is calculated; the five-year average of these defines the baseline. This procedure is described in detail in EPA's "Guidance for Tracking Progress Under the Regional Haze Rule".[1] The guidance also makes provisions for dealing with missing data, since monitoring instrument maintenance and malfunctions mean that data is not available for every scheduled measurement.

The end point for progress is the goal of natural visibility conditions in 2064. The default approach for determining these is described in EPA's "Guidance for Estimating Natural Visibility

[1] Hereafter "GTR": EPA, 2003, *Guidance for Tracking Progress Under the Regional Haze Rule*, EPA-454/B-03-004, September 2003, EPA OAQPS ; web page: http://www.epa.gov/ttn/oarpg/t1pgm.html
direct link: http://www.epa.gov/ttn/oarpg/t1/memoranda/rh_tpurhr_gd.pdf

Conditions Under the Regional Haze Program".[2] Annual average natural background pollutant concentrations are estimated by Trijonis et al.[3] under NAPAP for the East and West parts of the country. Deciviews are calculated based on these natural background estimates with the IMPROVE equation, using the monthly relative humidity for each specific Class I area. These annual averages are then translated into estimates for the best 20% and worst 20% days needed for the progress assessment. Extinction was assumed to have a lognormal frequency distribution; deciviews would then have a normal distribution, and its 10th and 90th percentiles were used as estimates of the average of the best 20% and worst 20% of days, respectively. The result is a table of best and worst 20% deciview values for each Class I area, which appears in Appendix B of the guidance. The guidance also allows States to use a refined alternative to this default approach for estimating natural conditions.

Finally, the uniform rate of progress is calculated as the difference between the baseline and natural conditions, spread over the 60 years between 2004 and 2064: uniform deciviews per year improvement = (current 2004 deciviews - natural 2064 deciviews) / 60. This rate is the benchmark against which visibility improvement is to be compared by the State; the first planning period envisaged by the Regional Haze Rule is through 2018, so this uniform rate is multiplied by 14 to determine the first benchmark.

2.2 CALCULATION OF VISIBILITY FROM IMPROVE MEASUREMENTS

The CENRAP procedure used for developing a uniform rate of progress (URP, also known as "glide path" or "glide slope") for the State of Louisiana followed EPA guidance contained in the GTR and GENVC with the exception that the revised IMPROVE algorithm was utilized rather than the original IMPROVE equation . The procedure used is described in the Technical Support Document for CENRAP Emissions and Air Quality Modeling to Support Regional Haze State Implementation Plans.[4]

CENRAP used the approach of Pitchford et al.[5]. The equation utilized is referred to as the "revised" IMPROVE algorithm or equation and was used for estimates of both baseline and natural conditions. The revised IMPROVE equation is used to convert measured concentrations into extinction for each pollutant chemical species, and then total them up, accounting for the effect of relative humidity, and including the Rayleigh scattering that occurs in pure air. The extinction total is then used to calculate deciviews for use in visibility progress assessments through equation 1. EPA's 2007 "Guidance on the Use of Models and Other Analyses for

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[2] Hereafter "GENVC": EPA, 2003, *Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Program*, EPA-454/B-03-005, September 2003, EPA OAQPS; web page: http://www.epa.gov/ttn/oarpg/t1pgm.html direct link: http://www.epa.gov/ttn/oarpg/t1/memoranda/rh_envcurhr_gd.pdf

[3] Trijonis, J.C., et al., 1990, "Visibility: Existing and Historical Conditions-Causes and Effects", chapter 24 in NAPAP State of Science & Technology, Vol. III web page: http://vista.cira.colostate.edu/improve/Publications/Principle_pubs.htm

[4] Hereafter "CENRAP TSD": Environ International Corp. and University of California at Riverside, September 2007.

[5] (2007) Pitchford, Marc; William Malm, Bret Schichtel, Naresh Kumar, Douglas Lowenthal, and Jenny Hand, 2007: Revised algorithm for estimating light extinction from IMPROVE particle speciation data. J. Air & Waste Manage. Assoc., 57, 1326-1336.

Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze"[6] states that the use of either the IMPROVE or the revised IMPROVE equation is acceptable provided that the States supply documentation concerning the choice of equation and that the same algorithm is utilized for both the base and future extinction calculations.

The IMPROVE program revised the IMPROVE equation after a scientific assessment of its implications for regional haze planning to reduce biases in light extinction estimates compared to the old algorithm.[7] In particular, when compared to nephelometer direct measurements of visibility extinction, the original IMPROVE equation over-predicts for low extinction conditions and under-predicts for high extinction. These biases have direct relevance for estimates for the best 20% and worst 20% visibility days that are used to assess progress.

The revised equation used by CENRAP has four changes: 1) greater completeness though the inclusion of sea salt, which can be important for coastal sites; 2) increased organic carbon mass estimate, based on more recent data for remote areas; 3) Rayleigh scattering using site-specific elevation and temperature, a refinement over the older network-wide constant; and 4) separate estimates for small and large particles of visibility impacts and humidity-dependent particle size growth rates, which could affect estimates at the low and high ends.[8] The revised equation has an additional term for inclusion of NO2; however, none of the CENRAP Class I areas have monitors that provide observations of NO2 so this term was not used.

The new equation shows broader scatter overall, but less bias in matching visibility measurements under high and low visibility conditions. That is, though it has a somewhat worse fit considering all the data, it has a better fit under visibility conditions most relevant to regional haze planning, the best and worst 20% of days. The looser overall fit can cause a slightly different set of days to be the ones chosen as the 20% worst, but the chemical species composition for such days is little changed (IMPROVE technical subcommittee for algorithm review, 2001, pp. 11-12), and so this makes little difference for assessing the contribution of emission sources to current conditions, and for projecting the effect of emission controls. The split between small and large particles was the main factor in reducing the biases.

The organic carbon (OC) measured by the IMPROVE network does not include all organic matter (OM); based on 1970's urban data, a scaling factor of 1.4 is embedded in the old equation to account for the full mass. Based on recent data more relevant to relatively remote Class I

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[6] Hereafter "GOPMRH": EPA, 2007, *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze*, EPA-454/B-07-002, April 2007, EPA OAQPS; web page: http://www.epa.gov/scram001/guidance_sip.htm direct link: http://www.epa.gov/ttn/scram/guidance/guide/final-03-pm-rh-guidance.pdf

[7] IMPROVE, 2006, *Revised IMPROVE algorithm for Esimating Light Extinction from Particle Speciation Data*, January 2006; http://vista.cira.colostate.edu/improve/Publications/GrayLit/gray_literature.htm; Hand, J.L.; Douglas, S.G., 2006, Review of the IMPROVE Equation for Estimating Ambient Light Extinction Coefficients – Final Report, http://vista.cira.colostate.edu/improve/Publications/GrayLit/016_IMPROVEEeqReview/IMPROVEeqReview.htm

[8] Pitchford, Marc, 2006, "New IMPROVE algorithm for estimating light extinction approved for use", *The IMPROVE Newsletter*, Volume 14, Number 4, Air Resource Specialists, Inc.; web page: http://vista.cira.colostate.edu/improve/Publications/news_letters.htm direct link: http://vista.cira.colostate.edu/improve/Publications/NewsLetters/IMPNews4thQtr2005.pdf

areas, the revised IMPROVE equation embeds an OM/OC factor of 1.8. At the Caney Creek Wilderness Area and Upper Buffalo Wilderness Area sites, fine sulfurous aerosol contributes the most to visibility impairment on the worst days during the baseline years, although a few of the worst days are dominated by nitrates. . The largest difference in results between the two algorithms is related to the separation of total concentrations of sulfate, nitrate, and organic carbon into small and large size distributions in the revised equation.

The revised IMPROVE equation has less bias, is more refined, accounts for more pollutants, incorporates more recent data, and is based on considerations of relevance for the calculations needed for assessing progress under the RHR. EPA believes it is appropriate for the CENRAP states to use the revised IMPROVE equation. As the state of the science evolves, it is recommended that this procedure is reevaluated to apply more current and site specific data as it becomes available. CENRAP provides alternative calculations using the original IMPROVE equation for comparison with these visibility calculation results.

2.3 BASELINE VISIBILITY CONDITIONS

Section 2 of the EPA's "Guidance for Tracking Progress Under the Regional Haze Rule" ("GTP") describes a step-by-step process for calculating the visibility metric for the baseline period 2000-2004. The steps involve (1) assembly of daily species concentration data from the IMPROVE network, (2) inclusion of substitutions for missing data; (3) assessment of site data completeness (4) calculation of extinction via the IMPROVE equation; (5) calculation of the deciview Haze Index; (6) calculation of average deciviews for the 20% best and 20% worst days for each year; and (7) averaging these over the 5 year period. These steps are mostly straightforward and are briefly discussed here with a more detailed discussion on the differences between EPA guidance and CENRAP procedures.

We discuss the data filling for the Breton monitor and the acceptability of the data that was generated with assistance from the IMPROVE committee and utilized in the CENRAP and LDEQ RH SIP in the main TSD for this action.

The RHR defines the baseline period as the five year span from 2000-2004. As discussed in the main TSD. LDEQ has calculated a baseline visibility based on the average of the worst (best) 20% of days for each of these three years. With the data substitution, this meets the minimum overall data completeness requirements for calculation of the baseline visibility conditions detailed in the GTP.

Every Class I area within the CENRAP states has an associated IMPROVE monitor. Results from analysis of samples collected at each monitor site are used to calculate extinction and haze index using the procedure described above. For those CENRAP sites (Breton (BRET), Louisiana; Boundary Waters (BOWA), Minnesota and Mingo (MING), Missouri) that did not have three valid years that met the completeness requirements for inclusion in the baseline visibility calculations, data filling was used to create at least three years of valid data. These data filled IMPROVE databases were prepared and made available on the VIEWS website. More information on the data filling procedures can be found at the VIEWS website: (http://vista.cira.colostate.edu/views/).

The CENRAP followed EPA guidance for estimating baseline visibility conditions.

2.4 NATURAL VISIBILITY CONDITIONS

EPA guidance set out a default procedure for estimating natural conditions, but also describes circumstances when States might want to use a more refined approach, such as to reduce uncertainty when baseline visibility is already near natural conditions, or when there is marked seasonality; these might be accomplished via alternative estimates of natural concentrations, or use of temporally varying estimates (GENV sec. 3.1 and 3.2).

LDEQ opted to use the revised IMPROVE equation to calculate the "refined" natural visibility conditions. This is an acceptable approach under our 2003 Natural Visibility Guidance. This approach uses the revised IMPROVE equation so that progress between baseline conditions and natural conditions can be calculated on a consistent basis.
The procedure used has several acknowledged limitations. 1) each chemical species can have one of only two possible background concentrations, one for the East and one for the West. Future efforts may provide for a larger number of geographic zones with differing concentrations A second potential limitation is that the same approach is used for both natural- and anthropogenic-dominated species components; EPA guidance mentions the possibility of treating these separately (GENV sec. 3.4).

The majority of visibility impairment at the Breton National Wildlife Refuge site is currently from anthropogenic sources. As measures are taken to improve visibility and decrease emissions, the ability to identify natural sources and background concentrations of PM will improve. The current approach used by LDEQ follows EPA methods and is acceptable. As additional information and more site-specific data become available, LDEQ is encouraged to pursue refinements in this approach to better quantify natural visibility conditions.

2.5 UNIFORM RATE OF PROGRESS (GLIDEPATH) CALCULATION

The uniform rate of progress is calculated as the linear rate of progress (decrease in deciviews per year) required to reach natural visibility conditions in 2064, starting from the baseline conditions in 2004. The first benchmark year is 2018 and the calculated improvement required to attain the desired rate of progress is 3.45 deciviews for Breton Island. Table 2.5 summarize the calculations performed by LDEQ.

Table 2.1. Uniform Rate of Progress for Breton National Wildlife Refuge and (worst quintile, western natural visibility conditions)

Conditions	**Total extinction (Mm^{-1})**	**Haze Index (deciviews)**
Baseline (2002-2004) conditions	131.05	25.73
Natural (for 2064) conditions	32.97	11.93
Observed impairment above natural conditions	98.08	13.8
Progress (2004-2018) at uniform rate		0.23 per year
Improvement needed by 2018 assuming uniform rate of progress	22.885	3.22

Chapter 3: Emission Inventory Development

3.1 INTRODUCTION

In support of the CENRAP Regional Haze air quality modeling efforts, air quality modeling inputs including annual meteorology and emissions inventories for a 2002 actual emissions base case, a planning case to represent the 2000-04 regional haze baseline period using averages for key emissions categories, and a 2018 base case of projected emissions are needed. All emission inventories were developed using the Sparse Matrix Operator Kernel Emissions (SMOKE) modeling system (See section 3.6). Each of these inventories has undergone a number of revisions throughout the development process to arrive at the final versions used in CMAQ and CAMx air quality modeling. In general, updated 2002 emissions data for the U.S. developed by the Regional Planning Organizations (RPOs), updated emissions data for Mexico from the BRAVO 1999 emissions inventory, and version 2 of the 2000 emissions data for Canada were used to generate a 2002 annual emissions database. The 2002 and 2018 emissions inventories and ancillary modeling data were provided by CENRAP emissions inventory contractors,[9] other RPOs and EPA. Emission modeling and quality assurance (QA) work was based on the *Quality Assurance Project Plan (QAPP) CENRAP Emissions and Air Quality Modeling*[10] and *Protocol for the CENRAP 2002 Annual Emissions and Air Quality Modeling*[11] (hereafter referred to as the "Modeling Protocol"). These protocols were reviewed by the EPA Regions at the time they were developed.

The development of each of these emission scenarios are as follows:

- The 2002 base case emissions scenario was developed to represent the actual conditions in calendar year 2002 with respect to ambient air quality and the associated sources of criteria and particulate matter air pollutants. This emission inventory is used to validate the air quality model and associated databases and to demonstrate acceptable model performance with respect to replicating observed particulate matter air quality. The base case includes actual day-specific emissions of SO_2 and NOx emissions for large stationary point sources based on measured continuous emissions monitoring (CEM) data along with actual 2002 fire emissions.

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[9] Pechan and CEP. 2005. Consolidation of Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and Carolina Environmental Program (CEP), University of North Carolina(UNC), (http://www.cenrap.org/html/projects.php?mode=subcatdownload&id=50); Pechan and CEP. 2005. Refinements of CENRAP's 2002 Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and CEP, UNC. (http://www.dnr.mo.gov/env/apcp/docs/appendixh-3.pdf); Reid, S.B. et al. 2004. Emission Inventory Development for Mobile Sources and Agricultural Dust Sources for the Central States. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_Mobile/FinalReport.pdf).; Reid, S.B et al. 2004. Research and Development of Planned Burning Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_PlannedBurnData/FinalReport.pdf).; Coe, D.L. and S.B. Reid. 2003. Research and Development of Ammonia Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_Ammonia_NIF/FinalReport.pdf).

[10] Morris, R.E. and G. Tonnesen. 2006. Quality Assurance Project Plan (Draft) for Central Regional Air Planning Association (CENRAP) Emissions and Air Quality Modeling. (http://pah.cert.ucr.edu/aqm/cenrap/docs/CENRAP_QAPP_Rev3_Mar_29_2006.pdf)

[11] Morris, R.E. et al. Modeling Protocol for the CENRAP 2002 Annual Emissions and Air Quality Modeling, Draft 2.0. Web:http://pah.cert.ucr.edu/aqm/cenrap/docs/CENRAP_Draft2.0_Modeling_Protocol_120804.pdf).

- The 2000-04 baseline period planning case emissions scenario is referred to as "Typ02G". The purpose of the Typ02G inventory is to represent baseline emission patterns based on average, or "typical", conditions. This inventory provides a basis for comparison with the future year 2018 projected emissions, as well as to gauge reasonable progress with respect to future year visibility. 5-years of CEM data were analyzed and typical seasonal and diurnally varying emissions were defined.

- The 2018 future-year base case emissions scenario is referred to as "2018 Base Case" or "Base18G". These emissions are used to represent conditions in future year 2018 with respect to sources of criteria and particulate matter air pollutants, taking into consideration growth and controls. Modeling results based on this emission inventory are used to define the future year ambient air quality and visibility metrics.

Emission inventory data from five general categories are needed to support air quality modeling: stationary point-source emissions, stationary area-source emissions (also called nonpoint), mobile emissions for on-road sources, mobile emissions for nonroad sources (including aircraft, railroad, and marine vessels), and biogenic emissions. The emission inventory development and emissions modeling steps can be different for each of these categories. The *Technical Support Document for CENRAP Emissions and Air Quality Modeling to Support Regional Haze State Implementation Plans*[12] (hereafter referred to as the "CENRAP TSD") describes the development of each source category inventory is detail. Appendix B of the CENRAP TSD lists the file names, data source, type and a description of emissions used in the 2002 typical (Typ02G) emissions inventory. Emissions inventories for each source category are described briefly in the following section. The CENRAP TSD is included as Appendix B of the LDEQ Regional Haze Implementation Plan Revision.

3.2 2002 EMISSIONS INVENTORY

LDEQ developed the 2002 point source emissions inventory in-house with Emission Inventory Questionnaires and used the biogenic source inventory developed by EPA.LDEQ contracted with ENVIRON to develop an emission inventory for three inventory source classifications: on-road and non-road mobile sources and nonpoint sources for the baseline year of 2002.[13]

The nonpoint, or area source, inventory includes emitters of ozone pollutants (i.e., NOx and VOCs) such as devices that combust fuel (e.g., dry cleaners, degreasing, and industrial surface coating), gasoline distribution, asphalt paving, and fires and open burning (e.g., agricultural burning, structural fires, wildfires, prescribed burning). In addition, area source categories contributing to visibility pollutants (i.e., PM10, PM2.5, and NH3) are also included in the area source emissions inventory (e.g., fugitive dust, agricultural operations, livestock ammonia, etc.).

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[12] Environ International Corp. and University of California at Riverside, 2007. Technical Support Document for CENRAP Emissions and Air Quality Modeling to Support Regional Haze State Implementation Plans. (http://www.cenrap.org/html/projects.php?mode=download&id=87)

[13] Final Report: Arkansas 2002 Emission Inventory, prepared by ENVIRON and Eastern Research Group, May 13, 2004 (Appendix 7.1A of the RH SIP)

The contractor reviewed all emission factors used in the inventory to ensure they were the most appropriate and up-to-date emission factors available and checked all calculations for accuracy. LDEQ.

The 2002 national emissions inventory (2002 NEI), compiled from submitted inventories from states, tribal and local agencies was the original basis for the CENRAP emission inventory. Sonoma Technology supplemented the 2002 NEI data with non-point source inventories to address agricultural and prescribed burning, on-road and non-road mobile sources, agricultural tilling and livestock dust, and agricultural ammonia for the CENRAP inventory.[14]

Table 3-1. Emissions from Louisiana Sources (tons/yr)

	SO_2	NH_3	NO_X	VOCs	PM_{10}	$PM_{2.5}$
Point	286,050	9,237	312,634	89,025	73,333	60,899
Area	81,153	75,381	99,060	124,311	245,162	84,068
Non-road mobile	14,324	563	117,250	109,598	10,663	9,791
On-road mobile	4,653	3,748	15,137	64,643	3,563	2,689
Total	**386,180**	**88,929**	**544,081**	**387,577**	**332,721**	**157,447**

3.2.1 Stationary Point-Source Emissions

Point sources are typically regulated and information on emissions and locations are available in regulatory reports. Larger permitted point sources in Louisiana are required to submit annual emissions inventories via Emission Inventory Questionnaires (EIQ), and all other point sources have a reporting frequency of every 3 years, beginning with the 2002 base inventory. This data, along with similar data available from other states make the basis of the point source inventory. The CENRAP stationary-point inventory consisted of annual county-level and tribal data provided in August of 2005.[15] Point source inventories were developed by the other RPOs and shared with CENRAP. These inventories are typically further divided into EGU and non-EGU sources. For EGU sources, continuous emissions monitoring (CEM) data is available to create day and hour-specific emission inventories for input into the Base02F inventory. The Typ02G

[14] Reid, S.B. et al. 2004. Emission Inventory Development for Mobile Sources and Agricultural Dust Sources for the Central States. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_Mobile/FinalReport.pdf).; Reid, S.B et al. 2004. Research and Development of Planned Burning Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_PlannedBurnData/FinalReport.pdf).; Coe, D.L. and S.B. Reid. 2003. Research and Development of Ammonia Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc.

[15] Pechan and CEP. 2005. Consolidation of Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and CEP, UNC, (http://www.cenrap.org/html/projects.php?mode=subcatdownload&id=50); Pechan and CEP. 2005. Refinements of CENRAP's 2002 Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and CEP, UNC. (http://www.dnr.mo.gov/env/apcp/docs/appendixh-3.pdf)

inventory includes further processing of EGU emissions to develop a typical emission levels and temporal profiles.

Coal-fired point sources within the CENRAP states use a PM2.5 speciation profile recently developed for MRPO by Carnegie Mellon that is representative of combustion of eastern bituminous coal. Texas and North Dakota sources that burn lignite coal used a modified NCOAL speciation.[16] More specific speciation profiles should be utilized as they become available to accurately describe the speciation of PM2.5 from combustion of different types of coal utilized in Louisiana.

3.2.2 On-Road Mobile Emissions

Emissions from mobile, on-road sources are prepared for CENRAP modeling in one of two ways: 1) pre-computed emissions supplied by an RPO or other group or 2) supplied vehicle miles traveled (VMT), meteorological data and other MOBILE6[17] inputs for calculation in SMOKE/MOBILE6. Annual mobile emissions were pre-computed as part of the 1999 Mexico inventory and 2000 Canada inventory. Seasonal mobile emissions calculated in MOBILE6 were provided for all 13 WRAP states. For all other RPOs, including CENRAP, county-level VMT were prepared and input into SMOKE/MOBILE6. For all Louisiana parishes, parish-level Highway Performance Monitoring System annual average VMT data were used. Annual average data was adjusted using seasonal factors to arrive at month-specific estimates. Weekday VMT for summer and winter were estimated from monthly values using Texas statewide average weekday/annual average daily factors.[18] For the other CENRAP states, Sonoma Technology provided monthly VMT data and MOBILE6 input files for the months of January and July for all counties in the CENRAP region.[19] MOBILE6 input files for the remaining months of 2002 had to be generated. The EPA MOBILE6 was state-of-the-science at the time the modeling was conducted and deemed acceptable at that time. EPA Office of Transportation and Air Quality has developed a new model, Motor Vehicle Emission Simulator (MOVES), which will replace the MOBILE6 model for estimating emissions from on-road mobile sources.

3.2.3 Biogenic Emissions

The BEIS3 system is utilized to estimate emissions from biogenic sources. BEIS3 is integrated into SMOKE for deriving biogenic emissions estimates given land use information, emissions factors for different plant species, and hourly, gridded meteorology data. Land use data is from the BELD3 land use database and emission factors used are version 0.98 of the BELD emissions factors. These land use data and emission factors were developed by the WRAP during their preliminary modeling efforts. BEIS modeling produces gridded, hourly emissions for input into CMAQ and CAMx.[20] The EPA approves of the use of BEIS3 by CENRAP in this SIP.

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[16] Chow, J et al. 2004. Source Profiles for Industrial, Mobile, and Area Sources in the Big Bend Regional Aerosol Visibility and Observational Study. Chemosphere 54, 185-208.

[17] EPA's MOBILE6 model is available at http://www.epa.gov/OMSWWW/m6.htm

[18] Final Report: Arkansas 2002 Emission Inventory, prepared by ENVIRON and Eastern Research Group, May 13, 2004 (Appendix 7.1A of the RH SIP)

[19] Reid, S.B. et al. 2004. Emission Inventory Development for Mobile Sources and Agricultural Dust Sources for the Central States. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_Mobile/FinalReport.pdf)

[20] Tonnesen, G., et al. 2005. Final Report for the Western Regional Air Partnership (WRAP) Regional Modeling Center (RMC) for the Project Period March 1, 2004 through February 28, 2005. UCR. (http://pah.cert.ucr.edu/aqm/308/reports/final/2004_RMC_final_report_main_body.pdf).

3.2.4 Non-Road Mobile Emissions

Emissions from airport/aircraft operations, commercial and recreational marine vessels, and railroad locomotives, farm equipment, lawn equipment, and other sources were developed by the EPA for the 2002 NEI. The EPA NONROAD[21] (NONROAD 2004 at the time) model was utilized by Sonoma Technology to develop a non-road emissions inventory for the CENRAP states.**Error! Bookmark not defined.** EPA and CENRAP emissions were consolidated by Pechan and CEP.[22]

3.2.5 Area Source Emissions

The area source inventory includes data from the EPA 2002 NEI and inventories prepared by LDEQ, CENRAP and other CENRAP states. Area sources include small sources that combust fuel (small heaters, water heaters, etc.) and other sources such as dry cleaning, degreasing and industrial surface coating. Sonoma Technology prepared additional inventories of prescribed burning, agricultural dust, and soil agricultural ammonia for the CENRAP region.[23] The Western Regional Air Partnership (WRAP) provided an oil and gas production inventory for states within the WRAP that included a number of states in the CENRAP modeling domain. These emissions were consolidated by Pechan and CEP.[24] UCR processed this inventory further to separate the inventory into subcategories (general area, fire, ammonia, road dust, fugitive dust, uncategorized) to assist in particulate source apportionment modeling with CAMx.

3.3 2018 EMISSIONS INVENTORY

An emission inventory for 2018 including anticipated changes due to population growth, emission controls and development of industry, energy, and natural resources is required to project the net effect on visibility conditions by 2018. CENRAP developed an emission inventory for 2018 (Base18G) using a combination of EPA Economic Growth Analysis System (EGAS 5/6), MOBILE 6, NONROAD, and the Integrated Planning Model (IPM) of ICF International for EGUs to project emissions from 2002 to 2018. Emission projections for most source categories are based on growth and control factors compiled by Pechan and detailed in

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[21] NONROAD is available at http://www.epa.gov/otaq/nonrdmdl.htm

[22] Pechan and CEP. 2005. Consolidation of Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and CEP, UNC, (http://www.cenrap.org/html/projects.php?mode=subcatdownload&id=50)

[23] Reid, S.B. et al. 2004. Emission Inventory Development for Mobile Sources and Agricultural Dust Sources for the Central States. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_Mobile/FinalReport.pdf).; Reid, S.B et al. 2004. Research and Development of Planned Burning Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc. (http://cenrap.sonomatech.com/CENRAP_PlannedBurnData/FinalReport.pdf).; Coe, D.L. and S.B. Reid. 2003. Research and Development of Ammonia Emission Inventories for the Central States Regional Air Planning Association. Sonoma Technology, Inc.

[24] Pechan and CEP. 2005. Consolidation of Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and Carolina Environmental Program (CEP), University of North Carolina(UNC), (http://www.cenrap.org/html/projects.php?mode=subcatdownload&id=50); Pechan and CEP. 2005. Refinements of CENRAP's 2002 Emissions Inventories (Schedule 9; Work Item 3). E.H. Pechan and Associates, Inc. and CEP, UNC. (http://www.dnr.mo.gov/env/apcp/docs/appendixh-3.pdf)

Chapter 7 of the Louisiana RH SIP and in Pechan's *Development of Growth and Control Inputs for CENRAP 2018 Emissions* draft technical support document.[25]

Table 3-2. Emission estimates for Louisiana sources in 2018 (tons/yr)

	SO_2	NH_3	NO_X	VOCs	PM_{10}	$PM_{2.5}$
Point	354,087	14,435	269,215	187,741	73,136	60,899
Area	87,538	36,896	114,374	117,600	16,936	14,536
Non-road mobile	11,584	72	106,685	64,294	8,670	7,955
On-road mobile	561	5,436	44,806	30,340	1,191	1,191
Total	**453,770**	**56,839**	**535,080**	**399,975**	**99,933**	**84,581**

Pechan used the following alternative data sources to replace EGAS default projections:

- County-level population projections for CENRAP states;
- Annual Energy Outlook (AEO) projections for oil and gas production emissions;
- average historical values rather than 2002 data for prescribed burning;
- Extrapolation of historical trends for unpaved roads;
- United States Department of Agriculture (USDA) projections of planted acreage; for major crops for crop tilling emissions;
- Onroad vehicle miles traveled projections for paved road fugitive dust emissions;
- USDA livestock projections

All control strategies expected to take effect prior to 2018 are included in the projected emission inventory. Maximum Achievable Control Technology (MACT) regulations were applied to those engines subject to MACT rules. Emissions for Canada are based on a shared 2020 emission inventory. 2018 EGU emissions were based on the run 2.1.9 of the Integrated Planning Model (IPM) updated by the CENRAP states. Reductions anticipated from BART controls for EGUs in Oklahoma, Arkansas, Kansas, and Nebraska were included in projections of 2018 emissions. These anticipated reductions were based on actual operating conditions and estimated control efficiencies from utilities. Newly permitted coal-fired utilities were included in 2018 projections. Conservatively, no IPM projected new units were removed from the simulation with the addition of the permitted facilities. Appendix B of the CENRAP TSD lists the file names, data source, type and a description of emissions used in the 2018 (Base18G) emissions inventory. The Access Database that includes facility specific and day specific emission rates is available upon request due to the size of the file.

[25] Pechan 2005. Development of Growth and Control Inputs for CENRAP 2018 Emissions, Draft Technical Support Document. E.H. Pechan and Associates, Inc. (http://www.dnr.mo.gov/env/apcp/docs/appendixh-4.pdf)

The following sources were assumed to remain constant between the 2002 and 2018 base case simulations:

- Biogenic VOC and NOx emissions from the BEIS3 biogenic emissions model;
- Wind blown dust associated with non-agricultural sources (i.e., natural wind blown fugitive dust);
- Off-shore emissions associated with off-shore marine and oil and gas production activities;
- Emissions from wildfires;
- Emissions from Mexico; and
- Global transport (i.e., emissions due to BCs from the 2002 GEOS-CHEM global chemistry model.

The last future runs (2018G) utilized an inventory that had assumptions about BART controls in the CENRAP states.

Chapter 4: Modeling Protocol, Episode Selection and Modeling Set-up Overview

4.1 INTRODUCTION

Meteorological, emission and photochemical models are essential tools in examining factors that impact visibility and for development of effective control strategies to meet the goals and requirements of the RHR. CENRAP selected the team of ENVIRON and UCR to perform the needed emissions and air quality modeling. The team performed regional haze analyses by operating regional scale, three-dimensional air quality models to simulate the transport and fate of key species that affect visibility in Class I Areas in the central U.S. This work included the development of meteorological data for input into the model as well as creation and processing of emission estimates for use in the model. The Modeling Protocol[26] describes the model selection, configuration, episode selection, and model evaluation used in support of the Louisiana RHR SIP.

4.2 QUALITY ASSURANCE PROGRAM PLAN

The modeling team developed a quality assurance program plan (QAPP)[27] to develop clearly defined data quality objectives, documentation, and procedures. This QAPP was developed incorporating the following elements as described in the EPA guidance document for modeling:

- A systematic planning process including identification of assessments and related performance criteria;
- Peer reviewed theory and equations;
- A carefully designed life-cycle development process that minimizes errors;
- Documentation of any changes from original plans;
- Clear documentation of assumptions, theory, and parameterization that is detailed enough so others can understand the model output;
- Input data and parameters that are accurate and appropriate for the problem; and
- Output data that can be used to help inform decision makers.

The plan describes the data management and quality assurance/quality control measures taken to assure high quality emission inventories and air quality modeling results for use in the RH analysis.

4.3 EPISODE SELECTION

EPA guidance[28] describes the criteria that should be used to select a modeling episode. The modeling episode should: 1) reflect a variety of meteorological conditions that are representative of the 20% worst and 20% best days in the Class I areas being modeled, 2) be representative of

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[26] Morris, R.E. et al. Modeling Protocol for the CENRAP 2002 Annual Emissions and Air Quality Modeling, Draft 2.0. Web:http://pah.cert.ucr.edu/aqm/cenrap/docs/CENRAP_Draft2.0_Modeling_Protocol_120804.pdf).

[27] Morris, R.E. and G. Tonnesen. 2004. Quality Assurance Project Plan (Draft) for Central Regional Air Planning Association (CENRAP) Emissions and Air Quality Modeling. (http://pah.cert.ucr.edu/aqm/cenrap/docs/CENRAP_QAPP_Nov_24_2004.pdf). December 23.

[28] EPA, 2007. *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze*, EPA-454/B-07-002, April 2007, EPA OAQPS; (http://www.epa.gov/ttn/scram/guidance/guide/final-03-pm-rh-guidance.pdf)

the baseline period of 2000-2004, 3) cover a period where extensive air quality/meteorological data are available, 4) cover a long enough period so that relative response factors (RRF) can be averaged over a period several days (> 10 days). For regional haze modeling, the preferred approach is to simulate an entire representative year. This allows the states to base RRF values on the 20% best and 20% worst days of the year.

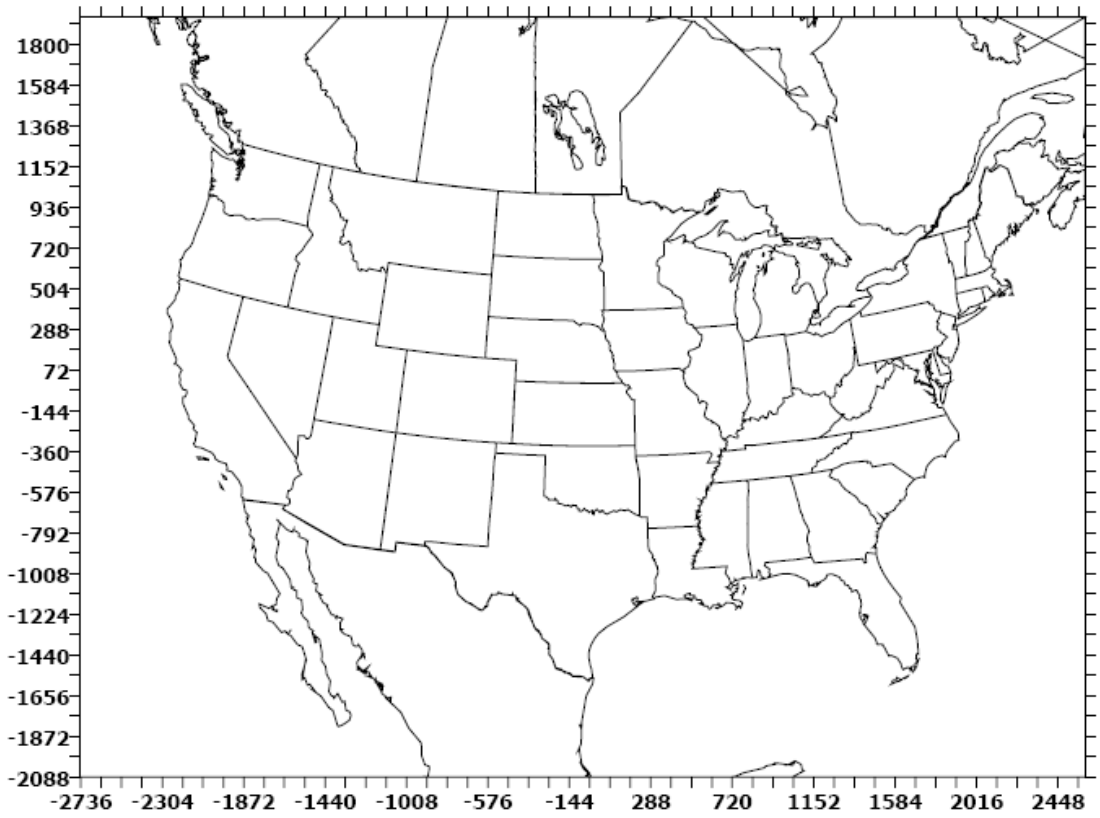
CENRAP selected the entire calendar year of 2002 for regional haze modeling. This is consistent with the EPA guidance and has the added benefit of the base case and baseline inventories covering the same year. Other RPOs selected the same modeling year, allowing for more direct comparison of modeling results and sharing of modeling inputs. The availability of 2002 NEI also provides an additional resource in the development of emission inventories for the modeling episode. 2002 appears to be a more representative year when compared to 2003 and 2004. The EPA approves of the selection of 2002 for the regional haze modeling episode.

4.4 PHOTOCHEMICAL AND EMISSIONS MODELING DOMAIN

CENRAP conducted emissions and air quality modeling on the 36-km national regional planning organization (RPO) domain. This domain consists of a 148 × 112 array of 36-km × 36-km grid cells and covers the continental United States. Additional photochemical modeling runs were performed on a 12-km domain covering the central states to examine the sensitivity of model results to domain resolution. These results were similar to the 36 km results so CENRAP determined that the 36-km modeling domain was sufficient for the 2002 annual modeling.[29] CENRAP's choice of 36 km horizontal resolution was appropriate given the lack of improved performance at 12 km resolution and the additional computational resources required to run the model at the higher resolution. The use of higher spatial resolution modeling should be revisited in future modeling efforts as computational efficiency improves.

[29] Morris, R.E. et al. 2006. CENRAP Modeling: Need for 36 km versus 12 km Grid Resolution. Presented at CENRAP Modeling Work Group Meeting, Baton Rouge, Louisiana. (http://pah.cert.ucr.edu/aqm/cenrap/ppt_files/ Morris_36vs12km_Feb6-8_2006.ppt).

Figure 4-1. National RPO 36-km modeling domain for CMAQ, CAMx, and SMOKE modeling.



4.5 MM5 METEOROLOGICAL MODEL

4.5.1 Model Selection

Photochemical grid models, such as CMAQ and CAMx, require inputs of three-dimensional gridded meteorological data, including wind, temperature, humidity, cloud/precipitation, and boundary layer parameters. The Fifth-Generation Penn State/NCAR Mesoscale Model (MM5) was used to develop these input fields for the CENRAP visibility modeling as well as inputs for the SMOKE emissions processing tool. MM5 is a state-of-the-science atmosphere model that has proven useful for air quality applications and has been used extensively in past local, state, regional, and national modeling efforts. MM5 has undergone extensive peer-review, with all of its components continually undergoing development and scrutiny by the modeling community. In-depth descriptions of MM5[30] can be found in Dudhia (1993)[31] and Grell et al. (1994).[32] All meteorological data used for the CENRAP air quality modeling efforts are derived from MM5 model simulations.

[30] http://www.mmm.ucar.edu/mm5

[31] Dudhia, J., 1993. "A non-hydrostatic version of the Penn State/NCAR Mesoscale Model: validation tests and simulation of an Atlantic cyclone and cold front." *Mon. Wea. Rev.* 121, pp.1493-1513.

[32] Grell, G.A., J. Dudhia, and D.R. Stauffer, 1994. "A description of the Fifth Generation Penn State/NCAR Mesoscale Model (MM5)." NCAR Technical Note, NCAR TN-398-STR, 138 pp.

In addition to development of meteorological inputs for CMAQ and CAMx, MM5 was also used to develop meteorological inputs for the CALMET/CALPUFF modeling system. As discussed further in Section 6 of this review, CALMET/CALPUFF was used to determine whether a BART eligible source contributes to visibility impairment at a Class I area. Refer to Section 6 of this review for further information on the use of MM5 for BART modeling.

The CENRAP meteorological modeling used for input to photochemical modeling and emission processing was performed by the Iowa Department of Natural Resources (IDNR) and is described fully in the report entitled Meteorological Model Performance Evaluation of an Annual 2002 MM5 (version 3.6.3) Simulation (hereafter referred to as the Meteorological Model Performance Evaluation report) .[33]

4.5.2 Meteorological Modeling Domain and Vertical Layer Structure

In the IDNR 36-km meteorological modeling, MM5 was configured to run on the standard continental-scale Regional Planning Organization (RPO) National Grid with 36-km grid point spacing. The RPO National Grid is defined on a Lambert conformal projection, with true latitudes at 33°N and 45°N, and the central latitude and longitude at 40°N and 97°W, respectively. The grid point spacing is 36-km. The continental expanse of this domain results in a grid of 165 (east-west) by 129 (north-south) dot points, and 164 (east-west) by 128 (north-south) cross points. Overall, the domain covers 5904 km by 4608 km. The MM5 domain provides overlap of the CMAQ and CAMx air quality modeling grid (described in section 3.3) to alleviate any numerical boundary artifacts that may be present in the MM5 output fields. Meteorology modeling was also completed on a regional-scale domain with 12 km grid spacing covering the central states by EPA Region VII and the Texas Commission on Environmental Quality to examine model prediction sensitivity to grid resolution. The vertical layer structure of the CENRAP meteorological modeling domain consists of 34 layers, a top level at 100 millibars, and increasing layer thickness with altitude. The vertical layer structure is further detailed in the Modeling Protocol.

4.5.3 Model Configuration

The final CENRAP MM5 modeling system configuration for the 2002 annual simulation is provided in the Modeling Protocol and the Meteorological Model Performance Evaluation report. Early MM5 simulations by the State of Iowa and the Lake Michigan Air Directors Consortium (LADCO) and further sensitivity tests were performed to identify an MM5 configuration for annual runs.

The initial 2002 36-km IDNR simulation results showed that MM5 results showed an extreme cold bias over the central U.S and unnatural diurnal profiles near shorelines. A number of sensitivity tests were performed by IDNR to resolve performance issues identified in the initial simulation. At the same time, sensitivity tests were performed in support of the development of

[33] Johnson, M. 2007. Meteorological Model Performance Evaluation of an Annual 2002\ MM5 (version 3.6.3) Simulation. Iowa Department of Natural Resources, Air Quality Bureau. (http://www.iowadnr.gov/air/prof/progdev/files/IDNR.2002mm5v363.evaluation.v204.p f)

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meteorological modeling for VISTAS.[34] The combination of all of these studies led to the configuration used by CENRAP for MM5 modeling detailed in the CENRAP TSD and the Modeling Protocol.

4.5.4 MM5 Processing and Application

Several preprocessing steps are necessary to prepare input data for an MM5 simulation. The MM5 modeling system provides all of the tools necessary to prepare topographic, vegetative, initial condition, boundary condition, and FDDA nudging input files.

Global topographic data at 2-minute (latitude/longitude) resolution were used to define terrain elevations on the 36-km grid. Land use distribution on the MM5 domains was defined from the 24-category USGS vegetation data with a resolution of 2 minutes.

The 3-hour Eta analysis and surface fields available from the National Center for Atmospheric Research (NCAR) were taken from the Eta Data Assimilation System (EDAS) and used to supply initial and boundary conditions to MM5, and for analysis nudging in the FDDA package. The EDAS analyses are developed from a wide variety of observational sources, including standard surface and upper air measurements, profiler networks, radar- and satellite-derived measurements, and ship and aircraft reports. The wide array of data sources, coupled with the high time- and spatial resolution provided by EDAS, result in an analysis product that far exceeds the level of detail found in traditional global-scale analyses.

Sea surface temperatures (SSTs) were approximated by ETA skin temperatures
The annual simulation was generated from 95 independent simulations initialized at 12Z and integrated through five days. To allow for approximately a two week photochemical model spin-up period, the simulation started at 12/16/2001 12Z.

4.5.5 Model Performance

Model performance evaluation was performed by IDNR through comparison with observations of surface and upper-air meteorological conditions and precipitation.[35] Additional performance evaluation was done by CENRAP by comparing the 2002 CENRAP MM5 simulation with the 2002 VISTAS MM5 and the interim 2002 WRAP simulations.[36] Details on this comparison can be found in the CENRAP TSD, Appendix A.

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[34] Olerud, D., Sims, A., 2004. MM5 2002 Modeling in Support of VISTAS (Visibility Improvement—State and Tribal Association). Baron Advanced Meteorological Systems, LLC, Research Triangle Park, NC. http://www.baronams.com/projects/VISTAS/reports/VISTAS_TASK3f_final.pdf

[35] Johnson, M. 2007. Meteorological Model Performance Evaluation of an Annual 2002\ MM5 (version 3.6.3) Simulation. Iowa Department of Natural Resources, Air Quality Bureau. (http://www.iowadnr.gov/air/prof/progdev/files/IDNR.2002mm5v363.evaluation.v204.pdf)

[36] Kemball-Cook, S., Y. Jia, C. Emery, R. Morris, Z. Wang and G. Tonnesen, 2005. *Comparison of CENRAP, VISTAS and WRAP 36 km MM5 Model Runs for 2002, Task 3: Met Gatekeeper Report.* http://pah.cert.ucr.edu/aqm/cenrap/ppt_files/CENRAP_VISTAS_WRAP_2002_36km_MM5_eval.ppt

The goal of the evaluation was to determine whether the meteorological fields are sufficiently accurate to properly characterize the transport, chemistry, and removal processes in CMAQ/CAMx. If errors in the meteorological fields are too large, the ability of the air quality model to replicate regional pollutant levels over the entire base year will be severely hampered and the predicted impacts from future year growth and controls will be highly questionable. To provide a reasonable meteorological characterization to the photochemical/visibility model, MM5 must represent with some fidelity the:

- Large-scale weather patterns (i.e., synoptic patterns depicted in the 850-300 mb height fields), as these are key forcings for mesoscale circulations;
- Mesoscale and regional wind, temperature, PBL height, humidity, and cloud/precipitation patterns;
- Mesoscale circulations such as sea breezes and mountain/drainage circulations;
- Diurnal cycles in PBL depth, temperature, and humidity.

For visibility applications, the moisture and condensate fields are particularly important as they significantly impact PM chemical formation, removal, and light scattering efficiency. In addition, cloud and precipitation fields are a good measure of the integrated performance of the model since these are model-derived quantities and not nudged to observations. Because of the model's coarse resolution of 36-km, the model cannot be expected to faithfully simulate the pattern or variability of the convective precipitation, but should reproduce the synoptic precipitation and cloud patterns.

The IDNR evaluation of the MM5 model performance was limited to operational testing of the model, and not to a scientific evaluation. Previous peer-reviewed documentation of MM5 formulation, testing, and evaluation provide the basis for its scientific validity. An operational evaluation entails an assessment of the model's ability to correctly estimate surface and boundary layer wind, temperature, and moisture largely independent of whether the actual process descriptions in the model are accurate. The operational evaluation essentially tests whether the predicted meteorological fields are reasonable, consistent, and agree adequately with available observations in time and space. The process provides only limited information about whether the results are correct from a scientific perspective or whether they are the fortuitous product of compensating errors; thus a "successful" operational evaluation is a necessary but insufficient condition for achieving a sound, reliable performance testing exercise.

The basis for the IDNR operational performance assessment entailed a comparison of the predicted meteorological fields to available surface and aloft data that are collected, analyzed, and disseminated by the National Weather Service. It was carried out both graphically and statistically to evaluate model performance for winds, temperatures, humidity, and the placement, intensity, and evolution of key weather phenomena. The MM5 results were compared to a specific set of statistics that have been identified for use in establishing benchmarks for acceptable MM5 model performance.[37] The IDNR concluded, based on the

[37] Emery, C.A., E. Tai, and G. Yarwood. 2001. "Enhanced meteorological modeling and performance evaluation for two Texas ozone episodes." Prepared for the Texas Natural Resource Conservation Commission, by ENVIRON International Corporation.

results of the performance evaluation, that the final 36 km CENRAP MM5 simulations exhibit reasonably good performance for the central U.S.

Comparison of CENRAP MM5 performance with similar modeling efforts by WRAP and VISTAS revealed comparable performance across all three simulations. The three simulations showed similar performance for prediction of surface wind speed, wind direction and humidity. The use of surface data assimilation of temperature in the interim WRAP simulation resulted in the best performance in prediction of surface temperatures but the poorest performance for vertical temperature profiles. Surface data assimilation has since been dropped from the WRAP modeling protocol. The 2002 VISTAS MM5 simulations showed the best performance and the CENRAP performance more closely resembled that of the VISTAS than the WRAP.

The 2002 CENRAP MM5 model results are within the bounds of other meteorological databases used for prior air quality modeling efforts. It is therefore deemed reasonable to proceed with its use as inputs for visibility modeling. The EPA accepts the use of MM5 in this configuration and selected modeling domain and recognizes that the MM5 meteorological model used by CENRAP was state-of-the-science at the time the modeling was conducted. The performance of the model was adequate for the purposes for which it was used and on par with other studies at the time. A new meteorological model, the Weather Research Forecast model (WRF), has been developed to address the some of the limitations of the MM5 model and should be considered as a possible alternative for future meteorological modeling efforts.

4.6 SMOKE EMISSIONS MODEL

CENRAP selected the Sparse Matrix Operator Kernel Emissions model[38] to generate gridded hourly speciated emission estimates for mobile, non-road, area, point, fire and biogenic emission sources for use as inputs for photochemical grid models. The purpose of SMOKE is to convert the spatial and temporal resolution of the available emission inventory data to the resolution needed by the air quality model. SMOKE also has the ability to compute emissions for mobile on-road and biogenic sources. Biogenic emission modeling is performed through SMOKE with the Biogenic Emission Inventory System, version 3 (BEIS3)[39] using the Biogenic Emissions Landcover Database (BELD3) vegetative database. Mobile emissions can be calculated by SMOKE from mobile-source activity data, using emission factors from the MOBILE6 model. SMOKE supports the emission input formats required by the CAMX and CMAQ air quality models.

4.7 AIR QUALITY MODEL

Photochemical air quality models offer opportunity to better understand the sources of particulate matter that impair visibility by simulating the emissions, formation, transport, and deposition of these pollutants. If an air quality model performs well for a historical episode, the model may then be useful for identifying the sources of particulate matter and helping to select the most effective emissions reduction strategies for attaining visibility goals. Although several types of air quality modeling systems are available, the gridded, three-dimensional, Eulerian models provide the most complete spatial representation and the most comprehensive representation of

[38] Available at http://www.smoke-model.org/index.cfm
[39] Available at http://www.epa.gov/ttn/chief/software.html#pcbeis

processes affecting particulate matter, especially for situations in which multiple pollutant sources interact to form particulate matter.

4.7.1 Model Selection

Guidance from the EPA requires that the air quality model should be selected based on intended application and must be freely downloadable to all stakeholders. Furthermore, the user must be able to revise the code to perform diagnostic analyses and/or to improve the model's ability to describe observations in a credible manner. Several additional prerequisites should be met for a model to be used to support an attainment demonstration or uniform rate of progress assessment.

- It should have received and been revised in response to a scientific peer review.
- It should be appropriate for the specific application on a theoretical basis.
- It should be used with a data base which is adequate to support its application.
- It should be shown to have performed well in past modeling applications. (If the application is the first for a particular model, then the State should note why it believes the new model is expected to perform sufficiently.)
- It should be applied consistently with a protocol on methods and procedures.

The Guideline on Air Quality Models (GAQM - 40 CFR Part 51 Appendix W) does not indicate a preferred photochemical grid model for Regional Haze applications. The CMAQ and CAMx models have been accepted by EPA for numerous regulatory air quality modeling applications and were considered by CENRAP for use in regional haze modeling. CENRAP selected CMAQ Version 4.5 with "SOAmod enhancements" as the primary air quality model for regional haze modeling and the CAMx Version 4.40 model, applied using similar options as used by CMAQ, as a secondary corroborative model. CAMx was also utilized with its Particulate Source Apportionment Technology (PSAT) tool to provide source apportionment with both the baseline and future case emissions inventories (See Section 5). EPA concurred with the selection of CAMx for the CENRAP regional haze modeling as it has been extensively used within the region and has been proven to be an acceptable model. The selection of CMAQ was based on review of previous and concurrent studies within CENRAP and other RPOs, as well as comparisons with CAMx model results.[40] Major differences between the two models that still exist are in the basic model code, in the treatment of horizontal diffusion SOA formation mechanisms, and in grid nesting. EPA accepts the choice of CMAQ as it satisfies the requirements and guidelines detailed above. The versions of CMAQ and CAMx used by CENRAP in its visibility modeling were the state-of-the-science at the time they were implemented and are acceptable to EPA for this Regional Haze selection.

Both air quality models were set up and run on the RPO national 36–km modeling domain described in section 3.3. This modeling domain is also used by WRAP and VISTAS. Sensitivity runs performed by CENRAP for CMAQ run on a 12km modeling domain revealed limited improvement over the 36-km runs and a large increase in computer resources and time. CAMx runs at 12-km resolution reduced the sulfate under-prediction bias in the summertime when

[40] Morris, R.E., et al. 2006. CENRAP Modeling Update: CMAQ versus CAMx Model Performance Evaluation. Presented at CENRAP Modeling Work Group Meeting, Baton Rouge, Louisiana. (http://pah.cert.ucr.edu/aqm/cenrap/ppt_files/ Morris_MPE_Feb6-8_2006.ppt)

compared to 36-km runs. With this possible exception, CENRAP noted little benefit in overall model performance with use of the 12-km grid. Therefore, the 36km domain was selected for all CENRAP CMAQ and CAMx runs.[41]

These air quality models are discussed in more detail below.

4.7.1.1 CMAQ Air Quality Model

EPA initially developed the Community Multi-Scale Air Quality (CMAQ) modeling system in the late 1990s. The model source code and supporting data can be downloaded from the Community Modeling and Analysis System (CMAS) Center (http://www.cmascenter.org/), which is funded by EPA to distribute and provide limited support for CMAQ users. CMAQ was designed as a "one atmosphere" modeling system to encompass modeling of multiple pollutants and issues, including ozone, PM, visibility, and air toxics. This is in contrast to many earlier air quality models that focused on single-pollutant issues (e.g., ozone modeling by the Urban Airshed Model). CMAQ is an Eulerian model—that is, it is a grid-based model in which the frame of reference is a fixed, three-dimensional (3-D) grid with uniformly sized horizontal grid cells and variable vertical layer thicknesses. The number and size of grid cells and the number and thicknesses of layers are defined by the user, based in part on the size of the modeling domain to be used for each modeling project. The key science processes included in CMAQ are emissions, advection and dispersion, photochemical transformation, aerosol thermodynamics and phase transfer, aqueous chemistry, and wet and dry deposition of trace species. CMAQ offers a variety of choices in the numerical algorithms for treating many of these processes, and it is designed so that new algorithms can be included in the model. CMAQ offers a choice of three photochemical mechanisms for solving gas-phase chemistry: the Regional Acid Deposition Mechanism version 2 (RADM2), a fixed coefficient version of the SAPRC90 mechanism, and the Carbon Bond IV mechanism (CB-IV).

CENRAP used CMAQ Version 4.5 with a "SOAmods enhancement" for 2002 base case (actual emissions), 2002 baseline (typical emissions) and 2018 future case (projected emissions) modeling. The "SOAmods enhancement" was the result of work by VISTAS investigating the model's underestimate of organic mass carbon (OMC) concentrations. The updated CMAQ secondary organic aerosol (SOA) module led to improved estimation of OMC in VISTA modeling. CENRAP examined the use of the enhanced SOA module and found similar improvements in model performance over the original CMAQ Version 4.5 model. CENRAP decided to use the CMAQ Version 4.5 with the "SOAmods enhancement"[42] for CENRAP modeling. Details of the CMAQ model configuration used by CENRAP can be found in the CENRAP TSD and the Modeling Protocol.

4.7.1.2 CAMx Air Quality Model

[41] Morris, R.E., et al. 2006. CENRAP Modeling: Need for 36 km versus 12 km Grid Resolution. Presented at CENRAP Modeling Work Group Meeting, Baton Rouge, Louisiana. (http://pah.cert.ucr.edu/aqm/cenrap/ppt_files/ Morris_36vs12km_Feb6-8_2006.ppt)

[42] Morris, R.E., B. Koo, A. Guenther, G. Yarwood, D. McNally, T.W. Tesche, G. Tonnesen, J. Boylan and P. Brewer. 2006. Model Sensitivity Evaluation for Organic Carbon using Two MultiPollutant Air Quality Models that Simulate Regional Haze in the Southeastern United States. Atmos. Env. 40 (2006) 4960-4972.

The Comprehensive Air Quality Model with extensions (CAMx) model[43] was initially developed by ENVIRON in the late 1990s as a nested-grid, gas-phase, Eulerian photochemical grid model. ENVIRON later revised CAMx to treat PM, visibility, and air toxics. While there are many similarities between the CMAQ and CAMx systems, there are also some significant differences in their treatment of advection, dispersion, aerosol formation, and dry and wet deposition. CAMx has seen extensive use within many of the CENRAP states. The CAMx model is based on well-established treatments of advection, diffusion, deposition, and chemistry. CENRAP used CAMx Version 4.40, applied using similar options as used by CMAQ, as a secondary corroborative model and utilized CAMx with its Particulate Source Apportionment Technology (PSAT) tool to provide source apportionment of nitrate and sulfate aerosol with both the 2002 baseline and 2018 future case emission inventories (See section 5). Details of the CAMx model configuration used by CENRAP can be found in the CENRAP TSD and the Modeling Protocol.

4.7.2 Vertical Modeling Domain

CMAQ and CAMx have the ability to collapse the 34 layer vertical structure used in MM5 modeling to a smaller set of vertical layers. Sensitivity studies by WRAP and VISTAS examined model performance looking at a variety of vertical modeling domains ranging from modeling all 34 vertical layers to collapsing the structure down to 12 vertical layers. Results of this study showed that collapsing the vertical structure down to 19 layers while matching the 8 bottom most vertical layers produced results nearly identical to the full 34 layer runs. The more aggressive layer collapsing scheme of 12 layers produced substantially different results. Based on these results, CENRAP selected the 19 layer vertical structure described in the CENRAP TSD. This selection improves computational efficiency and produces results almost identical to the full vertical structure runs.

4.7.3 Initial and Boundary Conditions

Initial conditions (ICs) are specified by the user for the first day of a model simulation. For continental-scale modeling using the RPO 36-km domain, the ICs can affect model results for as many as 15 days, although the effect typically becomes very small after about 7 days. A model spin-up period is included in each simulation to eliminate any effects from the ICs. For the CENRAP modeling, the annual simulation is divided into four quarters, and included a 15-day spin-up period for the quarters beginning in April, July, and October. For the quarter beginning in January 2002, a spin-up period covering December 16-31, 2001, using meteorology and emissions data developed for CENRAP were used. We agree that the 15 day spin-up period employed by CENRAP was sufficient to minimize the effects of the IC on model results given the size of the modeling domain.

Boundary conditions (BCs) specify the concentrations of gas and PM species at the four lateral boundaries of the model domain. BCs determine the amounts of gas and PM species that are transported into the model domain when winds flow into the domain. Boundary conditions have a much larger effect on model simulations than do ICs. For some areas in the CENRAP region and for clean conditions, the BCs can be a substantial contributor to visibility impairment. For this study BC data generated in an annual simulation of the global-scale GEOS-Chem model for

[43] ENVIRON, 2006. "User's Guide – Comprehensive Air-quality Model with extensions, Version 4.30." ENVIRON International Corporation, Novato, California. (available at http://www.camx.com).

calendar year 2002 were applied.[44] The BCs employed by CENRAP were state-of-the-science at the time they were implemented.

4.7.4 Base Case/ Baseline Model Performance

The 2002 Base Case modeling efforts were used to evaluate air quality/visibility modeling systems for a historical episode—in this case, for calendar year 2002—to demonstrate the suitability of the modeling systems for subsequent planning, sensitivity, and emissions control strategy modeling. Comparisons between the 2002 Base F actual emissions model performance with the 2002 typical emissions (Typ02F) revealed little difference in model performance. The 2002 F model predictions are nearly identical to 2002 G results so model performance evaluation performed with 2002 Base F emissions is representative of the final model performance. Therefore, model performance was evaluated using the Typ02F emission inventory.

Model performance evaluation is performed by comparing output from model simulations with ambient air quality data for the same time period to determine whether the model's performance is sufficiently accurate to justify using the model for simulating future conditions. There are a number of challenges in completing an annual MPE for regional haze. The model must be compared to ambient data from several different monitoring networks for both PM and gaseous species, for an annual time period, and for a large number of sites. The focus of the performance evaluation is on the six components of particulate matter that are used to characterize visibility at Class I areas: Sulfate (SO4); Particulate Nitrate (NO3); Elemental Carbon (EC); Organic Mass Carbon (OMC); Other inorganic fine particulate (IP or Soil); and Coarse Matter (CM). The model must be evaluated for both the worst visibility conditions and for very clean conditions. Finally, final guidance on how to perform an MPE for fine-particulate models is not available from EPA. Therefore, the CENRAP experimented with many different approaches for showing model performance results.

The plot types that were found to be the most useful are the following:

- Time-series plots comparing the measured and model-predicted species concentrations
- Scatter plots showing model predictions on the y-axis and ambient data on the x-axis
- Spatial analysis plots with ambient data overlaid on model predictions
- Bar plots comparing the mean fractional bias (MFB) or mean fractional error (MFE) performance metrics
- "Bugle plots" showing how model performance varies as a function of the PM species concentration
- Stacked-bar plots of contributions to light extinction for the average of the best-20% visibility days or the worst-20% visibility days at each site; the higher the light extinction, the lower the visibility

The following plots depict summary model performance for CENRAP CMAQ modeling using the Typ02F emissions inventory. Below are six sets of model fractional bias and model fractional error plots. Each set of plots compares the measured chemically speciated aerosol data

[44] Jacob, D.J., R. Park and J.A. Logan. 2005. Documentation and Evaluation of the GEOS-CHEM Simulation for 2002 Provided to the VISTAS Group. Harvard University (http://www.vistas-sesarm.org/documents/Harvard_GEOS-CHEM_FinalReport_20050624.doc)

from a monitoring network with the corresponding model output. The monitoring networks used for comparison are IMPROVE, CASTNET, and STN, and are treated separately because each monitoring network has different goals, siting criteria, and data collection protocols. The model performance plots depicted here are "bugle plots", and depict model performance (symbols) and model performance standards (curves) on the y axis relative to measured concentration on the x axis. Model performance standards are of greater latitude at lower concentrations because of the higher relative uncertainties in the data at lower concentrations. Performance goals or criteria approach 200% error and ≤200% bias as observed concentrations approach zero and asymptotically approach the proposed performance goals or criteria (i.e., the ≤30%/50% and ≤60%/75% bias/error levels) as concentrations become greater than 2.5 $\mu g/m^3$.

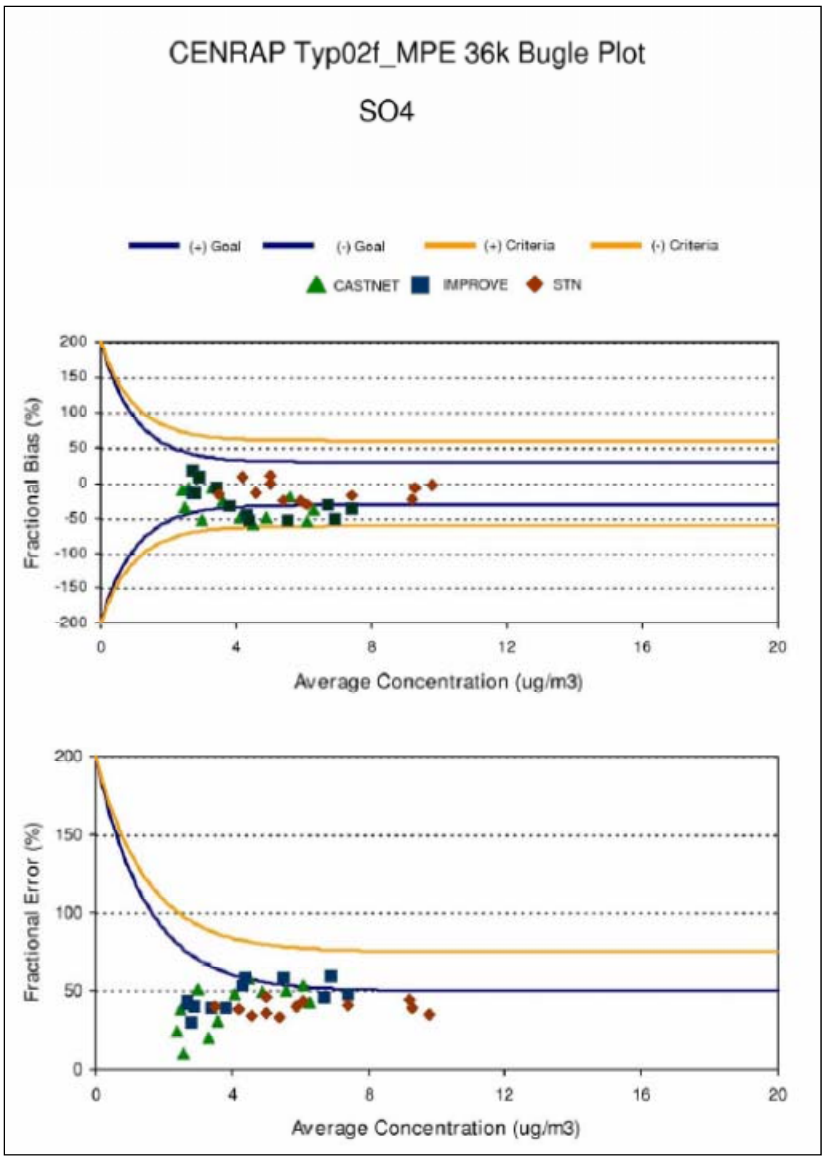
Model performance at IMPROVE monitors is of highest importance, because these monitors are sited to be representative of the visibility conditions impacting each Class 1 Area. The CASTNET monitoring network is more sparse than the IMPROVE network, but is also mostly sited at Class 1 Areas and as such, model performance at CASTNET sites should also be considered important. The STN monitoring network is an urban network, and model performance relative to this network should be given less importance.

The model performance goals and criteria used by CENRAP were appropriate at the time the modeling was conducted and consistent with the methods adopted by VISTAS and WRAP. The EPA agrees with the CENRAP model performance procedures and analysis. Detailed results of the model performance evaluation can be found in Appendix C of the CENRAP TSD and on the University of California, Riverside CENRAP visibility modeling website (http://pah.cert.ucr.edu/aqm/cenrap/cmaq.shtml#cmaq_typ02f_mpe).

4.7.4.1 Model Performance for Sulfate (SO_4)

Figure 4-2 shows the monthly SO_4 fractional error and bias for the STN, IMPROVE and CASTNET monitoring networks as well as the proposed performance goals and criteria. In general, there is an under-prediction bias that is more pronounced during the spring and summer months. For the STN network, model performance for all months is within the goals for both fractional bias and error. Model performance for CASTNET sites is within goals for fractional error and within the criteria for fractional bias as is model performance for the IMPROVE sites with the exception of two months that lie within the criteria but beyond the goal for fractional error.

Figure 4-2. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for sulfate (SO_4). The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.

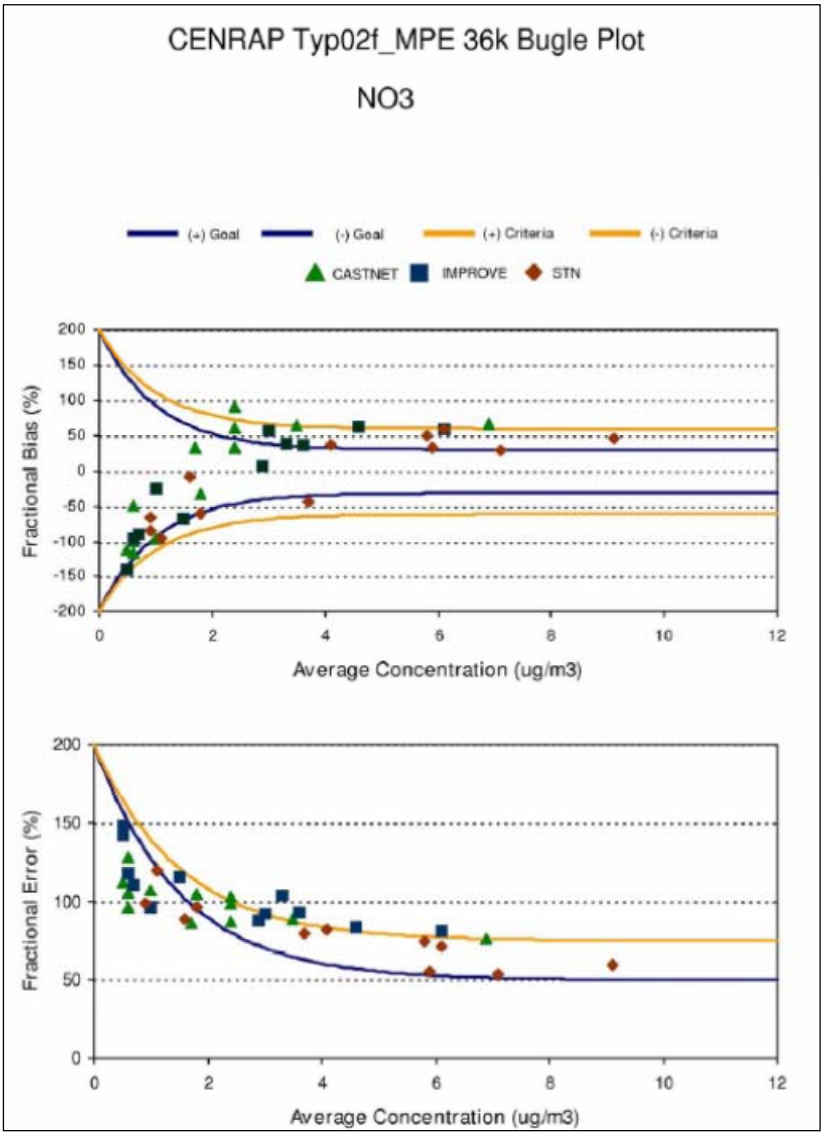


4.7.4.2 Model Performance for Nitrate (NO_3)

Figure 4-3 shows the monthly NO_3 fractional error and bias for the STN, IMPROVE and CASTNET monitoring networks as well as the proposed performance goals and criteria. NO3 model performance is variable. There is an underprediction during the summer months, approaching a fractional bias of -140% in June and July and an overprediction with bias of approximately 50% in the winter. The winter bias is more significant because NO_3 concentrations tend to be a large component of visibility impairment during the winter months.

In general, winter model performance does not meet the performance goals and in some cases does not meet the criteria, predicting concentrations of NO_3 much higher than observed.

Figure 4-3. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for nitrate (NO_3). The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.

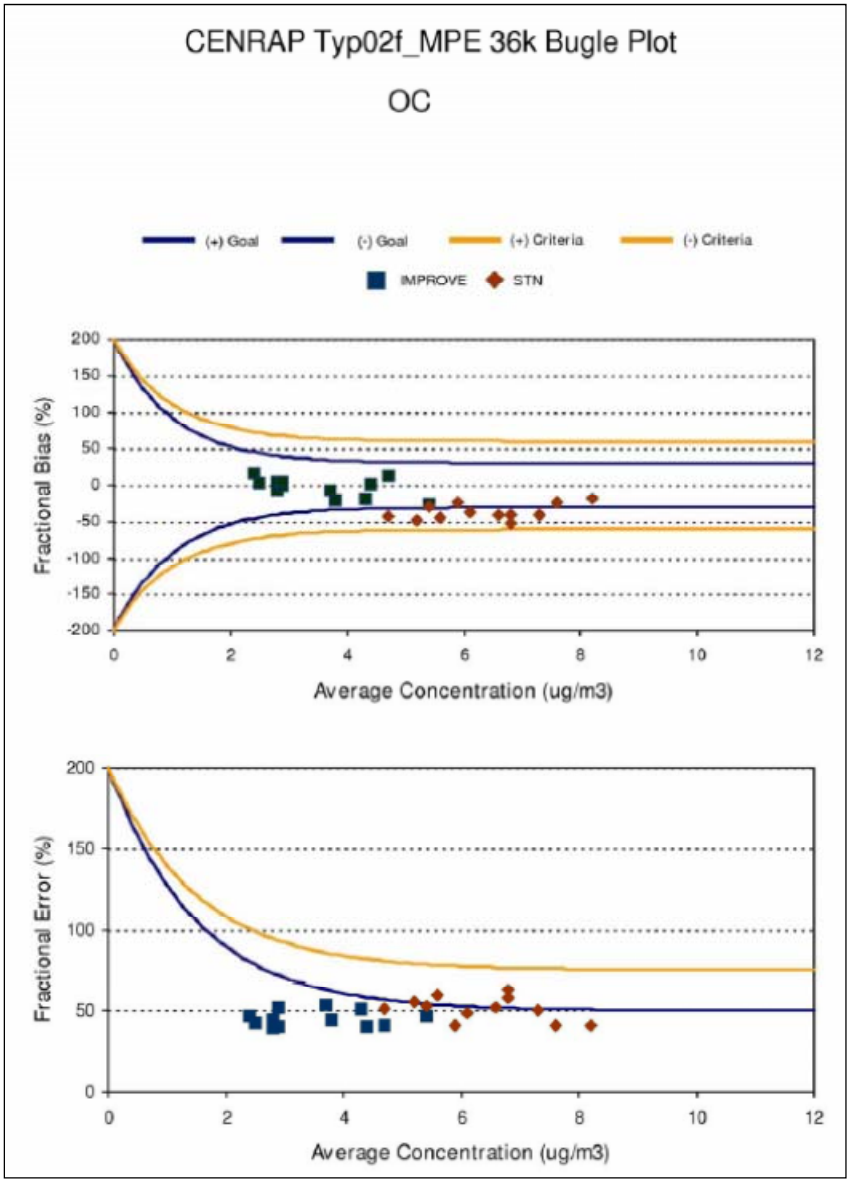


4.7.4.3 Model Performance for Organic Carbon (OC)

Figure 4-4 shows the monthly OC fractional error and bias for the STN and IMPROVE monitoring networks as well as the proposed performance goals and criteria. For the IMPROVE network, model performance for all months is within the goals for both fractional bias and error. The STN monitors in urban areas measured higher concentrations of OC then the rural

IMPROVE monitors. Model performance for STN sites shows a negative bias throughout the year that fall within the model criteria for both bias and error.

Figure 4-4. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for organic carbon (OC). The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.

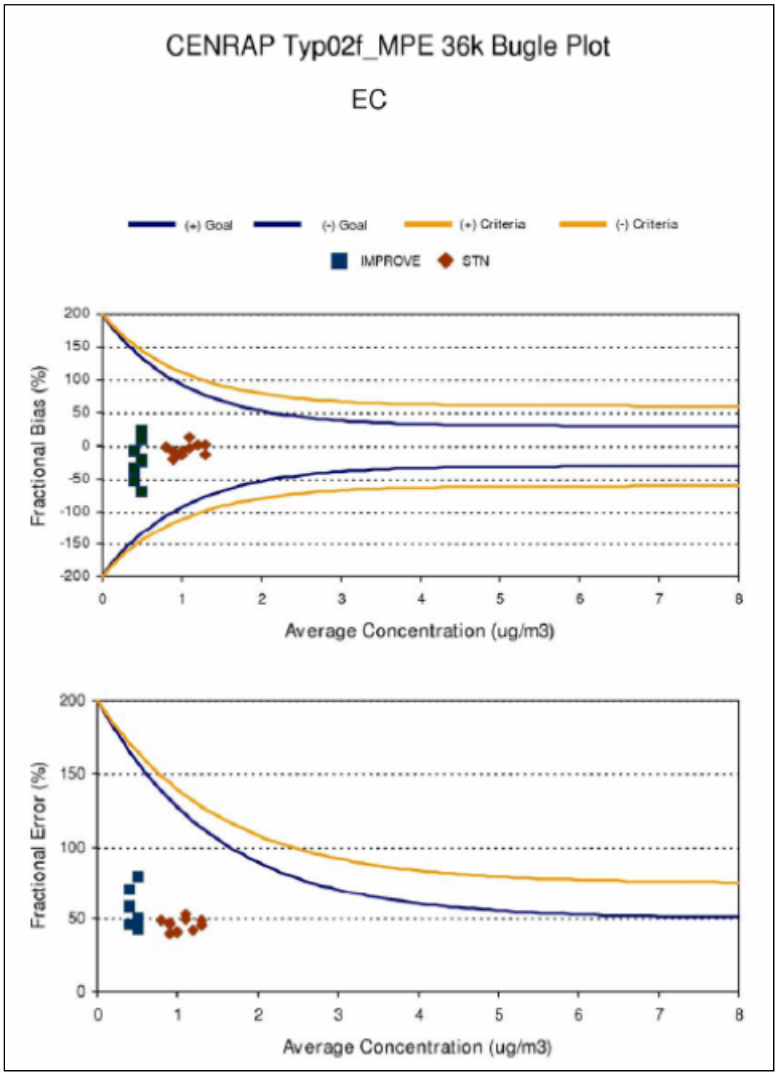


4.7.4.4 Model Performance for Elemental Carbon (EC)

Figure 4-5 shows the monthly EC fractional error and bias for the STN and IMPROVE monitoring networks as well as the proposed performance goals and criteria. Model performance for EC falls within the proposed performance goals. Fractional bias for the STN sites is small with a fractional error around 50%. There is a large model underprediction during the summer at

the IMPROVE sites. However, EC concentrations at these sites are low putting the model performance within the goals for low concentrations.

Figure 4-5. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for elemental carbon (EC). The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.

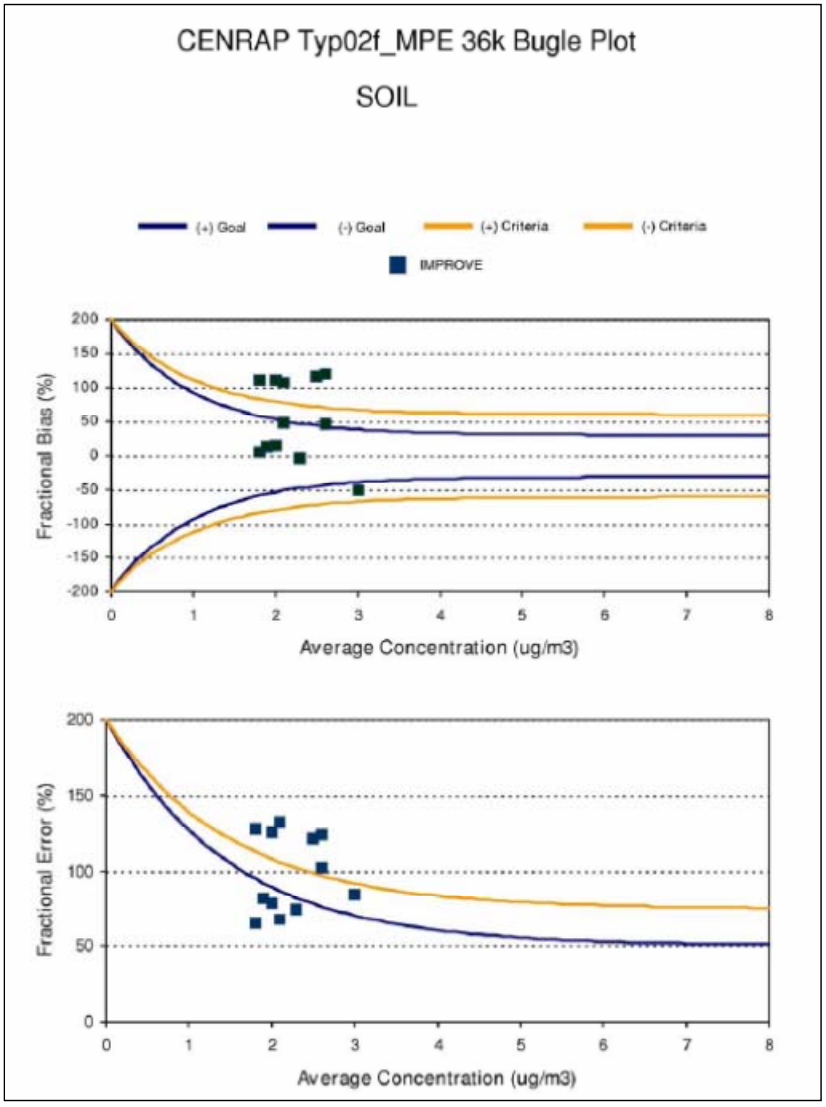


4.7.4.5 Model Performance for Soil

Figure 4-6 shows the monthly soil fractional error and bias for the monitoring network as well as the proposed performance goals and criteria. Model performance for the winter months is poor with large overpredictions of soil concentrations. The summer months are within the goals for both fractional bias and error with performance getting worse in the fall and spring. This may be due to local effects near the monitor and difficulties in capturing emissions accurately in the

inventory. This is an area of concern, especially in areas where soil contributes significantly to visibility impairment.

Figure 4-6. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for soil. The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.

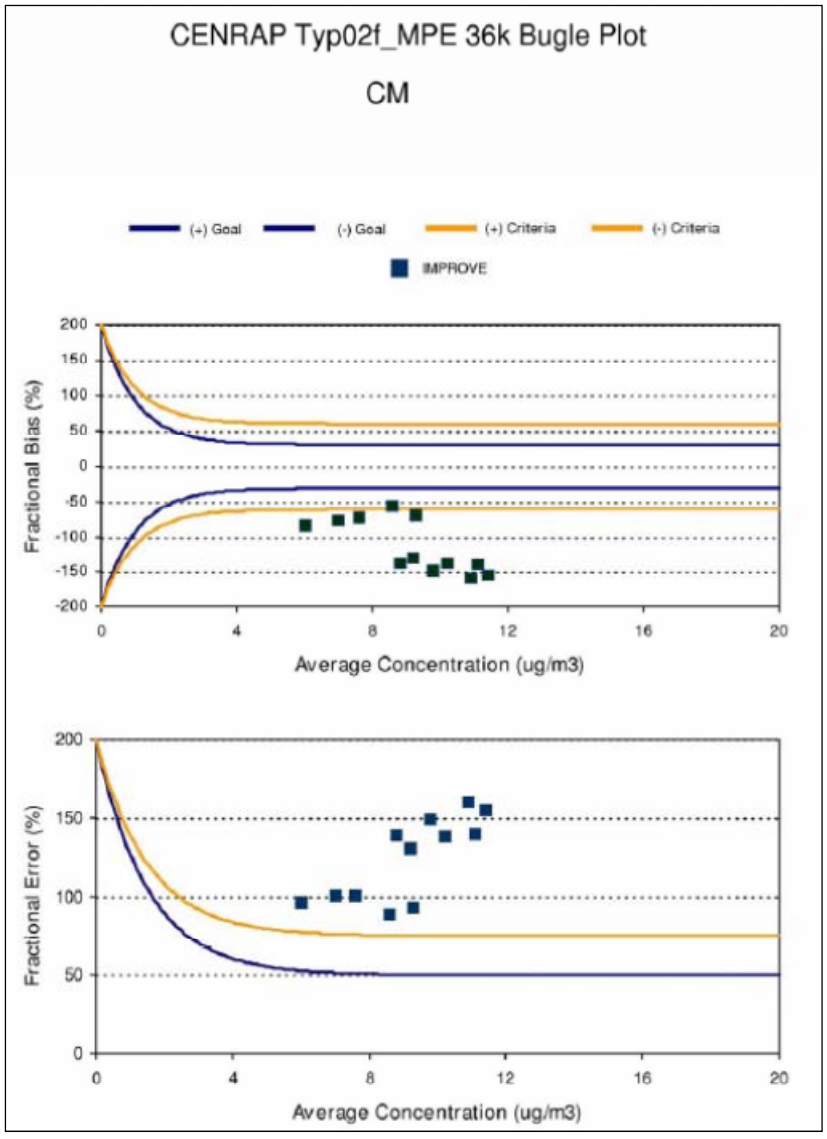


4.7.4.6 Model Performance for Course Particulate Material (CM)

Figure 4-7 shows the monthly CM fractional error and bias for IMPROVE and monitoring network as well as the proposed performance goals and criteria. Model performance is poor with large underpredictions of CM concentrations throughout the year. This may be due to localized emissions near the monitor and difficulties in capturing these emissions accurately in the

inventory. This is an area of concern, especially in areas where CM contributes significantly to visibility impairment.

Figure 4-7. CENRAP model performance (factional bias and error) of the Typ02f modeling scenario for course particulate material (CM). The 12 symbols for each monitor represent monthly average model performance for the year 2002, averaging all monitors in the CENRAP region. Solid lines represent CENRAP modeling goals and criteria.



4.7.4.7 Model Performance for Prediction of Total Extinction

The above model performance summary includes all sites within the CENRAP. However, a model performance summary over such a diverse geographic area may mask model performance issues occurring in smaller geographic sub-regions. CENRAP also evaluated model performance in predicting total extinction on the 20% best and 20% worst days at each Class I site. Performance for the worst 20% days at the CENRAP Class I areas is generally characterized by an underestimation bias. Performance at the Breton (BRET), LA, Big Bend (BIBE), TX and Guadalupe Mountains (GUMO), TX Class I areas for the worst 20 percent days is particularly poor. At GUMO, visibility impairment is primarily due to high soil and CM which are not well predicted by the model across the CENRAP area. At the BRET and BIBE sites, all components are under-predicted, leading to an under-prediction in total extinction. Model predictions at these sites are less reliable than at other CENRAP sites for planning purposes. In general, model performance is acceptable for SO_4, NO_3, OMC and EC at the Class I areas. The model was not able to accurately predict CM and soil concentrations in the CENRAP region.

In order to address this model performance issue, CENRAP investigated the assumption that all CM and soil are natural and their concentrations remain constant for future projections as well as assuming that only a portion of the soil was from natural sources. Results of this sensitivity analysis showed that these various projections of CM and soil had little effect on visibility predictions at the CENRAP class I areas. See section 5.5.1 of the CENRAP TSD for results of this sensitivity analysis.

Within the state of Louisiana, Breton National Wildlife Refuge is the only Class I area. Model performance at predicting total extinction at Breton and Caney Creek Wilderness Area during the worst 20% and best 20% days are shown in Figures 4-8 and 4-9.

For Breton Island, the worst 20% days are heavily dominated by sulfate extinction. Nitrates do have a sizeable component on a few days but the sulfate extinction components are still higher on these few days. Sulfate, OMC and Soil under-prediction results in an under-prediction (-50 to -70%) and EC and CM are on the order of -100%. Worst observed extinction is 90-170 Mm-1 but modeled values drop to as low as 15 Mm-1. This underestimation results in more uncertainty for the Breton projections, but the monitoring and modeled data both conclude a high impact from sulfates on total extinction. Overall observed vs. model performance is relatively good on a bias level but there is a lot of scatter on individual days. On average, the low bias looks reasonable, but day specific performance is more questionable.

On most of the worst 20 % days at Caney Creek, total extinction is dominated by sulfate extinction with some extinction due to OMC. On four of the worst 20% days extinction is dominated by nitrate. Sulfate is underestimated and results in an under-prediction (-33% bias) on total extinction. There is an overestimate of extinction (+44% bias) on the 20% best days due to an over-prediction of NO_3.

Figure 4-8. Daily extinction model performance at Breton National Wildlife Refuge, LA for the worst (top) and best (bottom) 20% days during 2002.

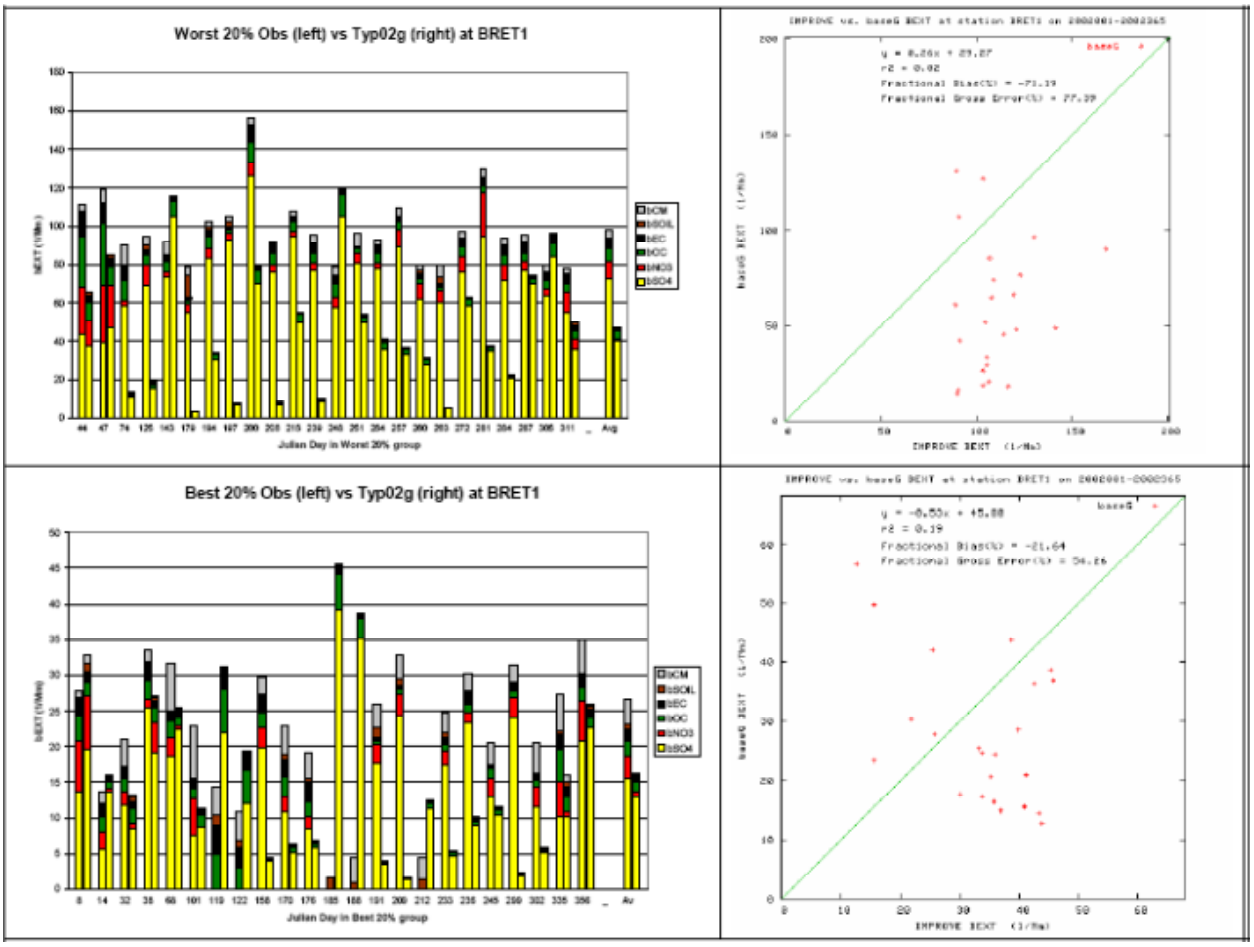
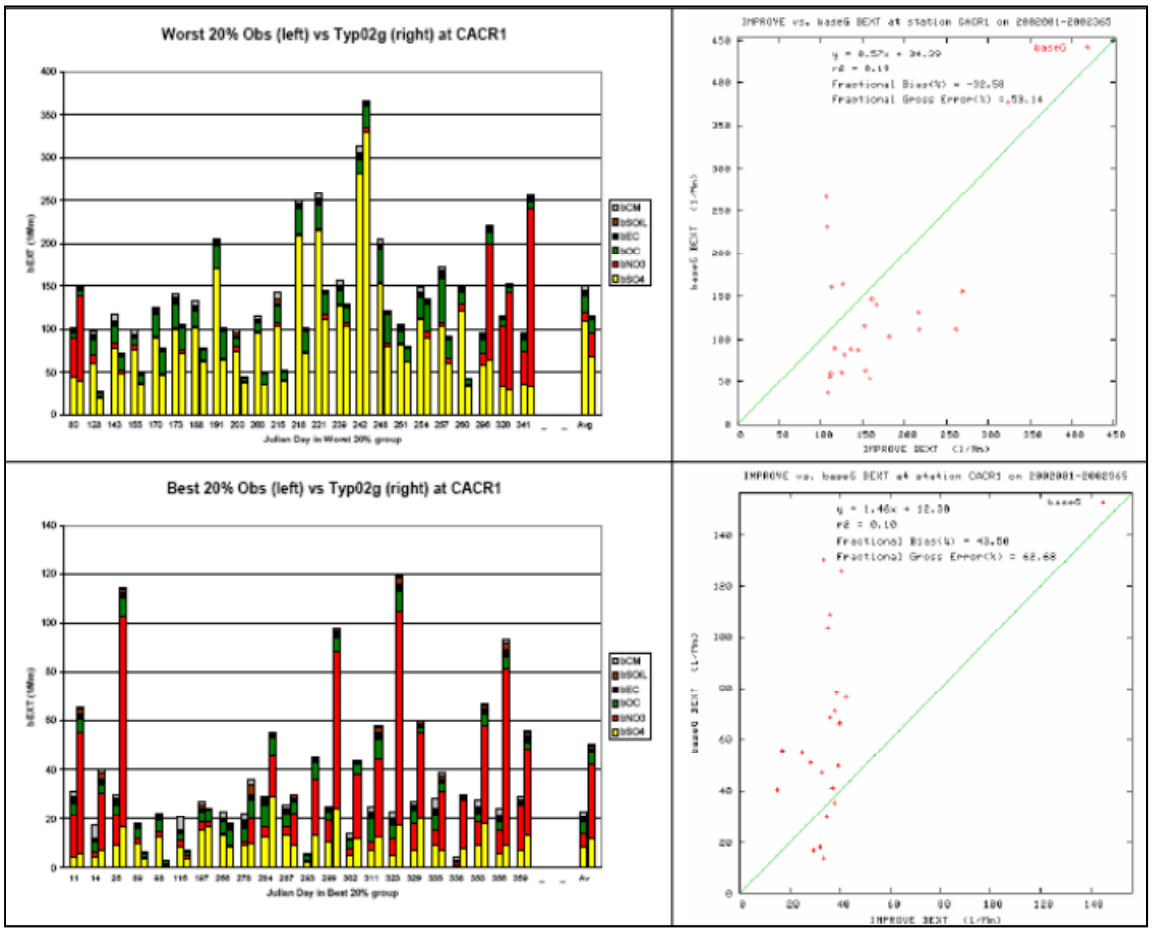


Figure 4-9. Daily extinction model performance at Caney Creek Wilderness Area, AR for the worst (top) and best (bottom) 20% days during 2002.



Chapter 5: 2018 Future Year Modeling

5.1 2018 MODEL SIMULATIONS

The 2018 future-year base case scenario is referred to as "2018 Base Case" or "Base18G". The purpose of the Base18G scenario is to simulate the air quality representative of conditions in future year 2018 with respect to sources of criteria and particulate matter air pollutants, taking into consideration growth and controls. Modeling results based on this emission inventory are used to define the future year ambient air quality and visibility metrics.

Input data used for the 2018 Base Case model simulations consisted of the same meteorology as for the 2002 Base Case and the Base18 emission inventories described under the Emissions Modeling section (Section 3). The setup of the CMAQ model (including science options, run scripts, simulation periods, and ancillary data) for the Base18 cases was identical to that used in the Typ02G modeling.

The purpose of modeling 2018 visibility is to compare the 2018 visibility predictions to the 2002 typical-year visibility modeling results and compare 2018 visibility predictions to the URP goal for 2018, as discussed below. Some improvements in visibility by 2018 are expected because of reductions in emissions due to currently planned regulations and technology improvements. The methodology used by CENRAP in developing visibility projections for 2018 and described below is consistent with EPA guidance.

5.2 VISIBILITY PROJECTIONS

The Regional Haze Rule (RHR) goals include achieving natural visibility conditions at 156 federally mandated Class I areas by 2064. In more specific terms, that RHR goal is defined as (1) visibility improvement toward natural conditions for the 20% of days that have the worst visibility (termed "20% worst" visibility days) and (2) no worsening in visibility for the 20% of days that have the best visibility ("20% best" visibility days). One component of the states' demonstration to EPA that they are making reasonable progress toward this 2064 goal is the comparison of modeled visibility projections for the first milestone year of 2018 with what is termed a uniform rate of progress (URP) goal. As explained in detail in Section 2, the 2018 URP goal is obtained by constructing a "linear glide path" (in deciviews) that has at one end the observed visibility conditions during the mandated five-year (2000-2004) baseline period and at the other end natural visibility conditions in 2064; the visibility value that occurs on the glide path at year 2018 is the URP goal.

CENRAP has made 2018 visibility projections using Typ02G and Base18G CMAQ 36-km modeling results following EPA guidance[45] that recommends applying the modeling results in a relative sense to project future-year visibility conditions. Projections are made using relative

[45] US EPA, 2006. Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze, US EPA, Office of Air Quality and Planning Standards, EPA-454/B-07-002, EPA, April 2007, (http://www.epa.gov/ttn/scram/guidance/guide/final-03-pm-rh-guidance.pdf)

response factors (RRFs), which are defined as the ratio of the future-year modeling results for each component that affects visibility to the current-year modeling results. The calculated RRFs are applied to the baseline observed visibility conditions to project future-year observed visibility. These projections can then be used to assess the effectiveness of the simulated emission control strategies that were included in the future-year modeling. The major features of our recommended visibility projections and guidance are as follows:

- Monitoring data should be used to define current air quality.
- Monitored concentrations of PM10 are divided into six major components; the first five are assumed to be PM2.5 and the sixth is PM2.5-10.
    - SO4 (sulfate)
    - NO3 (particulate nitrate)
    - OC (organic carbon)
    - EC (elemental carbon)
    - Soil (other fine particulate or soil)
    - CM (coarse matter).
- Models are used in a relative sense to develop RRFs between future and current predicted concentrations of each component.
- Component-specific RRFs are multiplied by current monitored values to estimate future component concentrations.
- Estimates of future component concentrations are consolidated to provide an estimate of future air quality.
- Future estimated air quality is compared with the goal for regional haze to see whether the simulated control strategy would result in the goal being met.

5.2.1 Mapping Model Results to IMPROVE Measurements

Each of the six PM components of light extinction in the revised IMPROVE mass extinction equation[46] is scaled separately. Because the modeled species do not exactly match up with the IMPROVE measured PM species, assumptions must be made to map the modeled PM species to the IMPROVE measured species for the purpose of projecting visibility improvements. Table 4-2 of the CENRAP TSD shows the assumptions used to relate modeled species in CMAQ Version 4.5 to the species used in the equation to estimate visibility. Some additional species (described in section 4.3.1 of the CENRAP TSD) resulting from the modified SOA module used by CENRAP are also included in the OC term.

5.2.2 Projecting Visibility Changes Using Modeling Results

RRFs are calculated as the ratio of the 2018 modeling results to the 2002 modeling results, and are specific to each Class I area and each PM species. These RRFs are applied to the baseline period visibility conditions calculated from observed PM species levels to project future-year PM levels. The projected PM levels are used to estimate visibility conditions in 2018 through the

[46] IMPROVE technical subcommittee for algorithm review, 2006. Revised IMPROVE Algorithm for Estimating Light Extinction from Particle Speciation Data. (http://vista.cira.colostate.edu/improve/Publications/GrayLit/019_RevisedIMPROVEeq/RevisedIMPROVEAlgorithm3.doc)

revised IMPROVE equation. The following six steps found in the modeling guidance[47] summarize the general procedure used to project future-year visibility for the 20% best and 20% worst visibility days:

1) For each Class I area, rank visibility (in deciviews) on each day with observed speciated PM data for each of the 5 years of the base period.
2) For each of the 5 years comprising the base period, calculate the mean deciviews for the 20% worst and 20% best visibility days. For each Class I area, calculate the 5 year mean deciviews for the worst and best days from the 5 year-specific values.
3) Use an air quality model to simulate base period emissions and future emissions. Use the resulting information to develop relative response factors for each component of particulate matter identified in the IMPROVE equation.
4) Multiply the relative response factors times the measured species concentration data during the base period (for the 20% best and worst days). This results in daily future year species concentrations data.
5) Using the results in Step 4 and the IMPROVE algorithm calculate the future daily extinction coefficients for the 20% best and worst visibility days in each of the five base years.
6) Calculate daily deciview values (from total daily extinction) and then compute the future average mean deciviews for the best and worst days of each year. Then average the 5 years together to get the final future mean deciview value for the best and worst days.

The six steps listed above from national EPA modeling guidance for regional haze were followed by CENRAP to estimate projected future visibility conditions. These methods were appropriate at the time the modeling was performed.

5.3 REASONABLE PROGRESS GOAL AND PATH TO NATURAL CONDITIONS

A linear URP from the Baseline Conditions in 2004 to Natural Conditions in 2064 is assumed, and the value on the glide path at 2018 is the presumptive URP visibility target that the modeled 2018 projections are compared against to judge progress. The estimated visibility impairment in 2018 is slightly less than the calculated URP for 2018 (Section 2). The URP acts as a benchmark for evaluating the reasonable progress towards reaching natural conditions by 2064.

In determining reasonable progress, section 169A(g) of the Clean Air Act requires that four factors be considered:

- Cost of compliance
- Time necessary for compliance
- Energy and non-air quality environmental impacts of compliance
- Remaining useful life of existing sources that contribute to visibility impairment.

Table 5-1 and figures 5-1 and 5-2 compares the URP using the natural conditions described in section 2 to the modeled visibility conditions in 2018 for each Class I area. For Breton Island,

[47] US EPA, 2006. Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze, US EPA, Office of Air Quality and Planning Standards, EPA-454/B-07-002, EPA, April 2007, (http://www.epa.gov/ttn/scram/guidance/guide/final-03-pm-rh-guidance.pdf)

the baseline visibility (2002-2004) is 25.73 dv, and the estimated 2018 URP is 22.51dv. The modeling predicts a visibility improvement of 3.01 dv by 2018, compared to the URP improvement of 3.22 dv by 2018. The modeling predicts a visibility improvement of 3.01 dv, compared to the URP improvement of 3.22 dv by 2018, less than 10% gap is left. Achieving the 2018 URP point is not a requirement of the RHR SIPs, but it serves as a benchmark to compare progress toward natural visibility conditions in 2064 and is designed to help states in selecting their 2018 RPGs. As stated in EPA Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program[48], "The glidepath is not a presumptive target, and States may establish a RPG that provides for greater, lesser, or equivalent improvement as that described by the glidepath."

The modeling also shows visibility impairment in 2018 for the 20% best days show an improvement in visibility of 0.90 dv at Breton by 2018. This is consistent with the requirement of no degradation of visibility on the best days at Class I sites.

LDEQ adopted the modeled 2018 visibility conditions as the Reasonable Progress Goal for Breton Class I area. We are proposing to partially approve and partially disapprove Louisiana's Reasonable Progress Goals because of the linkage to EPA's CAIR and the Transport Rule. See the Notice and the main TSD for more details. CENRAP and LDEQ's projections indicate that Sulfate emissions in Louisiana are projected to increase from 2002 to 2018. Louisiana sources are projected to remain significant contributors to visibility impairment in 2018, thus providing further support that additional analysis should have be performed according to the statutory factors as additional analyses are conducted for BART on sources as discussed in the BART sections of the main TSD and in the FRN proposal.

Table 5-1. Comparison of reasonable progress goal to uniform rate of progress for 2018 (total extinction and deciviews)

	Breton Island
Avg. for 20% Worst Days (Baseline 2000-04)	25.73 dv
2018 URP Goal	22.51 dv
RPG	22.72 dv
Change by 2018 (reasonable progress goal)	-3.22 dv
Change by 2018 at uniform rate of progress	-3.45 dv
Projected rate of change (2004-2018)	-0.32 dv/yr
Change needed to reach natural conditions	-14.78 dv
Avg. for r20% Best Days (Baseline 2000-04)	13.12 dv
RPG	12.22 dv

[48] US EPA, 2007, Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program, EPA, June 2007. http://www.epa.gov/ttncaaa1/t1/memoranda/reasonable_progress_guid071307.pdf

Figure 5-1. Projections of visibility impairment for 20% worst days at Breton Island

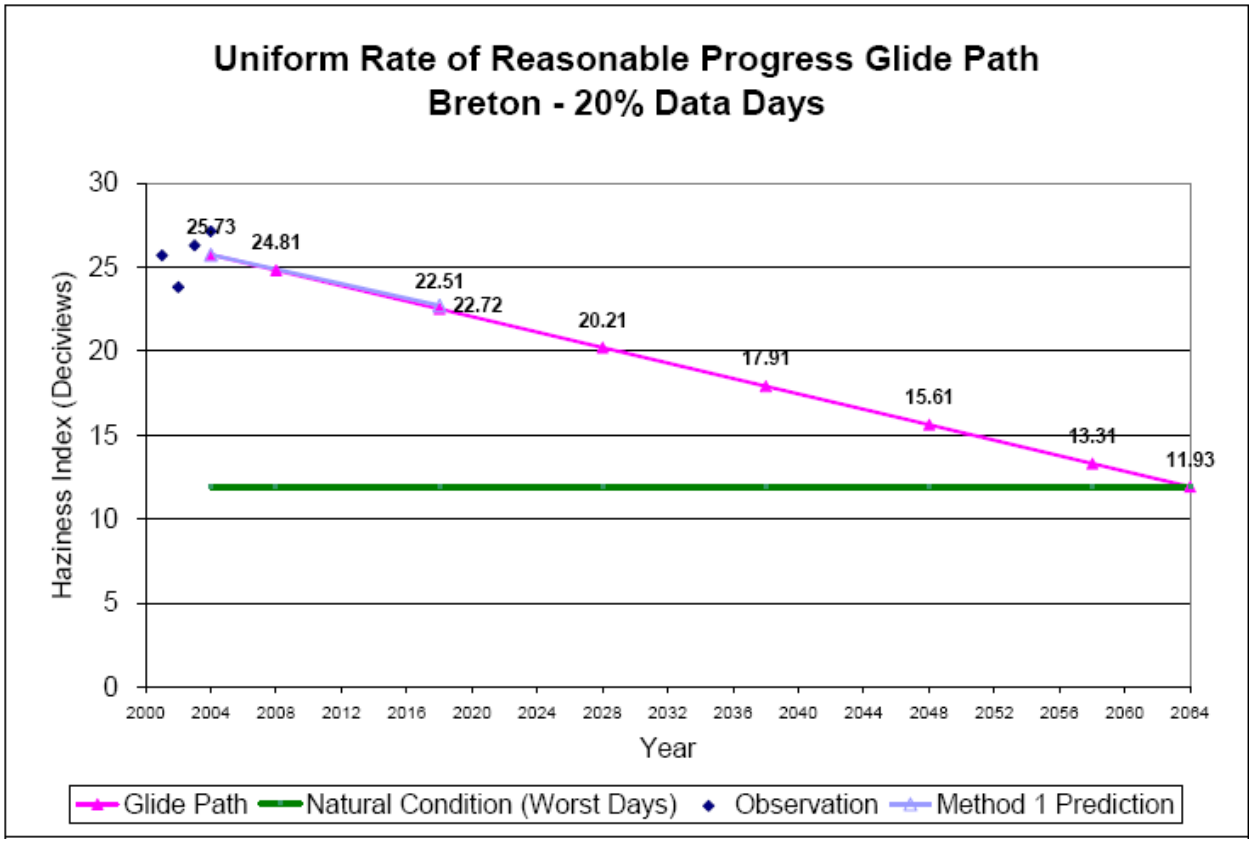


Figure 5-2. shows the differences in model results of total extinction between the Base18g and Typ02g model predictions, including the contributions from each component specie of the IMPROVE algorithm. On most days, visibility improvements are due to reductions in sulfate. A few days exhibit differences in nitrate concentrations being the most significant contribution to improved visibility.

Figure 5-2. Differences in modeled total extinction (Bext) between Base18G and Typ02g for 20% worst days at Breton National Wildlife Refuge.

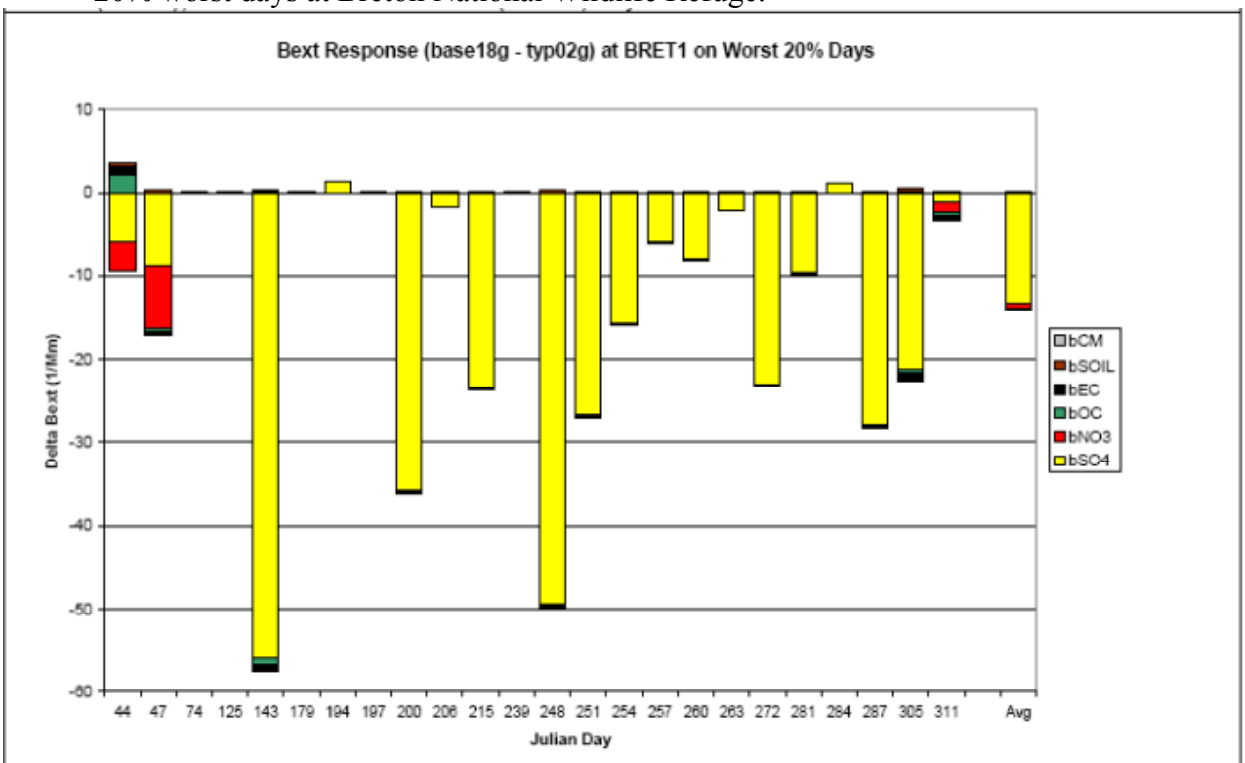


Figure D-3d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Breton Island (BRET), Louisiana and Worst 20% (W20%) days in 2002.

As discussed in the following chapter on source apportionment, visibility impairment at Breton National Wildlife Refuge is due to emissions and transport from outside of Louisiana as well as in state sources.

Chapter 6: Source Apportionment Modeling

6.1 INTRODUCTION

Visibility impairment in Class I areas is the result of local air pollution as well as transport of regional pollution across long distances. The relative contributions to visibility impairment from each source region and category is needed to develop effective control strategies to improve visibility. CENRAP used CAMx Version 4.40 with its Particulate Source Apportionment Technology (PSAT) tool to provide source apportionment by geographic regions and major source category. CAMx was run with similar options and inputs as the CAMQ modeling with both the 2002 baseline and 2018 future case emission inventories (Base F). The CAMX model selection and performance are discussed briefly in section 3.7 of this document and details of the CAMx model configuration used by CENRAP can be found in the CENRAP TSD and the Modeling Protocol. PSAT uses reactive tracers that operate in parallel to the CAMx host model using the same emissions, transport, chemical transformation and deposition rates as the host model to account for the contributions of user specified source regions and categories to PM concentrations throughout the modeling domain. Details on the formulation of the CAMx PSAT source apportionment can be found in the CAMx user's guidance.[49] The CAMx PSAT analysis has been tested and evaluated against other apportionment techniques.[50,51] The goals of the PSAT assessment are to evaluate the contributions of different geographic regions and source categories to visibility impairment at Class I areas in 2002 and the projected 2018 case in order to identify those regions and source categories that, if controlled, would produce the greatest improvements in visibility.

CENRAP defined 30 geographical source regions (Fig 5-1) consisting of CENRAP and nearby states, with Texas divided into 3 regions, the remainder of the western and eastern United States, the Gulf of Mexico, Canada and Mexico. Six source categories (elevated point sources; low-level point sources, on-road mobile, non-road mobile, area and natural or non-anthropogenic sources) were tracked separately. The CENRAP PSAT 2002 and 2018 applications used three of the PSAT families of tracers: 1) sulfate, 2) nitrate and ammonium, and 3) secondary organic aerosols (SOA). SOA was portioned into an anthropogenic (SOAA) and biogenic (SOAB) components. Contributions for the 20% worst and 20% best days at each CENRAP and nearby Class I area were extracted from the PSAT results. The original IMPROVE equation was used to calculate extinction coefficients from modeled concentrations. Modeling performance is poor for soil and coarse material. As discussed in Section 3 of this document, results of various projections of CM and soil had little effect on visibility predictions at the CENRAP class I areas. Extinction due to soil and coarse material changes very little between 2002 and 2018. A PSAT Visualization Tool was developed that can be used by States, Tribes and others to generate displays of the contributions of source regions and categories to visibility impairment for the

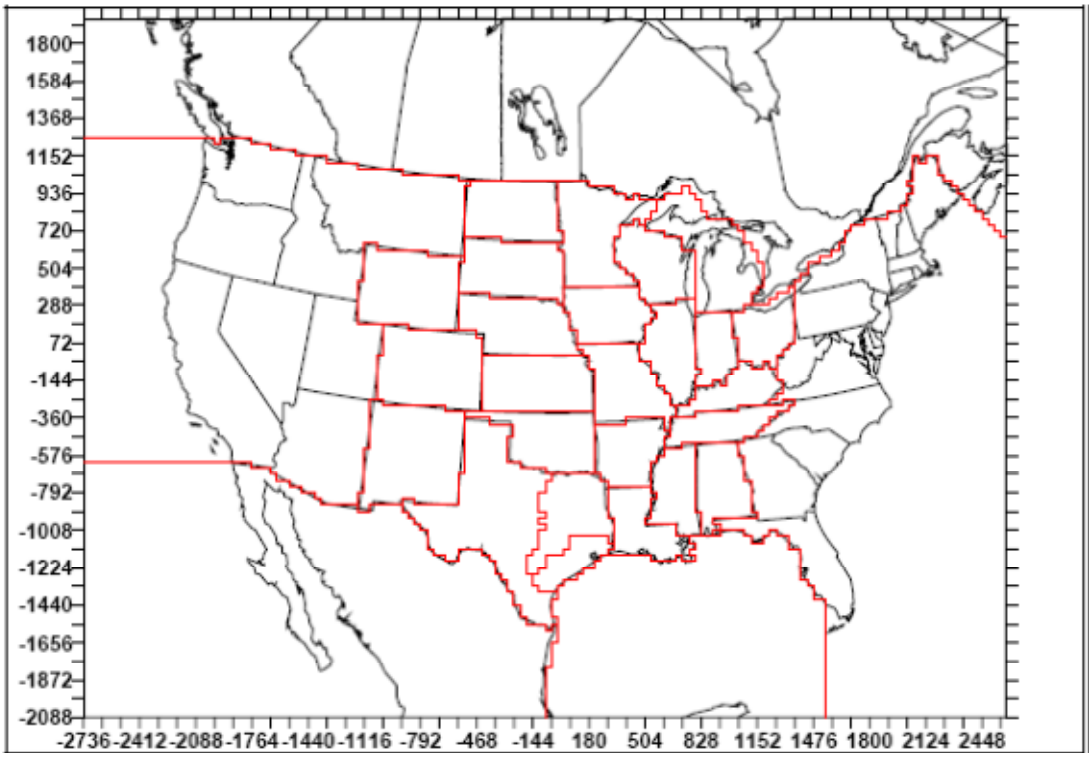
[49] "User's Guide Comprehensive Air Quality Model With Extensions (CAMx) Version 4.30." ENVIRON International Corporation, Novato, California, 2006 (available at www.camx.com).

[50] Morris, R.E., G.Y., C.E., G.W., B.K. 2005. "Recent Advances in One-Atmospheric Modeling Using the Comprehensive Air-quality Model with Extensions." Presented at the 98th Annual Air and Waste Management Conference, Minneapolis, MN. June.

[51] Yarwood, G., R.E. Morris, G. Wilson. 2004. "Particulate Matter Source Apportionment Technology (PSAT) in the CAMx Photochemical Grid Model." Presented at the ITM 27th NATO Conference- Banff Centre, Canada, October. (http://www.camx.com/publ/pdfs/___Yarwood_ITM_paper.pdf)

average of the worst 20 percent and best 20 percent days at each CENRAP and nearby Class I areas.[52] The 2002 projected results apply the 2002 PSAT modeled source apportionment to the observed 2000-2004 Baseline extinction keeping the relative contributions of source groups to each PM species (e.g., SO4, NO3, etc.) the same averaged across the 2002 worst 20 percent days but scaling their magnitudes up or down based on the ratio of the 2000-2004 Baseline to the 2002 modeling results. Similarly, the 2018 projected results use the relative contributions of the 2018 PSAT results from each source group and scales them according to the differences in the 2018 projected PM species to the 2018 modeled PM species for the average of the worst 20 percent days. EPA believes the selection and application of CAMx for source apportionment analysis is appropriate.

Figure 6-1. Source Regions used in CAMx PSAT PM source apportionment modeling



6.2 SOURCE APPORTIONMENT RESULTS AT BRETON NATIONAL WILDLIFE REFUGE

Tables 6-1 and 6-2 show the modeled contributions to total extinction for each source category and species for 2002 and 2018, respectively. Figures 6-2, 6-3, 6-4, and 6-5 show the geographical source apportionment by source category and species for the 20% worst days in 2002 and 2018. Visibility impairment at the Breton National Wildlife Refuge site in 2002 on the worst 20% days is largely due to sulfate from point sources that contributes over half (96.83 Mm^{-1}) of the total extinction of 132.52 Mm^{-1}. The largest contributions of sulfate come from Louisiana (15.48 Mm^{-1} from all source categories) and the eastern United States (22.88 Mm^{-1}). Overall, the largest source region contributions to visibility impairment in 2002 are from the eastern United States, Louisiana, Alabama, and Indiana).

[52] available at http://www.cenrap.org/html/projects.php

In 2018, Louisiana sources contribute the most to visibility impairment at Breton, as large reductions in impairment from point sources in the Indiana, Alabama and the eastern U.S. occur while sulfate emissions increase in Louisiana. The 2018 projection shows the total extinction at Breton for the worst 20 % days is estimated to be 102.5 Mm^{-1}, a reduction of approximately 23%. Reductions of sulfate emissions from point sources in Alabama, the eastern United States, Indiana, and Ohio make up the lionshare of the decrease in total light extinction. Even with such large reductions in SO4 from point sources in 2018, extinction due to point sources is still the highest contributor to visibility impairment on the worst 20% days, accounting for over half of the total extinction. There is an under-prediction bias in the model that must be considered when examining source apportionment results for sulfate. Use of a 12km resolution modeling grid in CAMX reduced the summertime sulfate bias but required large computational expense. The use of higher resolution modeling should be reconsidered in future modeling efforts.

Table 6-1. Projected light extinction for 20% worst days at Breton National Wildlife Refuge in 2002 (Mm^{-1})

	Total[1]	Point	Natural	On-Road	Non-Road	Area
SO4	96.83	78.92	0.08	1.31	2.95	8.74
NO3	8.29	2.53	0.48	1.44	1.29	1.03
POA	4.71	1.03	0.49	0.13	0.46	2.00
EC	5.40	0.35	0.34	0.70	2.08	1.41
SOIL	0.95	0.25	0.03	0.01	0.01	0.60
CM	3.70	0.30	0.18	0.02	0.04	2.14
Sum	132.52	83.38	1.60	3.61	6.82	15.93

[1]Totals include contributions from boundary conditions and secondary organic matter

Table 6-2. Projected light extinction for 20% worst days at Breton National Wildlife Refuge in 2018 (Mm^{-1})

	Total[1]	Point	Natural	On-Road	Non-Road	Area
SO4	68.63	51.59	0.04	0.15	1.57	10.61
NO3	8.20	2.53	0.49	0.53	1.22	1.85
POA	4.37	1.21	0.21	0.05	0.38	1.93
EC	3.92	0.34	0.15	0.14	1.43	1.34
SOIL	1.16	0.43	0.03	0.01	0.01	0.63
CM	3.95	0.31	0.15	0.02	0.04	2.40
Sum	102.50	56.43	1.05	0.90	4.64	18.76

[1]Totals include contributions from boundary conditions and secondary organic matter

Figure 6-2. Source apportionment modeling results by source region and source category for worst 20% days at Breton National Wildlife Refuge in 2002.

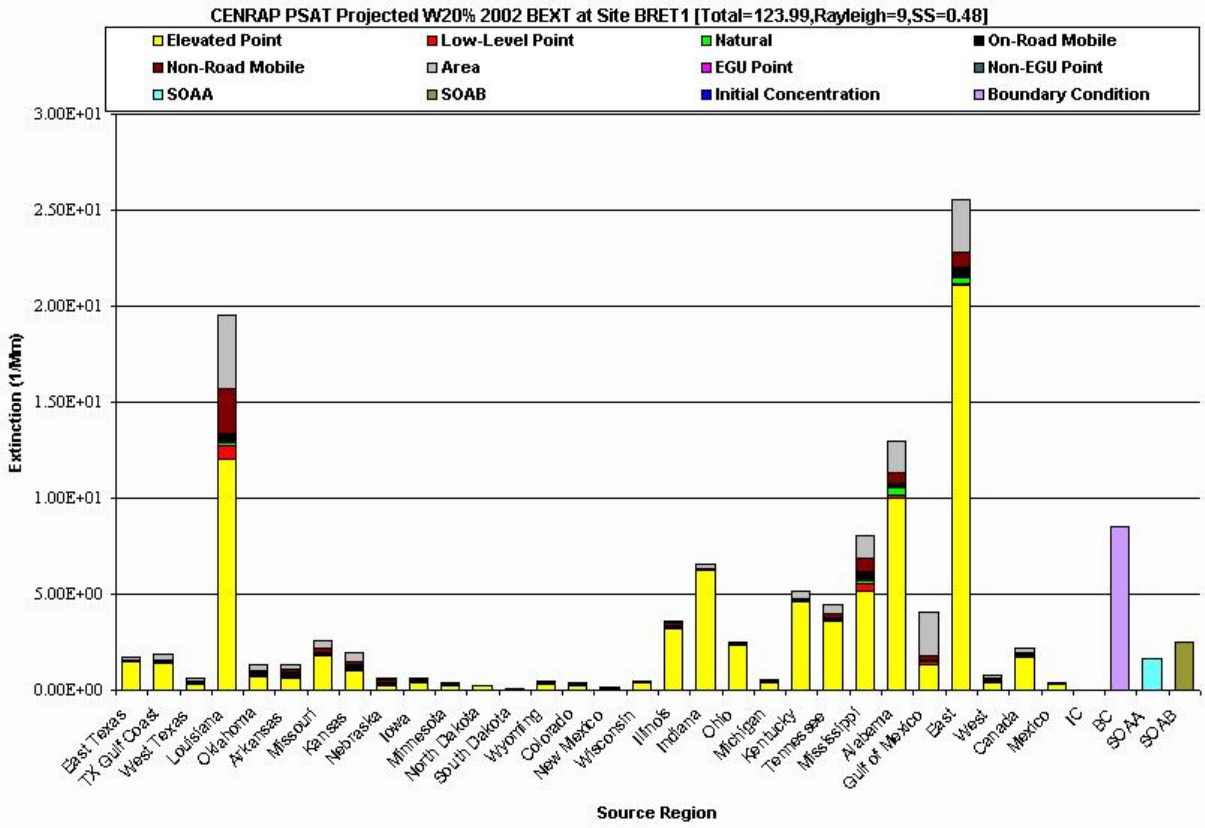


Figure 6-3. Source apportionment modeling results by source region and species for worst 20% days at Caney Creek Wilderness Area in 2002.

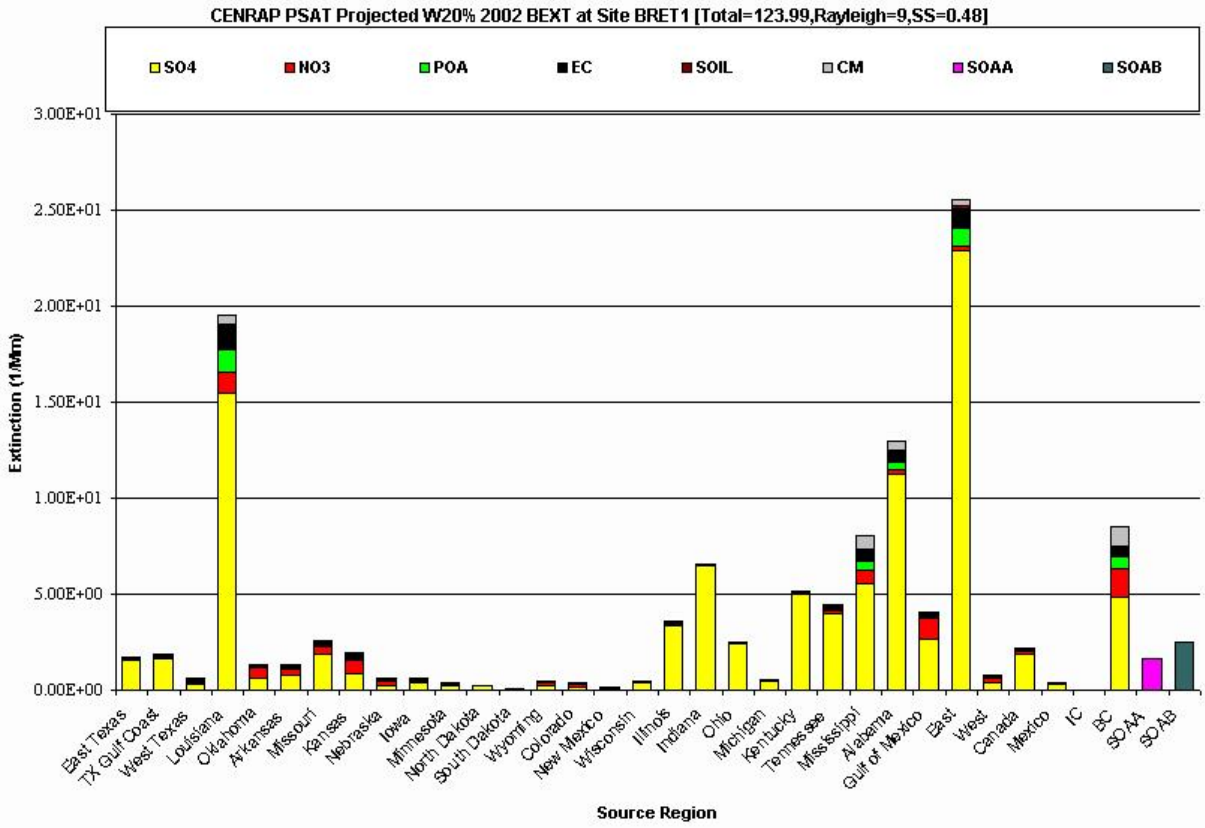
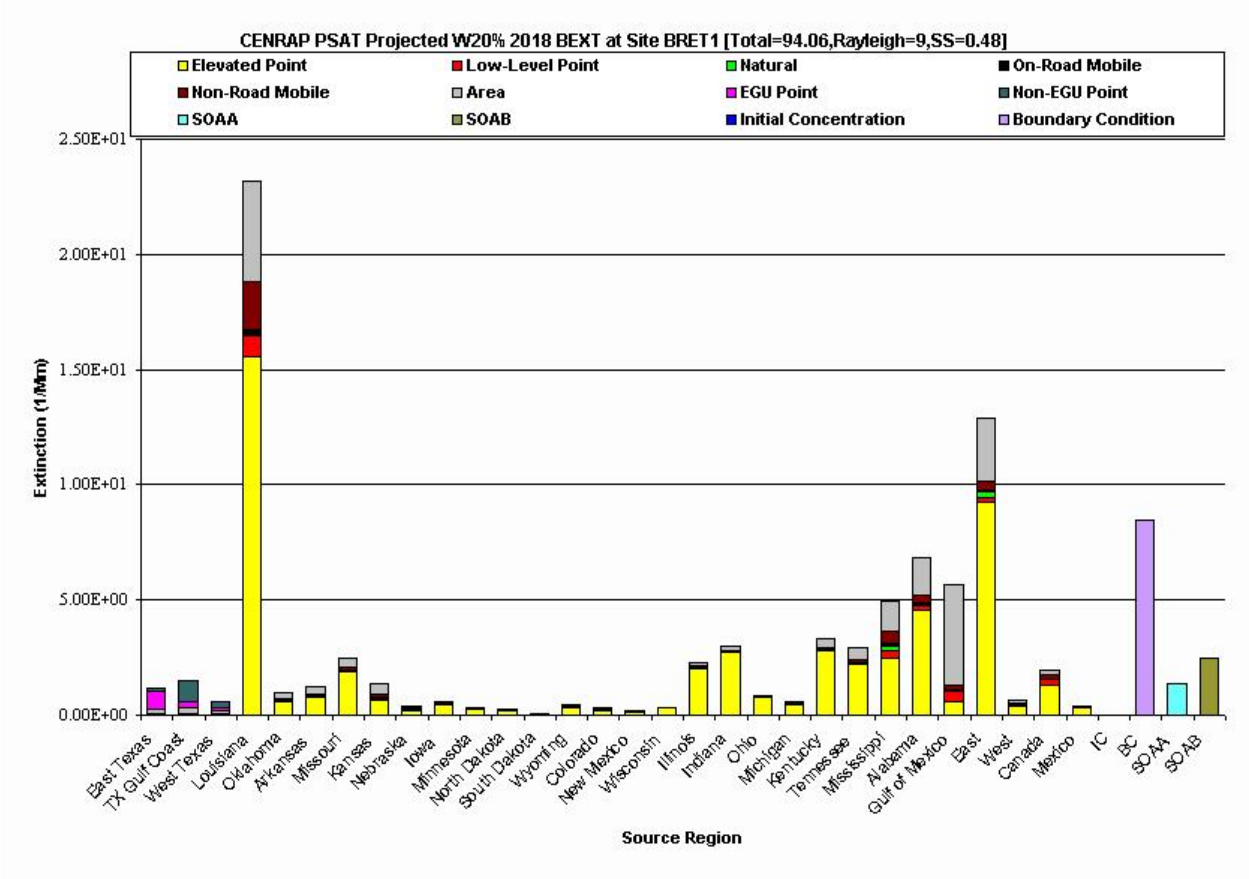
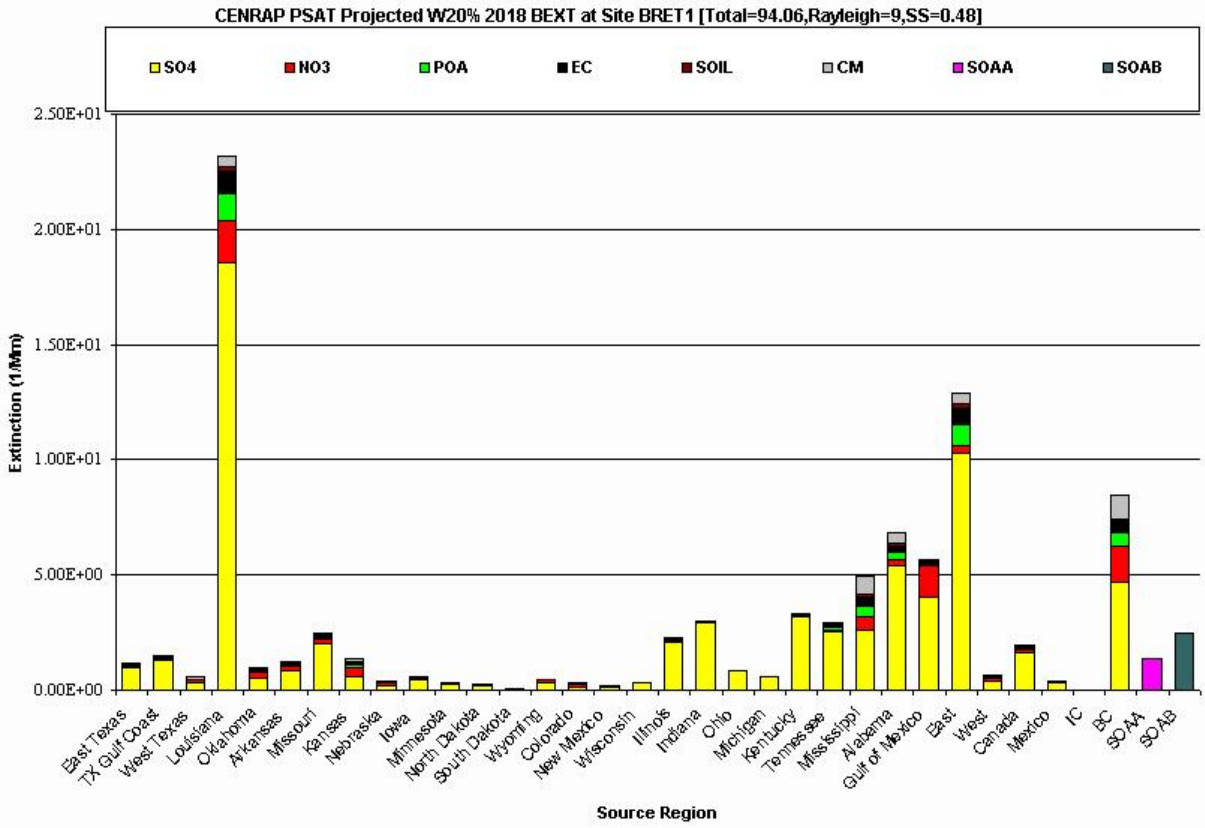


Figure 6-4. Source apportionment modeling results by source region and source category for worst 20% days at Breton National Wildlife Refuge in 2018.



*2018 projections for Texas Point sources are divided into EGU and Non-EGU point sources

Figure 6-5. Source apportionment modeling results by source region and species for worst 20% days at Breton National Wildlife Refuge in 2018.



6.3 SOURCE APPORTIONMENT RESULTS AT CANEY CREEK WILDERNESS AREA

Tables 6-3 and 6-4 show the modeled contributions to total extinction for each source category and species for 2002 and 2018, respectively. Figures 6-2, 6-3, 6-4, and 6-5 show the geographical source apportionment by source category and species for the 20% worst days in 2002 and 2018. Visibility impairment at the Caney Creek Wilderness Area site in 2002 on the worst 20% days is largely due to sulfate from point sources that contributes over half (75.1 Mm^{-1}) of the total extinction of 133.93 Mm^{-1}. The largest contributions of sulfate come from Texas (11.55 $Mm^{-1}$from all source categories) and the eastern United States (17.98 Mm^{-1}). Overall, the largest source region contributions to visibility impairment in 2002 are from the eastern United States (19.16 Mm^{-1}), Texas (14.89 Mm^{-1}) and Louisiana (13.57 Mm^{-1}).

In 2018, Louisiana sources contribute the most to visibility impairment at Caney Creek, as large reductions in impairment from point sources in East Texas and the eastern U.S. occur while sulfate emissions increase in Louisiana. The 2018 projection shows the total extinction at Caney Creek Wilderness Area for the worst 20 % days is estimated to be 85.84 Mm^{-1}, a reduction of approximately 36%. Reductions of sulfate emissions from point sources in Texas, the eastern United States, Indiana, and Ohio account for a decrease of 24.41 Mm^{-1}in total light extinction, approximately half of the total reduction between 2002 and 2018. Even with such large

reductions in SO4 from point sources in 2018, extinction due to point sources is still the highest contributor to visibility impairment on the worst 20% days, accounting for over half of the total extinction. Visibility impairment from all Louisiana sources decreases 2.32 Mm^{-1}, almost entirely due to reductions from mobile sources. Total reductions in mobile sources of NO3 contribute a decrease in total extinction of approximately 9 Mm^{-1}. There is an under-prediction bias in the model that must be considered when examining source apportionment results for sulfate. Use of a 12km resolution modeling grid in CAMX reduced the summertime sulfate bias but required large computational expense. The use of higher resolution modeling should be reconsidered in future modeling efforts.

Table 6-3. Projected light extinction for 20% worst days at Caney Creek Wilderness Area in 2002 (Mm^{-1})

	Total[1]	Point	Natural	On-Road	Non-Road	Area
SO4	87.05	75.10	0.09	1.19	1.70	5.66
NO3	13.78	4.06	0.64	4.70	2.45	1.37
POA	10.50	1.29	1.33	0.46	1.34	5.32
EC	4.80	0.19	0.33	0.86	1.79	1.40
SOIL	1.12	0.19	0.01	0.01	0.01	0.87
CM	3.73	0.21	0.04	0.03	0.02	3.19
Sum	*133.93*	*81.04*	*2.45*	*7.26*	*7.31*	*17.81*

[1]Totals include contributions from boundary conditions and secondary organic matter

Table 6-4. Projected light extinction for 20% worst days at Caney Creek Wilderness Area in 2018 (Mm^{-1})

	Total[1]	Point	Natural	On-Road	Non-Road	Area
SO4	48.95	39.83	0.07	0.12	0.44	5.31
NO3	7.57	2.84	0.53	0.97	1.33	1.37
POA	9.93	1.76	1.18	0.14	1.03	5.09
EC	3.17	0.24	0.30	0.16	0.94	1.31
SOIL	1.29	0.35	0.01	0.01	0.01	0.87
CM	3.58	0.24	0.04	0.03	0.01	3.02
Sum	*85.84*	*45.27*	*2.12*	*1.44*	*3.76*	*16.96*

[1]Totals include contributions from boundary conditions and secondary organic matter

Figure 6-6. Source apportionment modeling results by source region and source category for worst 20% days at Caney Creek Wilderness Area in 2002.

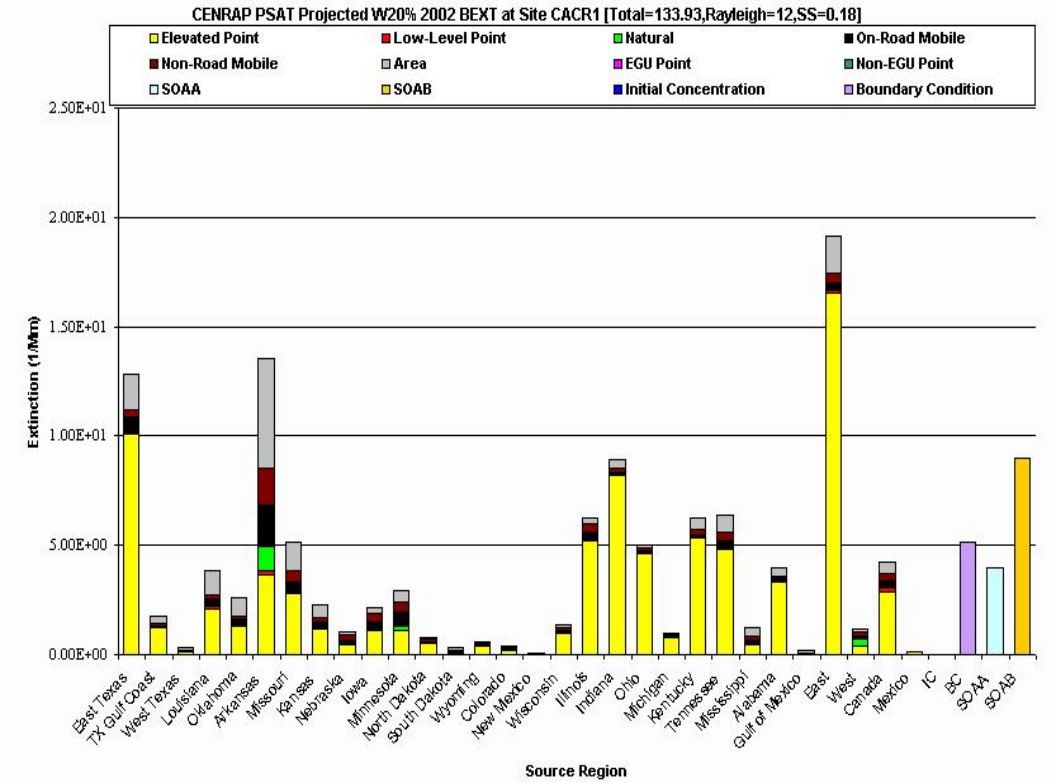


Figure 6-7. Source apportionment modeling results by source region and species for worst 20% days at Caney Creek Wilderness Area in 2002.

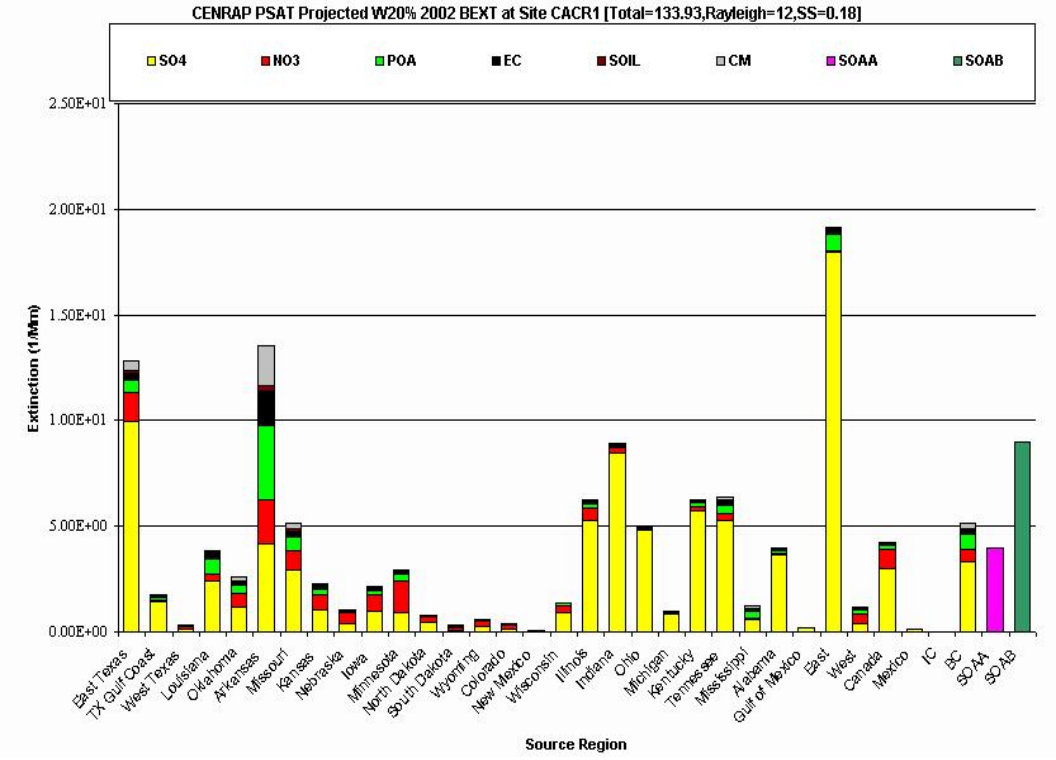
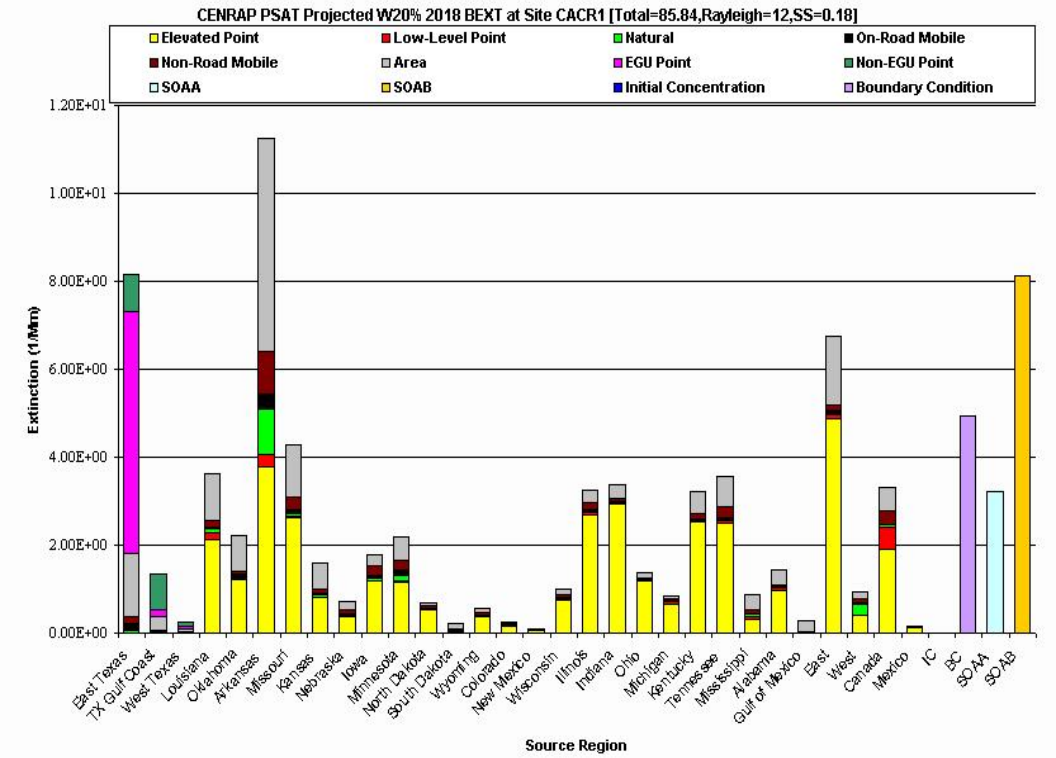
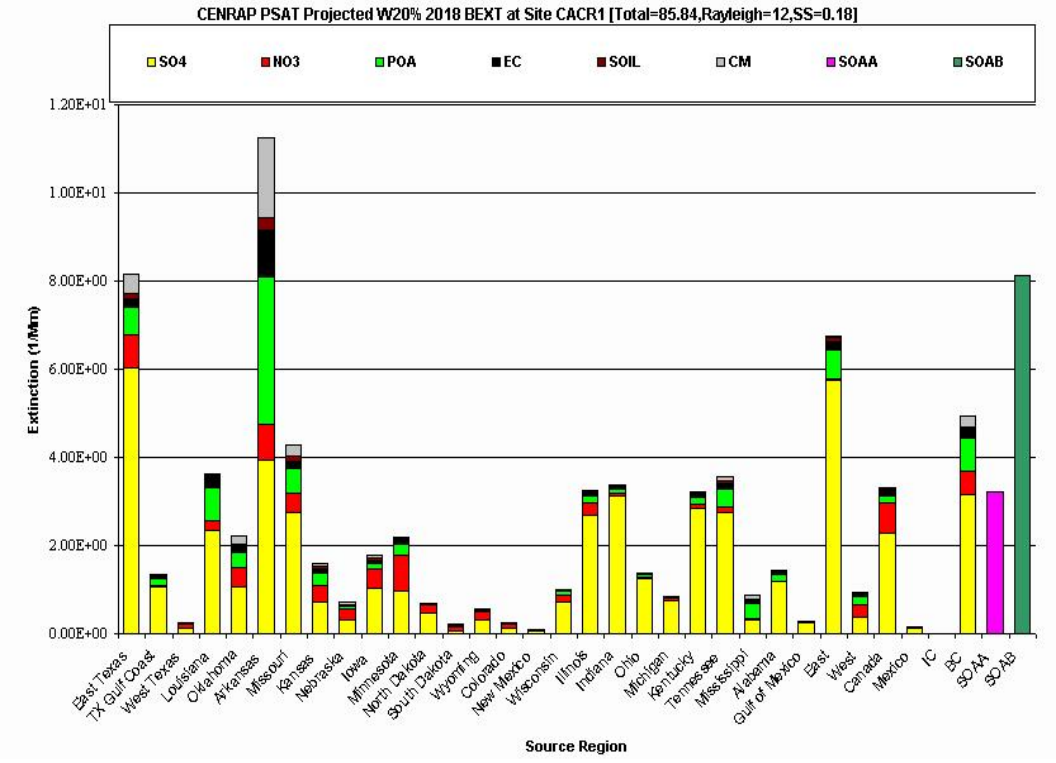


Figure 6-8. Source apportionment modeling results by source region and source category for worst 20% days at Caney Creek Wilderness Area in 2018.



*2018 projections for Texas Point sources are divided into EGU and Non-EGU point sources

Figure 6-9. Source apportionment modeling results by source region and species for worst 20% days at Caney Creek Wilderness Area in 2018.



6.4 CONTRIBUTIONS TO VISIBILITY IMPAIRMENT AT OTHER CLASS I AREAS

CAMx PSAT results are also utilized to evaluate the impact of Louisiana emission sources in 2002 and 2018 on visibility impairment at Class I areas outside of the state. Louisiana sources are modeled to have contributions to the Class I areas in Oklahoma with impairment % increasing from 3.55 to 4.99%. Outside of Oklahoma, the next largest contributions from Louisiana sources are on Class I areas in Arkansas (Upper Buffalo), Texas (Big Bend and Guadalupe Mtns.) and Missouri (Hercules-Glades and Mingo). The growth in % of apportionment is partially due to the increase in emissions projected for 2018 from Louisiana sources, especially the SO2 emissions.

Table 6-5. Percent contribution to total visibility impairment at Class I areas on 20% worst days from Louisiana Sources (contributions less than 1% are excluded)

Class I area	2002	2018
UPBU1	2.42%	2.99%
CACR1	2.87%	4.36%
HEGL1	2.24%	3.05%
MING1	0.22%	0.34%
WIMO1	3.55%	4.99%
GUMO1	2.00%	2.48%
BIBE1	2.42%	2.85%

Chapter 7: BART Determination

7.1 BART SCREENING ANALYSES

The discussion that follows is a description of the process used to determine BART Sources. LDEQ conducted an evaluation to support just evaluating the two closest Class I areas. The two Class I areas closest to Louisiana sources are Breton National Wildlife Refuge and Caney Creek Wilderness Area. We concur with LDEQ's decision to focus on these two Class I areas.

First, LDEQ sorted the BART-eligible facilities in Louisiana with visibility impairing pollutants by distances to the nearest Class I area. Second, LDEQ evaluated the ratios of the total of visibility impairing emissions to the distance to the Class I area was calculated on the spreadsheet. See Tables 7-2 and 7-3 for this information. Third, the facilities with the higher emissions to distance ratios were modeled with the CALPUFF screening model using the following methodology:

- EPA regulatory approved model, CALPUFF version 5.711a;
- CENRAP 6 km spacing resolution domains with no observation
- CALMET met data of 2001, 2002 and 2003; and,
- Ozone data for 2001, 2003 Louisiana state ozone data and 2002 CENRAP southern region ozone data were used in the screening process.
- The 24 hour maximum pollutant emissions of NOx, SO2 and particulate collected in the BART survey were used for the model emissions inputs.
- POSTUTIL was used in calculation of repartitioning of NO3/HNO3 without ammonia data.
- CALPOST version 5.51 was used to determine the visibility impact on the Class I area of interest.

We concur with the use of this version of CALPUFF at the time and the methodology that LDEQ utilized for using specific facilities with a high Q/D of visibility impairing pollutants as model plants for screening of sources.
In accordance with the Guidelines, LDEQ chose to use a contribution threshold of 0.5 deciviews (98^{th} percentile) for determining which sources were subject to BART. To be more conservative, due to some of the uncertainties with this approach, LDEQ used the maximum impact value instead of the 98^{th} Percentile. Therefore, LDEQ used a screening evaluation criterion was a maximum deciview impact of greater than 0.5 deciviews to require a refined analysis. We concur with this approach.

The two (2) existing facilities that had the highest emission divided by distance ratios with respect to the Caney Creek Class I area were Smurfit Stone in Jackson Parish, Louisiana and Chemtrade Refining in Caddo Parish, Louisiana. Results of the facility's screening are

shown in table 7-4. Modeled results indicated that there was no visibility impact at Caney Creek, with the exception of Chemtrade in 2002 and the average of the maximums were below 0.5 dv impact.. Model outputs are listed below:

Smurfit Stone, Jackson Parish, Louisiana; distance from Caney Creek equals 263km SSE

- o 2001 inputs indicated 0.188 dv impact
- o 2002 inputs indicated 0.259 dv impact
- o 2003 inputs indicated 0.183 dv impact

Chemtrade Refining, Caddo Parish, Louisiana; distance from Caney Creek equals 226.6km almost due south

- o 2001 inputs indicate 0.043 dv impact
- o 2002 inputs indicate 0.052 dv impact
- o 2003 in puts indicate 0.042 dv impact.

Graphics Packaging International (see Facility 1 in Table 7-4) reported revised BART eligible emissions after the screening modeling had begun, so this facility was requested to perform its own screening. The remaining facilities listed in Table 7-2, were eliminated from BART consideration as their emissions were less than either Smurfit Stone or Chemtrade Refining and they were farther away from the Caney Creek Class I area. As a check, LDEQ modeled a carbon black plant, Cabot Company in Evangeline Parish and a coal-fired EGU, Big Cajun 2 in Pointe Coupee Parish that were over 300 kms from Caney Creek and emitted high amounts of visibility impairing pollutants from tall stacks. The modeling indicated there was no impact to visibility at Caney Creek from these two additional sources.

Table 7-1. BART-eligible facilities closest to Caney Creek

COMPANY NAME	STATION-ARY SOURCE NAME	LONGITUDE	LATITUDE	DIS-TANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/dis-tance
Graphic Packaging International	West Monroe Mill	-92.1526003	32.48667262	272.8	2.33	9.66	1.89	13.88	0.05088
Smurfit-Stone Container Enterprise, Inc	Facility Wide	-92.7271006	32.27364037	262.9	0.51	4.94	5.75	11.2	0.042602
International Paper Company	Bastrop - Louisiana Mill	-91.908196	32.78150968	264.7	4.83	2.32	3.75	10.9	0.041179
Boise Cascade	DeRidder Paper Mill	-93.3753244	30.85758291	395.3	4	5.3	2.35	11.65	0.029471
Koch Nitrogen Company	Sterlington Ammonia Plant	-92.0826419	32.68555292	260.5	0.01	4.57	0.13	4.71	0.018081
Weyerhaeuser Company	Red River Mill	-93.1714369	31.9039304	285.8	0.38	1.37	0.79	2.54	0.008887
Cleco Power LLC.	Rodemache r Power Station	-92.7185213	31.3996156	352.4	40.25	15.88	2.94	2.94	0.008343
Entergy Louisiana	Sterlington	-92.0792663	32.70266681	259.4	10.57	19.5	1.46	1.46	0.005628

COMPANY NAME	STATIONARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/distance
Chemtrade Refinery Services Inc.	Sulfuric Acid Plant	-93.6336163	32.35992291	226.6	1.17	0.03	0.02	1.22	0.005384
City of Ruston	Ruston Electrical Generation Station	-92.6137195	32.52735312	243.7	1.83	1.18	0.13	0.13	0.000533
Procter & Gamble Manufacturing Company	Alexandria Plant	-92.4100859	31.36766549	366.7	0	0.05	0.1	0.15	0.000409
City of Natchitoches Utility Dept.	Springfield Boiler	-93.0945177	31.76913137	302.2	3.59	3.86	0.1	0.1	0.000331

LDEQ altered their methods for determining visibility impairment for the Breton Class I area from the analysis methods they used for Caney Creek. LDEQ chose to model two facilities: ConocoPhillips Alliance Refiner in St. Bernard Parish, Louisiana and the Big Cajun 2 power plant in Pointe Coupee Parish, Louisiana. Because Louisiana was a CAIR state at the time, only the particulate matter (PM10) component was used when performing the modeling for Big Cajun 2.

Model results from both facilities indicated an impact of visibility at Breton. LDEQ used as its criteria an emissions/distance ratio equal to or greater than Big Cajun 2 (0.0898678). If a facility's emissions/distance ration was greater than 0.0898678 then the facility was requested to conduct its own modeling exercise. Facilities 2 through 10 in Table 7-4 were above this ratio (0.0898678).

LDEQ then performed screening models on Murphy Oil USA, Meraux Refinery, St. Bernard Parish, Louisiana and the Entergy Michoud facility in Orleans Parish, Louisiana. Once again, because Louisiana was a CAIR state at the time, the Entergy Michoud facility was screened only for particulates. Both of these facilities were found to have an impact on visibility at Breton, and both were requested to perform the refined modeling. (Facilities 11 and 12 in Table 9.4) Facility 13, Sid Richardson, was requested to perform refined modeling also because its emissions/distance ratio was slightly greater than of Murphy Oil (0.0891079). Looking at BART-eligible facilities further to the west from Breton, LDEQ performed the screening model on the Dupont Ponchartrain Diamines Unit, St. John the Baptist Parish, Louisiana. The results of this run showed no impact on visibility at Breton.

Using established guidelines, LDEQ removed all of the remaining facilities listed in Table 7-3 that were a greater distance from Breton from BART consideration with exceptions listed below. LDEQ then modeled, as a double check on the analysis, Cabot Corporation, which is a carbon-black, facility located 332.3 km west of Breton in Evangeline Parish, Louisiana. This facility was chosen because it emits high amounts of visibility impairing pollutants from a tall stack. The modeling indicated there was no impact from this facility at Breton.

To be conservative due to the uncertainties of LDEQ's BART-eligible screening

analysis, LDEQ formally requested other BART-eligible facilities that had emissions greater than 5 tons and within 250 kms to perform a screening analysis. That action added facilities 15, 16, and 17 and 19 through 27 in Table 7-4. LDEQ also added Chalmette Refining, facility 14, and Union Carbide, facility 18, because their emissions approached 5 tons and both facilities are within 150 km of Breton.

Table 7-2. BART-eligible facilities closest to Breton

COMPANY NAME	STATIONARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/ distance
Marathon Petroleum Company, LLC-LA Refining Division	Garyville Refinery	-89.40832724	30.059162	50.9	2.74	9.55	0.73	13.02	0.2557957
Conoco-Phillips Co.	Alliance Refinery	-89.98078866	29.678193	93.9	40.48	11.94	1.78	54.2	0.5772098
Murphy Oil USA, Inc.	Meraux Refinery	-89.94436291	29.930831	96.4	4.88	3.23	0.48	8.59	0.0891079
Chevron Oronite Company LLC	Oak Point Plant	-90.01148298	29.809566	98.8	2.74	0.08	0.01	2.83	0.0286437
Chalmette Refining, L.L.C.	Chalmette Refinery	-89.97400146	29.930644	99	0.22	4.2	0.11	4.53	0.0457576
Entergy New Orleans	Michoud	-89.93791281	30.006128	99.1	101.96	22.73	7.39	7.39	0.0745711
Entergy Louisiana	Ninemile Point	-90.14143463	29.949253	114.9	14.09	107.06	1.37	1.37	0.0119234

COMPANY NAME	STATIONARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/ distance
Temple Inland	Bogalusa Mill	-89.85998757	30.778264	123.7	14.57	5.5	2.2	22.27	0.1800323
Valero Refining-New Orleans, LLC	St. Charles Refinery	-90.39563933	29.985771	139.3	2.99	5.14	1.1	9.23	0.0662599
Shell Chemical LP	Norco Chemical Plant - East Site	-90.40704044	29.999184	140.8	0.06	7.33	0.3	7.69	0.0546165
Motiva Enterprises LLC	Norco Refinery	-90.40704044	29.999184	140.8	1.41	4	0.16	5.57	0.0395597
Union Carbide Corp.	Taft/Star Manufacturing Complex	-90.45488109	29.984369	144.7	1.51	3	0.2	4.71	0.0325501
Entergy Louisiana	Little Gypsy	-90.46080445	30.016234	146.2	28.28	112.16	0.57	0.57	0.0038988
Entergy Louisiana	Waterford	-90.47590204	29.993072	146.9	101.85	31.97	4	4	0.0272294
DuPont	Pontchartrain Diamines Unit	-90.5261004	30.053921	153.4	0.09	10.01	0.15	10.25	0.0668188
DuPont Performance Elastomers	Pontchartrain Chloroprene Unit	-90.52610018	30.05393	153.4	0.07	0.41	0.03	0.51	0.0033246
Terrebonne Parish Consolidated Government	Houma Generating Station	-90.72158049	29.578969	165	0.01	2.52	0.02	0.02	0.0001212
Gramercy Alumina	Gramercy Alumina	-90.66701652	30.058482	166.4	0.13	6.07	0.36	6.56	0.0394231
Mosaic Fertilizer LLC	Uncle Sam Plant	-90.83242332	30.039483	181.1	39.16	3.34	0	42.5	0.234677
Koch Pipeline Company, L.P.	St. James Terminal	-90.84342098	30.030074	181.9	0	0	0	0	0
Motiva Enterprises, LLC	Convent Refinery	-90.89767031	30.033776	187	0	0	0	0	0
Chevron Phillips Chemical Company, LP	St. James Styrene Facility	-90.91386764	30.080657	189.8	0	0	0	0	0
Mosaic Fertilizer LLC	Faustina Plant	-90.91684168	30.0813	190.1	0	4.18	1.67	5.85	0.0307733
E.I. du Pont de Nemours & Co., Inc.	Burnside Plant	-90.91387658	30.123194	191.1	28.4	0.16	0	28.56	0.1494505
CF Industries	CF Industries Donaldsonville	-90.95785687	30.086915	194	0.03	8.88	1.72	10.63	0.0547938

COMPANY NAME	STATION-ARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/ distance
BASF Corporation	Geismar Site	-90.98059623	30.210231	200	2.65	1.05	0.24	3.94	0.0197
Shell Chemical LP	Geismar Plant	-90.99523584	30.182353	200.4	0	2.82	0.15	2.97	0.0148204
Chemtura USA Corporation	Geismar Plant	-91.00669483	30.205804	202.2	0.05	0.57	0.36	0.98	0.0048467
Monochem, Inc.	Geismar Facility	-91.010967	30.210447	203	0.01	4.79	0.11	4.91	0.0241871 9
PCS Nitrogen	Geismar Plant - Ammonia Group	-91.05376269	30.226629	207.2	33.4	15.02	1.94	50.36	0.2430502
Williams Olefins LLC	Geismar Ethylene Plant	-91.05301053	30.231057	207.3	0.01	1.29	0.13	1.43	0.0068982
TOTAL Petrochemicals USA, Inc.	Cos-Mar Styrene Monomer Plant	-91.06780502	30.220973	208.3	0.02	1.45	0.99	2.46	0.0118099
Louisiana Energy & Power Authority	Morgan City Steam Plant	-91.18922897	29.689935	209.8	0	4.14	0	4.14	0.0197331
Syngenta Crop Protection	St. Gabriel Plant - HCN Unit	-91.10344169	30.246737	212.4	0	0.11	0.06	0.17	0.0008004
Entergy Gulf States	Willow Glen	-91.11729738	30.272667	214.6	169.77	59.62	5.39	5.39	0.0251165
ExxonMobil Refining & Supply Co.	ExxonMobil Baton Rouge Refinery	-91.16847335	30.482699	224.8	4.68	6.33	1.68	12.69	0.0564502
The Dow Chemical Company	Louisiana Operations	-91.23272546	30.269765	224.9	0.48	0	0.25	0.73	0.0032459
ExxonMobil	Baton Rouge Chemical Plant	-91.16954678	30.494912	225.1	4.18	6.21	3.17	13.56	0.0602399
Lion Copolymer, LLC	Baton Rouge Plant	-91.17323005	30.504635	225.7	0	0	0	0	0
Louisiana Energy and Power Authority	Plaquemine Steam Plant	-91.25555522	30.271876	227.1	0	1.35	0	1.35	0.0059445
Rhodia, Inc.	Baton Rouge Facility	-91.18800147	30.508143	227.2	34.1	1.87	0.01	35.98	0.1583627

COMPANY NAME	STATION-ARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/ distance
Placid Refining Company, L.L.C.	Port Allen Refinery	-91.21028582	30.474709	228.5	8.15	1.46	0	9.61	0.042056 9
Sid Richardson Carbon Company	Addis Plant	-91.27950387	30.329033	231.2	19.49	0.52	0.68	20.69	0.089489 6
Exide Technologies	Baton Rouge Smelter	-91.24267772	30.584765	234.2	6.86	0	0	6.86	0.029291 2
Columbian Chemicals Company	North Bend	-91.45548632	29.679773	235.3	0	0	0	0	0
Cabot Corporation	Canal Plant	-91.47352568	29.682689	237	0.03	0.29	0.05	0.37	0.001561 2
Georgia Pacific	Port Hudson Operations	-91.28110753	30.650659	239.6	3.55	7.37	2.45	13.37	0.055801 3
Cleco Power LLC.	Teche Power Station	-91.54348023	29.823214	244.5	7.44	11.27	1.73	1.73	0.007075 7
Tembec USA LLC	St. Francisville Mill	-91.31830837	30.709643	244.8	0.57	3.23	1.18	4.98	0.020343 1
Louisiana Generating LLC	Big Cajun 1 Power Plant	-91.35383789	30.671025	246.9	23.06	24.23	0.89	0.89	0.003604 7
Louisiana Generating LLC	Big Cajun 2 Power Plant	-91.36650704	30.724414	249.7	269.32	51.62	22.44	22.44	0.089867 8
Degussa Engineered Carbons, LP	Ivanhoe Carbon Black Plant	-91.7378093	29.778371	262.7	20.14	24.94	3.46	48.54	0.184773 5
Lafayette Utilities System	Louis "Doc" Bonin Electric Generation Station	-92.04593816	30.236709	298.9	0.02	8.2	0.3	0.3	0.001003 7
Cabot Corporation	Cabot Ville Platte Plant	-92.25346608	30.74712	332.3	4.03	0.46	0.08	4.57	0.013752 6
International Paper	Pineville Mill	-92.3481993	31.293607	358.9	6.9	8.37	2.67	17.94	0.049986 1
PPG Industries, Inc.	Derivatives	-93.28590531	30.230548	415.1	0	0.56	0.43	0.99	0.002385
Entergy Gulf States	Nelson	-93.29170698	30.284239	416.5	51.84	19.44	3.31	3.31	0.007947 2
CITGO Petroleum	Lake Charles Manufacturing Complex	-93.32013703	30.18219	417.6	2.59	2.09	1.48	6.16	0.014751
Sasol North America Inc.	Lake Charles Chemical Plant	-93.32505385	30.186464	418.1	0.16	1.63	0.19	1.98	0.004735 7

COMPANY NAME	STATION-ARY SOURCE NAME	LONGITUDE	LATITUDE	DISTANCE TO CLASS 1 AREA (KM)	SO2 24-hour MAXIMUM (tons/day)	NOx 24-hour MAXIMUM (tons/day)	PM10 24-hour MAXIMUM (tons/day)	total SO2, NOx, and PM	total/ distance
Equistar Chemicals	Lake Charles Plant	-93.32577352	30.190505	418.3	0	0.62	0	0.62	0.0014822
CITGO Petroleum Corporation	Clifton Ridge Terminal	-93.32987551	30.165164	418.3	0	0	0	0	0
Firestone Polymers LLC	Lake Charles Facility	-93.33136675	30.185618	418.7	0	0.09	0.09	0.18	0.0004299
CITGO Petroleum Corporation	Pecan Grove Tank	-93.34601014	30.178776	420	0	0	0	0	0

Table 7-3: Facilities Requested to either Screen or Perform Refined Modeling

	Company Name	Source Name	AI Number
1	Graphic Packaging International	West Monroe Mill	1432
2	ConocoPhilips Co.	Alliance Refinery	2418
3	Marathon Petroleum Company, LLC	Garyville Refinery	3165
4	PCS Nitrogen	Geismar Plant	3732
5	Mosaic Fertilizer LLC	Uncle Sam Plant	2532
6	Degussa Engineered Carbons LP	Ivanhoe Carbon Black Plant	2518
7	Temple Inland	Bogalusa Mill	38936
8	Rhodia, Inc	Baton Rouge Facility	1314
9	E.I. du Pont de Nemours & Co., Inc.	Burnside Plant	67572
10	Louisiana Generating LLC	Big Cajun 2 Power Plant	38867
11	Murphy Oil USA, Inc.	Meraux Refinery	1238
12	Entergy New Orleans	Michoud	32494
13	Sid Richardson Carbon Company	Addis Plant	4174
14	Chalmette Refining , L.L.C.	Chalmette Refinery	1376
15	Valero Refining-New Orleans, LLC	St Charles Refinery	26003
16	Motiva Enterprises LLC	Norco Refinery	1406
17	Shell Chemical LP	Norco Chemical Plant – East Site	26336
18	Union Carbide Corp.	Taft/Star Manufacturing Complex	2083

19	Gramercy Alumina	Gramercy Alumina	1388
20	Mosaic Fertilizer LLC	Faustina Plant	2425
21	CF Industries	CF Industries Donaldsonville	2416
22	Entergy Gulf States	Willow Glen	2625
23	ExxonMobil Refining & Supply Co.	ExxonMobil Baton Rouge Refinery	2638
24	ExxonMobil	Baton Rouge Chemical Plant	286
25	Placid Refining Company, L.L.C.	Port Allen Refinery	2366
26	Exide Technologies	Baton Rouge Smelter	1396
27	Georgia Pacific	Port Hudson Operations	2617

The results of the individual screening and refined modeling analyses for each source that could not be eliminated from BART consideration are included in Table 9.5. Each modeling exercise was reviewed and approved by LDEQ, FLM, and EPA.

Table 7-4: CALPUFF/CALPOST Screening Results

Facility	AI Number	Status
Graphic Packaging	1432	Passed Screening Model
Conoco Philips Co.	2418	Failed Refined Model
Marathon Petroleum Company, LLC	3165	Passed Screening Model
PCS Nitrogen	3732	Passed Refined Model
Mosaic Fertilizer, LLC	2532	Passed Refined Model
Degussa Engineered Carbons, LP	2518	Passed Refined Model
Temple Inland	38936	Passed Screening Model
Rhodia, Inc.	1314	Failed Refined Model
E.I. du Pont de Nemours & Co., Inc.	67572	Passed Screening Model
Sid Richardson Carbon Company	4174	Failed Refined Model

Facility	AI Number	Status
Louisiana Generating, LLC	38867	Passed Refined Model
Murphy Oil USA, Inc.	1238	Passed Refined Model
Entergy New Orleans	32494	Passed Refined Model
Chalmette Refining, LLC	1376	Passed Screening Model
Valero Refining-New Orleans,LLC	26003	Passed Screening Model
Motiva Enterprises, LLC	1406	Passed Refined Model
Shell Chemical, LP	26336	Passed Refined Model
Union Carbide Corp.	2083	Passed Screening Model
Gramercy Alumina	1388	Passed Screening Model
Mosaic Fertilizer, LLC	2425	Passed Screening Model
CF Industries	2416	Passed Screening Model
Entergy Gulf States	2625	Passed Refined Model
Exxon Mobil Refining and Supply Co.	2638	Passed Screening Model
Exxon Mobil	286	Passed Screening Model
Placid Refining Company, LLC	2366	Passed Screening Model
Exide Technologies	1396	Passed Screening Model
Georgia Pacific	2617	Passed Screening Model
International Paper	2140	Passed Screening Model

Table 7-5 Facilities that LDEQ determined had units that were subject to BART

Facility Name	AI Number	Emission Units Subject to BART	Pollutants Evaluated in BART	Determination Contribution to Visibility Impair (delta deciview)
Conoco Philips Co.	2418	Various emission points in facility	SO_2, NO_x, and PM	**2.689**
Rhodia, Inc.	1314	Sulfuric acid Units 1 and 2	SO_2	**1.043/0.164**
Sid Richardson Carbon Company	4174	Units 1,2, and 3 flares and dryers 2,3, and 4	SO_2	**0.568**

With the exception of the Mosaic facility, we are in concurrence with LDEQ's assessment of which facilities in Louisiana have units that are subject to BART. For the our detailed review and analysis on these subject to BART sources and the Mosaic facility, see the main TSD.

The modeling files and reports for the BART model plant analysis, modeling files for individual facilities, and modeling reports are available on request. Due to the combined file size of several Gigabytes, we cannot post to the Docket directly. Contact the person identified in the FRN to obtain the materials.

Figures 7-9, 7-10, and 7-11 depict specific BART-eligible sources, their modeled deciview impact, location and distance from the two Class I areas for 2001, 2002, and 2003.

Figure 7-1. BART Source Screening Modeling 2001

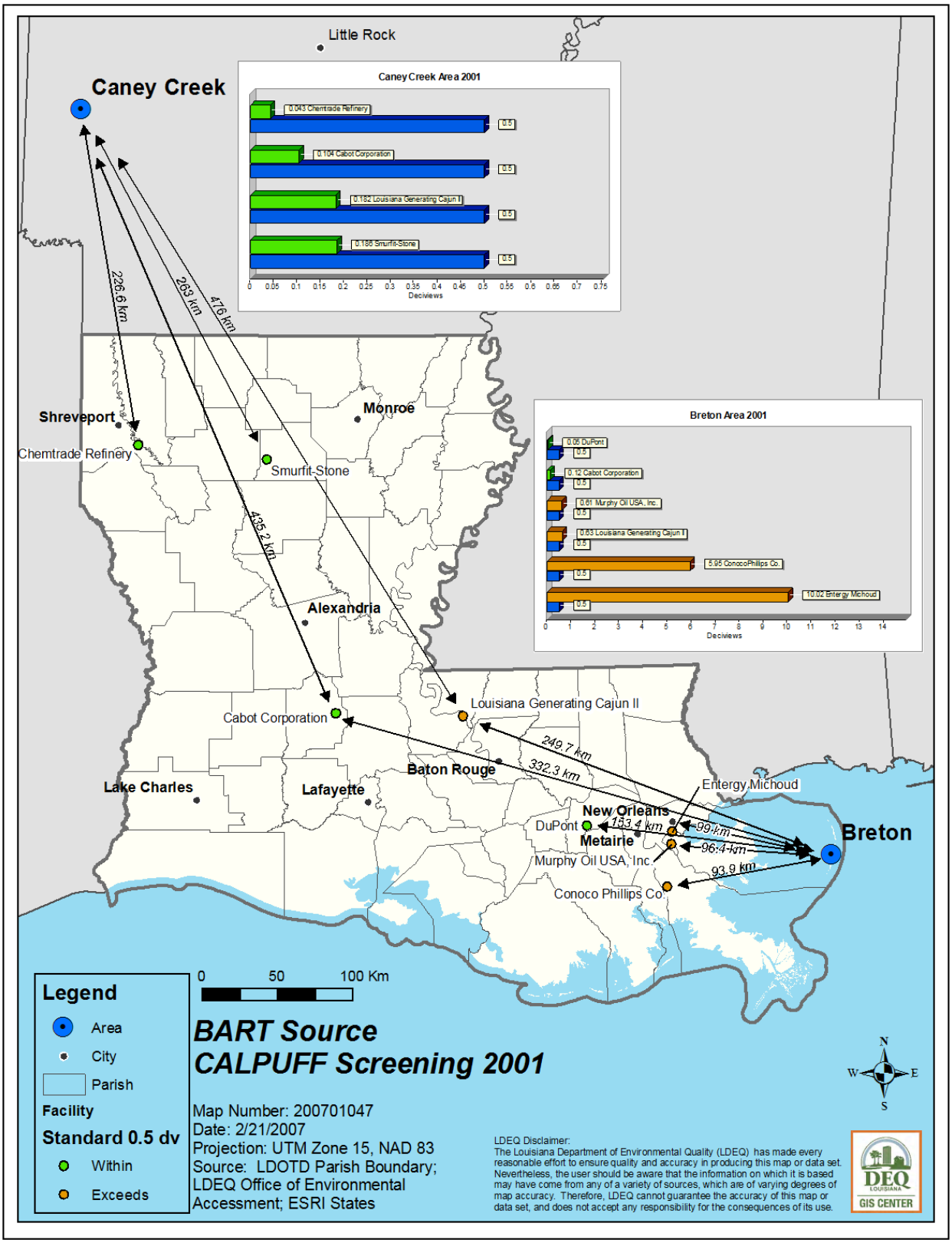


Figure 7-2. BART Source Screening Modeling 2002

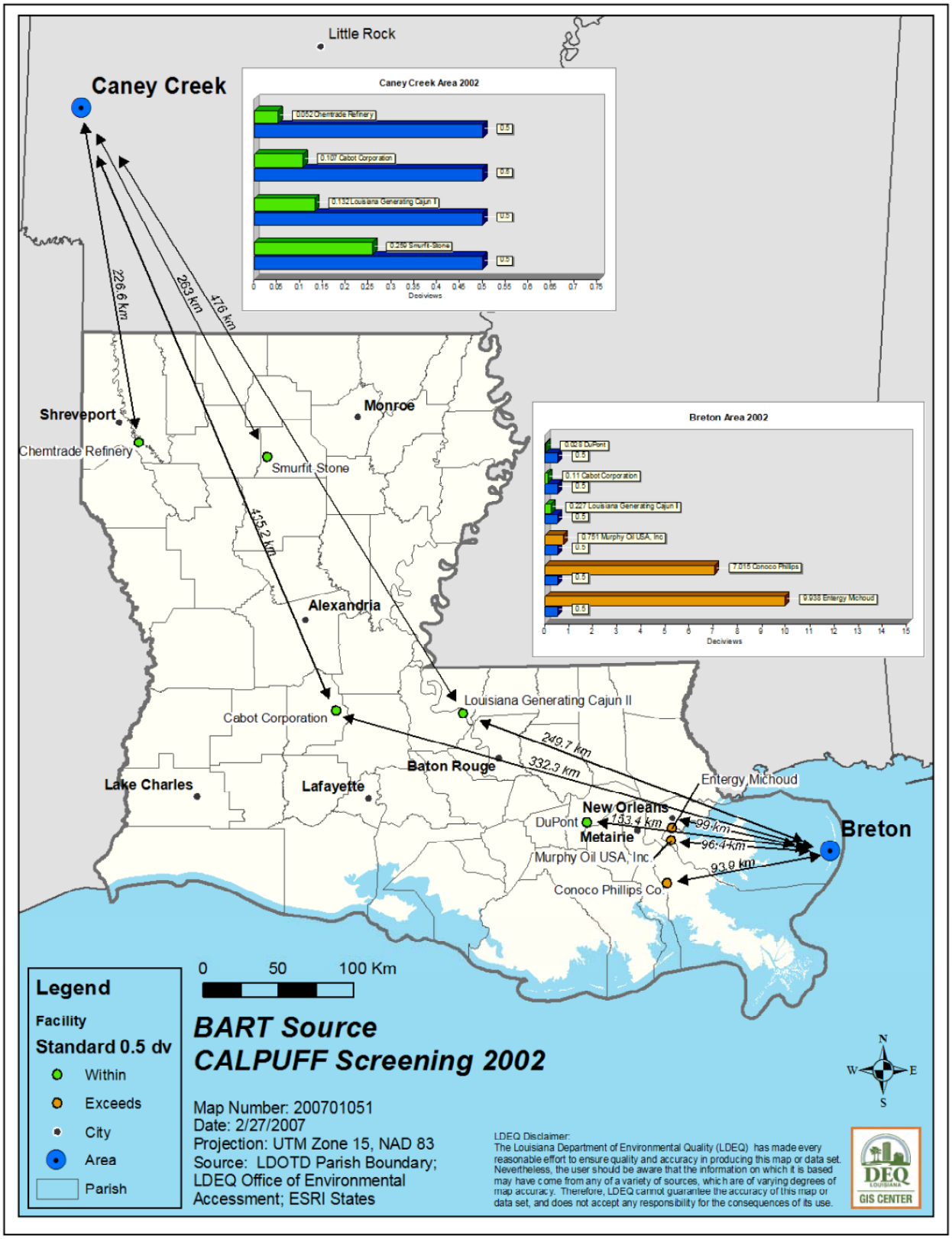
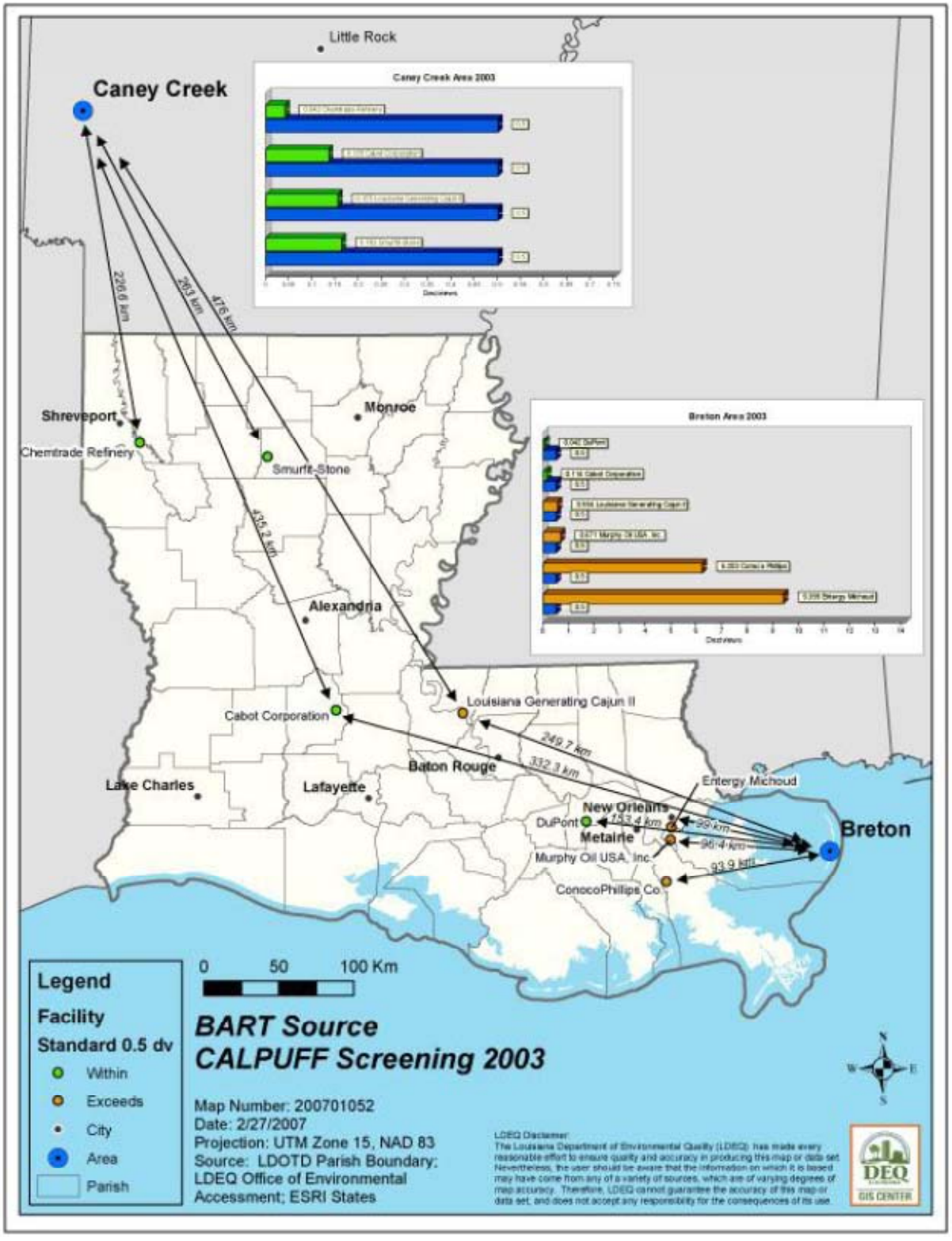


Figure 7-3. BART Source Screening Modeling 2003.



PPGMR LAW, PLLC
101 MORGAN KEEGAN DRIVE, SUITE A | LITTLE ROCK, AR 72202
P.O. BOX 251618 | LITTLE ROCK, AR 72225-1618
TEL: (501) 603-9000 | FAX: (501) 603-0556 | PPGMRLAW.COM
LITTLE ROCK | EL DORADO

August 14, 2017

Ms. Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

Via electronic delivery treecep@adeq.state.ar.us

RE: COMMENTS OF ENERGY AND ENVIRONMENTAL ALLIANCE OF ARKANSAS ON PROPOSED REVISIONS TO THE ARKANSAS STATE IMPLEMENTATION PLAN: REGIONAL HAZE SIP REVISION FOR THE 2008 – 2018 PLANNING PERIOD

Dear Ms. Treece:

The Energy and Environmental Alliance of Arkansas ("EEAA") appreciates your consideration of the following comments on the proposed revision to Arkansas Regional Haze State Implementation Plan ("SIP") for the 2008 – 2018 planning period that were proposed by the Arkansas Department of Environmental Quality ("ADEQ") on July 8, 2017. The Proposed Revisions would address best available retrofit technology ("BART") and reasonable progress requirements for emissions of nitrogen oxides ("NOx") at electric generating units ("EGUs") in Arkansas. If these revisions are finalized and approved by the U.S. Environmental Protection Agency ("EPA"), compliance with the Cross-State Air Pollution Rule ("CSAPR") would satisfy EGUs' NOx BART obligations for the Regional Haze Program, as well as NOx reasonable progress obligations for the first planning period.

The EEAA is an ad-hoc collaboration of Arkansas' investor-owned, co-operative, municipal, and independent electric utilities and other energy companies formed to advocate, communicate and encourage energy and environmental policies that promote sound and predictable regulation of Arkansas' utility industry and support an economically viable and environmentally secure future for all Arkansans, including access to reliable and affordable energy resources. Many of the members off EEAA have ownership interests in the Arkansas EGUs which

are subject to regulation under the proposed revisions to the Arkansas Regional Haze SIP.[1]

COMMENTS

A. CSAPR Provides Greater Visibility Improvement than Source-Specific BART

Federal regulations for the Regional Haze Program clearly allow compliance with federal interstate air transport rules to satisfy BART requirements under the Regional Haze Program. EPA's 1999 Regional Haze Rule ("RHR") specifically provides that a state "subject to a [Transport Rule] trading program . . . need not require BART-eligible [EGUs] . . . to install, operate, and maintain BART" for the pollutant covered by a trading program.[2] The RHR specifically authorizes compliance through the Clean Air Interstate Rule ("CAIR") trading program, and EPA has determined that participation in CSAPR, the successor to CAIR, also provides greater reasonable progress towards the national visibility goal than source-specific BART.[3] Thus, states subject to the CSAPR trading program for ozone season NOx may elect to forego source-specific BART for NOx emissions from the subject-to-BART EGUs participating in the trading program.[4] .

Arkansas is subject to CSAPR's ozone season NOx trading program.[5] EPA previously determined that reductions under the original 2015 CSAPR emission budgets would achieve greater visibility improvement than reductions achieved through source-specific NOx BART controls. The 2016 CSAPR Update Rule further reduced the ozone season NOx budget for Arkansas from 15,110 tons in 2015 to 12,048 tons in 2017, with a further reduction to 9,210 tons of NOx in 2018 and beyond.[6] If the 2015 Arkansas ozone season NOx emission budgets achieve greater visibility improvements than source-specific BART, it logically follows that further emissions reductions under the 2017 and 2018 CSAPR Update Rule will achieve greater visibility improvements than would have been achieved under the original CSAPR budgets.

B. Additional Controls are Not Necessary to Make Reasonable Progress Toward the Visibility Goal in the First Planning Period

Controls for reasonable progress are not necessary for the first planning period. The Clean Air Act requires that regional haze implementation plans contain measures "*necessary* to make

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[1] EEAA members include Entergy Arkansas, Inc., Southwestern Electric Power Company, and Arkansas Electric Cooperative Corporation, each of whose individual comments EEAA adopts by reference as though fully set forth herein.

[2] 70 Fed. Reg. 39,104, 39,161 (July 6, 2005).

[3] "[T]he trading programs in the Transport Rule, also known as the Cross-State Air Pollution Rule (CSAPR), achieve greater reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas than source-specific Best Available Retrofit Technology (BART) in those states covered by the Transport Rule." 77 Fed. Reg. 33,642, 33,643 (June 7, 2012).

[4] *See Nat'l Parks Conservation Ass'n v. McCarthy*, 816 F.3d 989, 995 (8th Cir. 2016) (upholding EPA's approval of CSAPR as better than BART in Minnesota SIP).

[5] 76 Fed. Reg. 48,208, 48,212-13 (Aug. 8, 2011).

[6] 81 Fed. Reg. 74,504 (Oct. 26, 2016).

reasonable progress toward meeting the national goal" of no manmade visibility impairment.[7] The RHR specifies that states, in setting a reasonable progress goal, must consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve that uniform rate *for the period covered by the implementation plan*.[8] EPA has further explained that the long-term goal of no manmade impairment encompasses several planning periods and it is reasonable for states to defer reductions to later planning periods in order to maintain a consistent glidepath toward the long-term goal.[9] Mandating emissions controls during the planning period that are not necessary to make reasonable progress contradicts this directive.

Reasonable progress controls during the first planning period clearly are not necessary for Arkansas sources.[10] Interagency Monitoring of Protected Visual Environments ("IMPROVE") monitoring data show that the haze index has been consistently below the glidepath in Arkansas' Class I areas – Caney Creek and Upper Buffalo – and ADEQ's analysis demonstrates that it is projected to remain so through the end of the second planning period.[11] Accordingly, reasonable progress controls on Arkansas sources during the first planning period are not necessary to make reasonable progress.

Even if controls were required for reasonable progress during the first planning period, *NOx controls* on Arkansas EGUs are not necessary, as they will provide minimal visibility improvement in Arkansas' Class I areas. As EPA's own analysis indicates, the contribution of Arkansas point sources' nitrate emissions to visibility impairment at Arkansas' Class I areas is insignificant. According to EPA's analysis, nitrate from all point sources included in the regional modeling is projected to account for only three percent (3%) of the total light extinction at the Caney Creek and Upper Buffalo Class I areas, with nitrate from Arkansas point sources being responsible for less than three-tenths of one percent (<0.3%) of the total light extinction at each area.[12] As a result, it is clear that NOx controls on Arkansas EGUs are not necessary to make reasonable progress towards natural visibility conditions during the first planning period.

Nonetheless, to the extent ADEQ determines that reductions in nitrates are needed in the first planning period, compliance with CSAPR will achieve greater reasonable progress than source-specific NOx emissions limitations and, accordingly, should be more than sufficient to demonstrate reasonable progress for NOx for the first planning period.[13] First, emissions

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[7] 42 U.S.C. § 7491(b)(2) (emphasis added).
[8] 40 C.F.R. § 51.308(d)(1)(i)(B) (emphasis added).
[9] U.S. EPA, Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program, at 1-4 (June 1, 2007).
[10] *See* Comments of EEAA on EPA Proposed Federal Implementation Plan for the State of Arkansas; Regional Haze and Interstate Visibility Transport dated August 7, 2015, at page 12.
[11] State Implementation Plan Review for the Five-Year Regional Haze Progress Report prepared by ADEQ Air Division Planning Branch, revised May, 2015.
[12] 80 Fed. Reg. 18,990.
[13] ADEQ appropriately relies on the 1999 Regional Haze Rule, rather than the 2017 Revisions to the Regional Haze Rule, in its reasonable progress analysis. As EPA made clear in the preamble of the 2017 Revisions to the Regional Haze Rule, the Revised Rule "do[es] not affect the development and review of state plans for the first implementation period." 82 Fed. Reg. 3,078, 3,080 (Jan. 10, 2017).

reductions to comply with CSAPR will occur during the *first* planning period, which comports with the requirements of the applicable federal regulations. In contrast, most of the NOx reductions contemplated by the Arkansas Regional Haze FIP are unlikely to occur until after 2018, and are thus not *necessary* to make reasonable progress during the first planning period.[14] Second, as noted above, the 2018 CSAPR trading program ozone season allocation for Arkansas EGUs totals 3,708 tons less than the total emissions from these sources in 2016. In comparison, if implemented, the NOx controls required by the Arkansas Regional Haze FIP would achieve only a 3,318 ton reduction in NOx emissions from 2016 Arkansas EGU annual emissions. Because participation in CSAPR will achieve greater NOx emissions reductions than EPA determined would be necessary to achieve reasonable progress (by nearly 400 tons), reliance on CSAPR clearly achieves greater reasonable progress towards visibility improvement than the source-specific emissions limitations in the Arkansas Regional Haze FIP. Additionally, most or all of the NOx controls to be installed at Arkansas' EGUs are combustion controls that are operational any time the EGU is operational, and therefore will provide emissions reductions throughout the year, not just during ozone season.

CONCLUSION

The Proposed Revisions, if finalized, would provide compliance flexibility and reduce the significant regulatory burden on the electricity sector, while still ensuring that visibility is as good as or better than it would be if source-specific NOx emission limits were required. Forcing sources that already must comply with the ozone-season NOx trading program under CSAPR to invest in costly BART and reasonable progress controls is duplicative and unduly burdensome, and ultimately unnecessary to achieve visibility improvements. EEAA supports ADEQ's determination that CSAPR satisfies the NOx BART and reasonable progress obligations for Arkansas EGUs, and urges ADEQ to finalize the revisions to Arkansas' SIP as proposed.

DATED: August 14, 2017

Respectfully Submitted,

Chad L. Wood
PPGMR LAW, PLLC

Counsel for Energy and Environmental Alliance of Arkansas

[14] EPA has proposed to extend the compliance deadline for NOx compliance for five EGUs until January 27, 2020, well into the second planning period, to account for real-world constraints on the timing of installation of NOx controls. 82 Fed. Reg. 32,284 (July 13, 2017).

SOUTHWESTERN ELECTRIC POWER COMPANY
An AEP Company
BOUNDLESS ENERGY

Southwestern Electric Power Company
400 W 15th Street, Suite 1520
Austin, TX 78701
www.SWEPCO.com

Via Electronic Submission to: treecep@adeq.state.ar.us

Ms. Tricia Treece
Office of Air Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118.

August 14, 2017

Dear Ms. Treece:

SWEPCO offers these comments to ADEQ's Draft Revisions to the Arkansas State Implementation Plan Regional Haze SIP Revision for 2008-2018 Planning Period dated July 2017 ("Draft AR RH SIP"). With this Draft AR RH SIP ADEQ seeks to revise certain disapproved portions of the Arkansas Regional Haze State Implementation Plan submitted to the United States Environmental Protection Agency in 2008 ("2008 AR RH SIP"). Specifically, this Draft AR RH SIP will replace source-specific NOx BART determinations that were included in the 2008 AR RH SIP and NOx limits for EGUs promulgated under a 2016 Federal Implementation Plan[1] ("FIP") with reliance on the Cross-State Air Pollution Rule ("CSAPR") for EGUs.

SWEPCO, a unit of American Electric Power Company, serves more than 530,000 customers in Louisiana, Texas and Arkansas and owns and operates 5,273 megawatts total generating capacity. In Arkansas, SWEPCO co-owns and operates the 528 MW Flint Creek Power Plant in Gentry, AR. Flint Creek Unit 1 is a BART-eligible unit and is directly impacted by the ADEQ's draft AR RH SIP.

SWEPCO appreciates the opportunity to provide these comments and observations concerning the Draft AR RH SIP in the discussion below. SWEPCO also wishes to clarify the SWEPCO corporate name reflected in the draft as well as bring to your attention a few other clarifications and corrections.

Comments and Observations

SWEPCO supports ADEQ's development of a SIP to replace the source-specific provisions in the FIP that address BART NOx for Flint Creek for the first planning period 2008-2018. SWEPCO agrees with ADEQ that participation in the CSAPR ozone season trading program is better than imposing source-specific NOx BART controls and achieves greater emission reductions. The FIP included a unit-specific BART limit for Flint Creek's NOx emissions of 0.23 lb/MMBtu on a 30 boiler-operating day rolling average by April 27, 2018. As set forth in the Draft AR RH SIP, upon approval of the Draft AR RH SIP by EPA, Flint Creek, for purposes of compliance with BART, will operate within Flint Creek's CSAPR

[1] Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan; Final Rule, 81 Fed. Reg. 66,332 (September 27, 2016).

ozone season NOx allowances. SWEPCO supports ADEQ's proposed BART alternative approach as well as ADEQ's demonstration in support.

SWEPCO observes that Regulation 19, Chapter 15, as it reads currently, continues to require Flint Creek to comply with a 0.23 lb/MMBtu NOx limit on 30-day rolling average. The compliance date in Chapter 15 is "five (5) years after EPA approval of the Arkansas Regional Haze State Implementation Plan."[2] ADEQ makes reference to replacing this requirement in the Draft AR RH SIP and indicates that "as of the effective date of EPA's final approval of this SIP revision, compliance with the CSPAR trading program for ozone season NOx as set forth in 40 CFR § 52.38 shall supersede NOx emission limits for the units listed above previously adopted into Arkansas Pollution Control and Ecology Commission Regulation No. 19 Chapter 15." Draft AR RH SIP at page 8. SWEPCO recommends that ADEQ consider adding additional clarification in the narrative of the Draft AR RH SIP regarding ADEQ's plans to address the Chapter 15 requirement for Flint Creek in the event the Draft AR RH SIP is approved.

As ADEQ is likely aware, the CSAPR = BART rule is being litigated in the D.C. Circuit with oral argument not yet scheduled.[3] The CSAPR update rule is also the subject of litigation.[4] Given this continuing uncertainty, and as part of its compliance strategy, SWEPCO will plan to position Flint Creek to comply with either 0.23 lb/MMBtu NOx or CSAPR trading program for compliance with BART for NOx. At this time, SWEPCO will not plan to take definitive action to install NOx controls unless required by one of the above described regulatory actions or otherwise.

Clarifications

SWEPCO requests that the following clarifications be made to how SWEPCO and Flint Creek are reflected in the draft:

I. Introduction, Page 1, under BART determinations bullet: the third sub-bullet should read:
"SO2 and NOx BART determinations for ~~American Electric Power (AEP)~~/Southwestern Electric Power Company (SWEPCO) Flint Creek Power Plant Boiler No. 1."

II. Background, Page 4, fourth paragraph, fourth bullet, first sub-bullet should read:

"PM determination on ~~AEP~~ SWEPCO Flint Creek Power Plant Boiler No. 1

II. Background, Page 5, second paragraph, third bullet, third sub-bullet should read:

"SO2 and NOx BART determinations for ~~AEP~~ SWEPCO Flint Creek Power Plant Boiler No. 1."

II. Background, Page 6, second paragraph, first bullet should read:

"Compliance dates for NOx emission limits for SWEPCO Flint Creek Power Plant ~~Unit~~ Boiler No. 1."

II. Background, Page 6, third paragraph, third line, should read:
"(ninety days) the compliance dates for the NOx emission limits at ~~AECC~~ SWEPCO Flint Creek ~~Unit~~ Power Plant Boiler No. 1."

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[2] We understand that a variance was granted with respect to an earlier compliance date contained in Chapter 15.
[3] [cite to litigation]
[4] [cite to litigation]

III. BART Requirements for NOx for Subject-to-BART Units Participating in the CSAPR Program, second paragraph, first line should read: "ADEQ has determined that it is appropriate under 40 CFR § 51.308 ~~and~~ to provides additional"

III. BART Requirements for NOx for Subject-to-BART Units Participating in the CSAPR Program, second paragraph, third bullet should read: "~~American Electric Power (AEP)~~/Southwestern Electric Power Company (SWEPCO) Flint Creek Power Plant Boiler No. 1."

IV. Reasonable Progress, A. Identification of Key Pollutants and Source Categories That Contribute to Visibility Impairment in Arkansas Class I Areas, page 16. The next to last line of the narrative beginning with "Figure 6 and Figure 7" contains an "and" that should be replaced with "at" before "Caney Creek."

Appendix A, page A-4, the first sentence following the table spreadsheet should read: "Green cells indicate that budget or FIP-controlled scenarios ~~are~~ allow greater emissions than the respective EGU emitted during 2016."

Summary

SWEPCO supports and incorporates by reference the industry association comments of the Energy and Environmental Alliance of Arkansas ("EEAA") of which SWEPCO is a member. The comments of EEAA provide additional support for ADEQ's Draft AR RH SIP and reiterate that compliance with the ozone season NOx trading program will achieve further reductions and greater reasonable progress than source-specific NOx BART controls during the first planning period.

For the reasons discussed above and those contained in the comments of EEAA, SWEPCO supports ADEQ's proposed revision to the Arkansas Regional Haze SIP for the 2008 -2018 planning period which replaces source-specific requirements to install NOx controls with participation in the CSAPR NOx trading program. Please let us know if you have any questions concerning these comments. We can be reached at (512)560-7916.

Sincerely,

L. Elizabeth Gunter

L. Elizabeth Gunter w/ permission
Counsel for SWEPCO

LEG/cjs

CC: Brian Bond, SWEPCO

Comments - Public hearing on ADEQ's proposed state plan for Nitrogen Oxides, August 14, 2017

If the EPA and ADEQ approve Arkansas' State Plan for Nitrogen Oxide, it would replace source-specific Nitrogen Oxide reductions of Arkansas coal-burning plants with reliance on EPA's NOx trading program.

This program is known as "Cross-state Air Pollution Rule" or CSAPR.

We adamantly oppose EPA and ADEQ's approval of the NOx trading program, CSAPR, whereby air and water polluters such as SWEPCO and ENTERGY can reduce pollution in other states instead of their own, old coal-burning power plants in Arkansas, specifically Flint Creek, Independence and White Bluff. So, other states benefit from cleaner air while Arkansans will not gain the health advantages of breathing cleaner air.

1. Using the aforementioned "trading program", (source-specific pollution reduction), from Arkansas coal-fired plants would mean we breathe dirty air for several more years.

2. ADEQ should skip the trading program for NOx since it allows polluters to avoid responsibility for cleaning up specific plants in Arkansas, thus enabling legal requirements to be met by cleaning up plants outside Arkansas.

3. Arkansas coal-burning plants are the state's largest source of air pollution. Source specific controls and pollution limits for Arkansas' biggest air polluters, working with the national trading program, would better assure protection of air quality in Arkansas.

4. WHY are there no pollution controls for NOx at these previously referenced Arkansas plants? These three plants are among the last in the U.S. to not have standards for NOx.

5. The Problems: ADEQ proposes to remove pollution reduction requirements that will result in unhealthy air for Arkansas and continue to cause haze in our State's Parks and federally designated Upper Buffalo Wilderness. Progress for improving Arkansas air quality will be further slowed as it has been since December, 2007 when ADEQ's State Plan was due. The Federal Plan NOx reductions would be required at these Arkansas plants by the Spring of 2018. These NOx reductions are long overdue. Protecting the health of Arkansans through Cleaner Air and Clean Water are primary missions of ADEQ .

Regarding health and most important, it is widely known by the medical and scientific communities that Nitrogen Oxides contributes ozone and many respiratory, cardiovascular and other health issues, causing harm to humans. Specifically, Nitrogen Dioxide causes lung inflammation which reduces one's immunity to infections, wheezing, colds, coughs, flu, bronchitis and exacerbates asthma. Ozone, at the ground level can cause health issues such as chest pain, coughing, throat irritation and decreases lung function by damaging lung tissue – all of which adds medical costs to Arkansas consumers.

Obviously, Arkansas electric customers will pay more for cleaner air and therefore should directly benefit from cleaner air rather than benefits going out of state through the trading program.

Last, Arkansas Tourism could suffer since Arkansas Parks and Tourism in general, are a critical part of the Arkansas economy. ADEQ should consider that approving CSAPR can harm one of Arkansas' best economic assets. Please do not approve this plan. Protect Arkansas citizen's health by supporting cleaner air!

Alice B. Andrews
Conservation Chair
The Ozark Society

501-219-4295 Home 501-912-4597 Cell <alice209ok@yahoo.com>

From:	Carolyn
To:	Treece, Tricia
Cc:	Glen Hooks
Subject:	Regional Haze SIP
Date:	Monday, August 14, 2017 3:05:10 PM

The new EPA plan to address Regional Haze eliminates source-specific NOx requirements and allows a cap-and-trade system, by which utilities could satisfy their obligations by making reductions in other states. Result? More pollution for Arkansas ratepayers, and even a system in which Arkansas ratepayers are charged for NOx reduction efforts in other states while breathing dirtier air here.
Carolyn Shearman

tucshea@gmail.com

The following comment was received at 4:38 p.m. on August 14, 2017; however, it is being included in the Administrative Record because the sent time stamp indicates that the email may have been sent before the comment period expired at 4:30 p.m.

From: James Woolly
To: Treece, Tricia
Subject: Email-from-Air-Regional-Haze-Webpage
Date: Monday, August 14, 2017 4:38:43 PM

To ADEQ. I object, strongly, to the current approach to reducing NOx emissions from the power plants that affect Arkansas, to allowing plants in other states to meet clean clean air requirements. That process would not do anything to help the citizens of Arkansas avoid the poisonous gases and haze that these power plants produce. The citizens of AR should not have to continue to breathe these gasses nor put up with the reduced vision caused by the haze that goes along with it. The current approach would allow Entergy & SWEPCO to continue to pollute our atmosphere.

James M. Woolly, PhD 501-224-5341

These are late comments that were submitted to us outside of the comment period for our proposed SIP. These comments are not considered as part of the Administrative Record for our Regional Haze NOx SIP revision proposed on July 8, 2017.

From: GEORGE WISE
To: Treece, Tricia
Subject: Regional Haze
Date: Monday, August 14, 2017 8:39:34 PM

ADEQ's proposed state plan, if approved by ADEQ and EPA, would replace source-specific nitrogen oxides reductions at Arkansas coal-burning plants with reliance on EPA's NOx trading program (the Cross State Air Pollution Rule or CSAPR, pronounced 'Casper').

Nitrogen oxides contribute to ozone and smog and a host of respiratory, cardiovascular, and other health impacts that harm people. Nitrogen oxides are among the most-harmful air pollutants for public health. They also contribute to visibility impairment or haze. This plan is (1) a pollution trading program that is dangerous to the health Arkansans, (2) an unfair bailout of large polluters that allows even more delay in pollution reductions, and, (3) a plan that could force Arkansans to pay for pollution reductions in other states while continuing to breathe dirtier air in our own

- **ADEQ should reject the trading program for nitrogen oxides (NOx). This program would allow polluters to avoid limits and responsibilities for cleaning up particular plants, and allow them to meet their legal requirements by cleaning up plants in other states.**
- **Replacing source-specific pollution reductions with a trading program would leave Arkansans breathing dirtier air for years.**

  The trading program would allow Arkansas's biggest polluters like Entergy and SWEPCO to reduce pollution in other regions or states instead of at their Arkansas coal-burning power plants, which are the state's largest sources of air pollution.

  o Even for the plants that install NOx controls, reliance on the trading program alone would allow Entergy and SWEPCO to turn off their pollution controls for much of the year.

    ▪ This is akin to paying to install an airbag in your car but then turning it off so it doesn't work for half of the year.

  o Source-specific controls—especially for the large coal-burning plants that are Arkansas's biggest polluters—in conjunction with the national trading program, would ensure better protection of air quality in this state.

  o Why should Arkansas residents live next to giant coal-burning plants that lack any pollution controls for harmful pollutants like NOx? These Arkansas plants are some of the last remaining coal-burning plants anywhere in the United States that don't have any pollution controls for NOx.

- **ADEQ is essentially proposing to eliminate pollution reduction**

requirements and safeguards. The NOx controls are for public safety. ADEQ's proposed program will result in dirtier air for Arkansas. Eliminating pollution safeguards will leave Arkansas residents breathing dirtier air and will cause smog in our state's parks for decades.

• Replacing source-specific reductions with a trading program would slow progress on reducing haze in the Natural State's national parks and wilderness areas.

o Instead of requiring reductions close to parks like the Upper Buffalo Wilderness Area, reliance on the trading program could instead reduce pollution in distant places.
o The trading program would do nothing to reduce haze caused by Arkansas's power plants in the cooler months of the year (outside the ozone season).
o ADEQ should take account of the fact that these Ozark parks, and tourism in general, are a key foundation of Arkansas's economy. We won't make our state more prosperous by polluting our best economic assets.

• Arkansans electric customers will pay for these pollution reductions even if ADEQ approves the trading program, and so Arkansans should benefit.

o Entergy and SWEPCO and the other large air polluters will charge their customers for the cost of complying with the NOx trading program. But if ADEQ's proposal is approved, much of the benefit will go out of state

o ADEQ should ensure that the people who pay for pollution reductions get the benefit of cleaner air.

• Nitrogen oxides by themselves, and their successor pollutants ozone/smog, cause real harm to people.

NOx harms people. Nitrogen dioxide is an important air pollutant because it contributes to the formation of photochemical smog, which can have significant impacts on human health

.

It's also harmful by itself: the main effect of breathing in raised levels of nitrogen dioxide is the increased likelihood of respiratory problems. Nitrogen dioxide inflames the lining of the lungs, and it can reduce immunity to lung infections. This can cause problems such as wheezing, coughing, colds, flu and bronchitis.

Increased levels of nitrogen dioxide can have significant impacts on people with asthma because it can cause more frequent and more intense attacks. Children with asthma and older people with heart disease are most at risk.

Ground-level ozone harms people. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care.

ADEQ should not approve a program that further delays NOx reduction requirements that are already long overdue.

• **Approval of this trading program is a bailout for Arkansas's biggest air polluters.**

o For too long, ADEQ has let the state's largest polluters—the Flint Creek, Independence, and White Bluff coal-burning plants—get away with not paying to clean up their pollution.
o Arkansans want ADEQ to require polluters like Entergy and SWEPCO to clean up our air, water, and land from coal-burning plants, which are our state's largest polluters.
o This looks like yet another corporate handout by ADEQ to delay pollution reductions at Arkansas's coal-burning power plants. The state plan that ADEQ is still working on was due on December 17, 2007. Under the federal plan that ADEQ is currently suing over, NOx reductions would be required at these coal-burning plants by Spring 2018.

George Wise
501-831-0014
Sent from my iPhone

RESPONSIVE SUMMARY FOR STATE IMPLEMENTATION PLAN REVISION:

Revisions to the Arkansas State Implementation Plan

Regional Haze SIP Revision Addressing Certain Nitrogen Oxide Requirements for 2008–2018 Planning Period

Pursuant to Arkansas Code Annotated (Ark. Code Ann.) § 8-4-317(b)(2)(B)(i), the Arkansas Department of Environmental Quality ("ADEQ") must prepare a record of the public process in the form of a written response to each issue raised during the public comment period. A responsive summary groups public comments into similar categories and explains why ADEQ accepts or rejects the rationale for each category.

On July 8, 2017, ADEQ proposed a state implementation plan (SIP) revision to address Best Available Retrofit Technology (BART) controls for nitrogen oxides (NOx) at subject-to-BART power plants in Arkansas. This SIP revision proposed to replace source-specific NOx emission limits for certain power plants required by a 2016 United States Environmental Protection Agency (EPA) federal implementation plan (FIP) with reliance on the Cross-State Air Pollution Rule ozone season NOx trading program to satisfy federal Regional Haze Rule requirements for NOx.

On August 14, 2017, William Montgomery acted as Hearing Officer and conducted a public hearing for SIP revisions. The public comment period ended August 14, 2017. Comments received during the public comment period are summarized and a response for each is given below.

Comment 1:

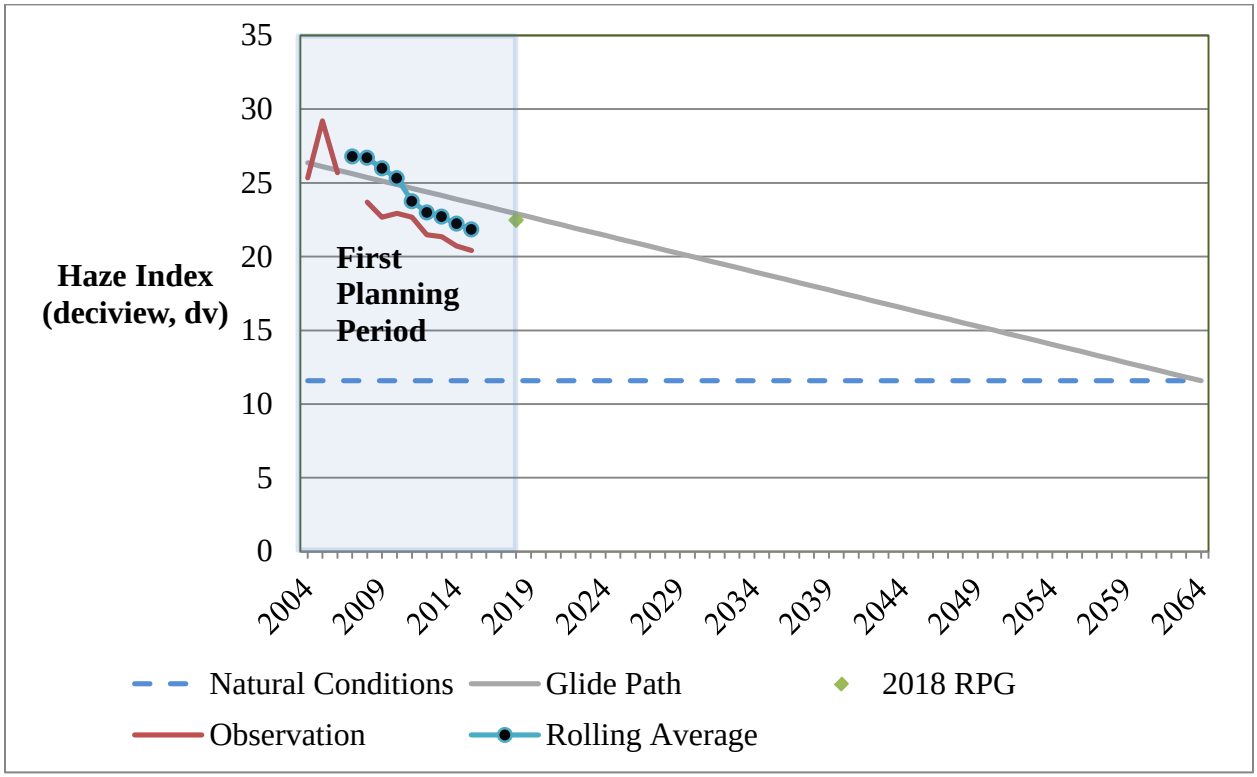
Some commenters expressed concerns with reliance upon a trading program instead of source-specific limits for NOx because compliance obligations could be satisfied by purchasing allowances from out of state. These commenters argue that Arkansas ratepayers will be stuck paying for the costs of installing NOx controls associated with power plants in other states while Arkansas communities near power plants may suffer more pollution and do not gain the health advantages of breathing cleaner air.

Response 1:

Arkansas is already surpassing the visibility goals set by ADEQ in Arkansas's 2008 Regional Haze SIP and the goals set by EPA in their 2016 Regional Haze FIP. Figures 1 and 2 demonstrate the progress achieved at Arkansas's Class I areas: Caney Creek Wilderness Area

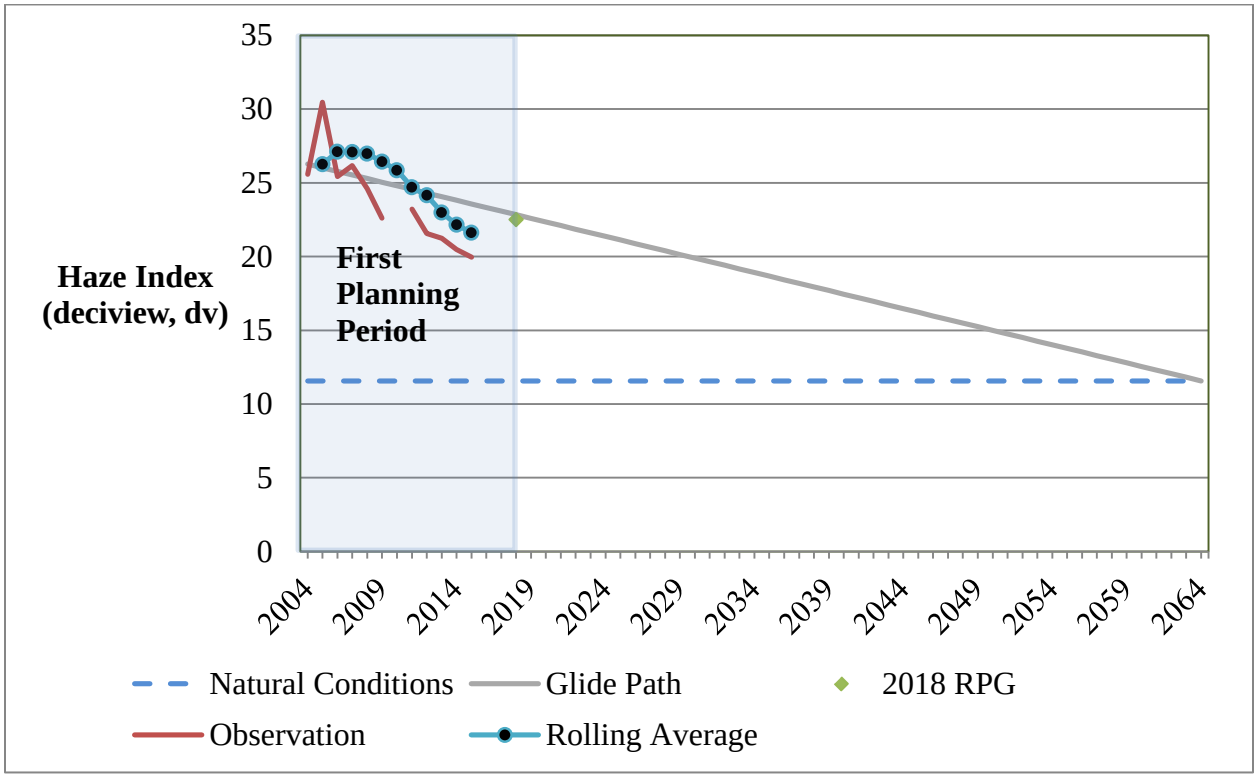
and Upper Buffalo Wilderness Area.[1] The reasonable progress goals included for Figures 1 and 2 are those set by EPA in the 2016 FIP.

Figure 1 Caney Creek Reasonable Progress Assessment – 20% Worst Days



[1] Data obtained from http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_group_means_7_16.csv

Figure 2 Upper Buffalo Reasonable Progress Assessment – 20% Worst Days



The nature of the CSAPR trading program allows subject power plants to meet their compliance obligations by either reducing their own emissions or purchasing allowances from other power plants, either in state or out of state, that have already achieved emission reductions. This mechanism provides power plants with the ability to make the most cost-effective decisions for achieving compliance. For instance, it may be cheaper to install NOx controls at one power plant than another. Therefore, we do not expect Arkansas ratepayers to shoulder additional burden for emission reductions achieved out of state. In fact, the flexibility inherent in the CSAPR program means that the utilities will be able to choose the method of compliance that they deem to be the most cost-effective. Costs to Arkansas ratepayers are anticipated to be lower under the CSAPR program than under a source-specific program reliant upon BART.

Finally, ADEQ disagrees with commenters that the proposed SIP will result in Arkansas communities near power plants suffering more pollution and missing out on health advantages of breathing cleaner air. Regional Haze is a program designed to address visibility. The Clean Air Act set forth health-based standards in the National Ambient Air Quality Standards (NAAQS) program. Although the Regional Haze Program is meant to achieve visibility goals for Class I areas, ADEQ notes that the entire state of Arkansas is in attainment with all state and federal ambient air quality standards, including the current nitrogen dioxide (NO_2) NAAQS and the ozone NAAQS.

No changes to the SIP are necessary as a result of this comment.

Comment 2:

Some commenters supported the Department's proposed determination that the source-specific NOx BART determinations in the Department's 2008 Regional Haze SIP and the 2016 FIP should be replaced with compliance with CSAPR. Other commenters urged ADEQ to reject this proposed determination and require source-specific controls.

One commenter suggested that source-specific controls, especially for large coal-burning plants, in conjunction with CSAPR would ensure better protection of air quality in Arkansas. Other commenters urged ADEQ to reject the CSAPR trading program for NOx because it allows polluters to avoid responsibility for cleaning up specific plants in Arkansas.

Some commenters pointed out that the variability and flexibility allowed by CSAPR may result in plants emitting high levels of pollutants within a shorter time period or purchasing emission credits from elsewhere. As such, the commenters contend that Arkansas cannot know the impact of CSAPR upon "Breton" and other affected Class I areas.

Some commenters expressed the view that source-specific controls for Regional Haze are duplicative with emission reduction efforts required by CSAPR. The commenters asserted that ADEQ's proposed determination is consistent with the Regional Haze Rule, is appropriate considering the minimal role that NOx emissions play in visibility impairment in Arkansas's Class I areas, and would eliminate the unnecessary and duplicative requirements currently imposed by the 2016 FIP.

Response 2:

Arkansas meets all current requirements under 40 C.F.R. § 51.308(e)(4), which provides states with the option to not require BART-eligible power plants in the state to install, operate, and maintain BART for a pollutant covered by a trading program under § 52.38 or § 52.39 if the state is subject to the program. In the rulemaking in which this option was promulgated, EPA provided evidence supporting its determination to allow states to use CSAPR in place of source-specific BART controls for power plants that fulfilled the requirements of Regional Haze Rule that an alternative to BART achieve greater reasonable progress.[2] In a 2016 proposed action on a FIP revision for Texas, EPA described a sensitivity analysis they performed that demonstrates that CSAPR continues to ensure greater reasonable progress than does source-specific BART despite changes to the CSAPR program resulting from court decisions, administrative actions, and the CSAPR Update for the 2008 Ozone NAAQS.[3] On September 29, 2017, EPA affirmed the continued validity of the Agency's 2012 determination that participation in CSAPR meets

[2] 77 FR 33642
[3] 81 FR 7894

RHR criteria for an alternative to source-specific BART.[4] Therefore, reliance upon CSAPR for NOx emission reductions in place of source-specific BART, as proposed in this SIP, is lawful and approvable.

ADEQ understands that the nature of a trading program may result in short-term variability in levels of NOx emissions from Arkansas power plants or purchasing emission credits from elsewhere. However, Arkansas is on track to meet its visibility goals (see Response 1). ADEQ also acknowledges the commenters concerns regarding quantification of emission reductions at Class I areas under the trading program. However, EPA's analyses referenced in the paragraph above demonstrate that CSAPR does achieve greater reasonable progress toward natural visibility conditions than does source-specific BART.

ADEQ anticipates that some Arkansas power plants will install controls to comply with CSAPR. Communication with the Entergy Arkansas Inc. (Entergy) and Southwestern Power Company (SWEPCO) has indicated that the same technology required as BART in the 2016 FIP will likely be installed to comply with CSAPR. In fact, ADEQ has already updated Entergy's permits for Independence and White Bluff to allow for the installation of low NOx burners.[5][6] On June 15, 2017, ADEQ received confirmation that low NOx burners with separated overfire air were installed on White Bluff Unit 2. In an email dated August 29, 2017, SWEPCO informed ADEQ that low NOx burners were being manufactured for Flint Creek. Therefore, we anticipate that the source-specific BART controls mandated in EPA's 2016 FIP are likely to be installed regardless of approach. The benefits of the proposed reliance upon CSAPR in place of source-specific NOx BART are compliance flexibility and the elimination of unnecessary and duplicative requirements.

In addition, ADEQ disagrees with any implication that the Breton Wilderness Area, which is located off the coast of Louisiana, is impacted by Arkansas Class I Areas. Under the Regional Haze Rule, Arkansas is required to address visibility impacts at the Caney Creek Wilderness, the Upper Buffalo Wilderness Area, Mingo Wilderness Area, and Hercules-Glades Wilderness Area.

ADEQ disagrees with commenters that contend CSAPR plus NOx BART would achieve greater visibility improvements at Class I areas affected by Arkansas sources. ADEQ also disagrees with commenters who state that ADEQ should reject the CSAPR trading program. In addition to the proposed reliance upon CSAPR to satisfy Regional Haze NOx control requirements for power plants, Arkansas also relies upon CSAPR to satisfy interstate transport obligations for the ozone

[4] 82 FR 45481

[5] White Bluff:
https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=35-00110&AFIN=3500110&PmtNbr=0263-AOP-R10

[6] Independence:
https://www.adeq.state.ar.us/home/pdssql/p_permit_details_air.aspx?AFINDash=32-00042&AFIN=3200042&PmtNbr=0449-AOP-R11

NAAQS. ADEQ agrees with commenters that the proposed approach of reliance on CSAPR in place of source-specific NOx BART controls would achieve greater reasonable progress and eliminate unnecessary and duplicative requirements.

No changes to the SIP are necessary as a result of this comment.

Comment 3

Some commenters expressed concerns with reliance upon an ozone season only NOx trading program, because utilities that install NOx controls could choose not to operate those controls outside of the ozone season (May 1–September 30). The commenters pointed out that utilities that run selective catalytic reduction controls (SCR) can adjust their operation of the SCRs in response to price signals and that there is no reason to assume that power plants will operate controls outside of the ozone season when not legally required to do so. The commenters further state that EPA's Technical Support Document to EPA's partial approval and partial disapproval of Arkansas's 2008 SIP noted that Arkansas NOx emission impacts on visibility "tend to be a large component of visibility impairment during the winter months." The commenters further state that "NOx emissions reductions that are effective only during the ozone season will not address the visibility impact due to wintertime ammonium nitrate at 'Breton Island' or other Class I areas in neighboring states.

Other commenters pointed out that the analysis performed in support EPA's rulemaking that found that CSAPR was better than BART demonstrated that there would be no seasonal difference in NOx emission rates in four of the five states, including Arkansas, subject to the CSAPR ozone season NOx trading program. The commenters note that EPA's analysis projected that any additional NOx controls installed at power plants in Arkansas, Louisiana, Mississippi, and Oklahoma to comply with CSAPR would be combustion controls only. The commenters further point out that combustion controls are operational any time the power plant is operational, thus combustion controls would provide emissions reductions year-round.

Response 3:

ADEQ acknowledges that facilities can ramp up, ramp down, or cease to operate post-combustion NOx controls such as SCR and non-selective catalytic reduction systems in response to price signals. However, current regulations allow states subject to the CSAPR NOx trading program, including states only subject to the ozone season NOx trading program, to rely upon compliance with CSAPR in place of source-specific BART controls for NOx at power plants (See Response 2).

As part of EPA's analysis in support of their determination that CSAPR provides more reasonable progress than BART, EPA projected that any controls implemented in Arkansas would be combustion controls, which are operational any time the electric generating unit is running and will therefore operate year-round. Furthermore, the BART controls established in

the FIP for Flint Creek and White Bluff are combustion controls (low NOx burners with separated overfire air). In fact, ADEQ has already updated Entergy's permits for Independence and White Bluff to allow for the installation of low NOx burners (See Response 2). Therefore, it is unlikely that SWEPCO or Entergy would choose less cost-effective post-combustion controls to comply with CSAPR.

ADEQ is uncertain why one commenter incorrectly asserted that EPA's "Modeling and Emission Inventory: Review and Analysis for Louisiana's Regional Haze State Implementation Plan Submittal" (provided as Appendix C to the comments) is the technical support document for EPA's partial approval/partial disapproval of Arkansas's SIP. Similarly, ADEQ is uncertain why the seasonality of ammonium nitrate at Breton Island Class I area, a Class I area in southern Louisiana that is not impacted by Arkansas sources, is relevant to the proposed SIP.

Furthermore, the commenter appears to have micharacterizeda quote from another state's Technical Support Document in an attempt to assert that Arkansas's NOx emissions create higher visibility impacts in the winter months. The commenter states "as noted in EPA's Technical Support Document for the proposed disapproval of Arkansas's 2008 SIP, the adverse impacts of Arkansas NOx emissions on visibility 'tend to be a large component of visibility impairment during the winter months.'" The commenter's statement takes a quote from EPA's Technical Support Document for an action taken on Louisiana's SIP out of context and mischaracterizes it. The excerpted quote is from a discussion of modeling bias in an analysis of Louisiana's impacts on Class I areas:

> The winter bias is more significant because NO_3 concentrations *tend to be a large component of visibility impairment during the winter months*. In general, winter model performance does not meet the performance goals and in some cases does not meet the criteria, predicting concentrations of NO_3 much higher than observed.[7]

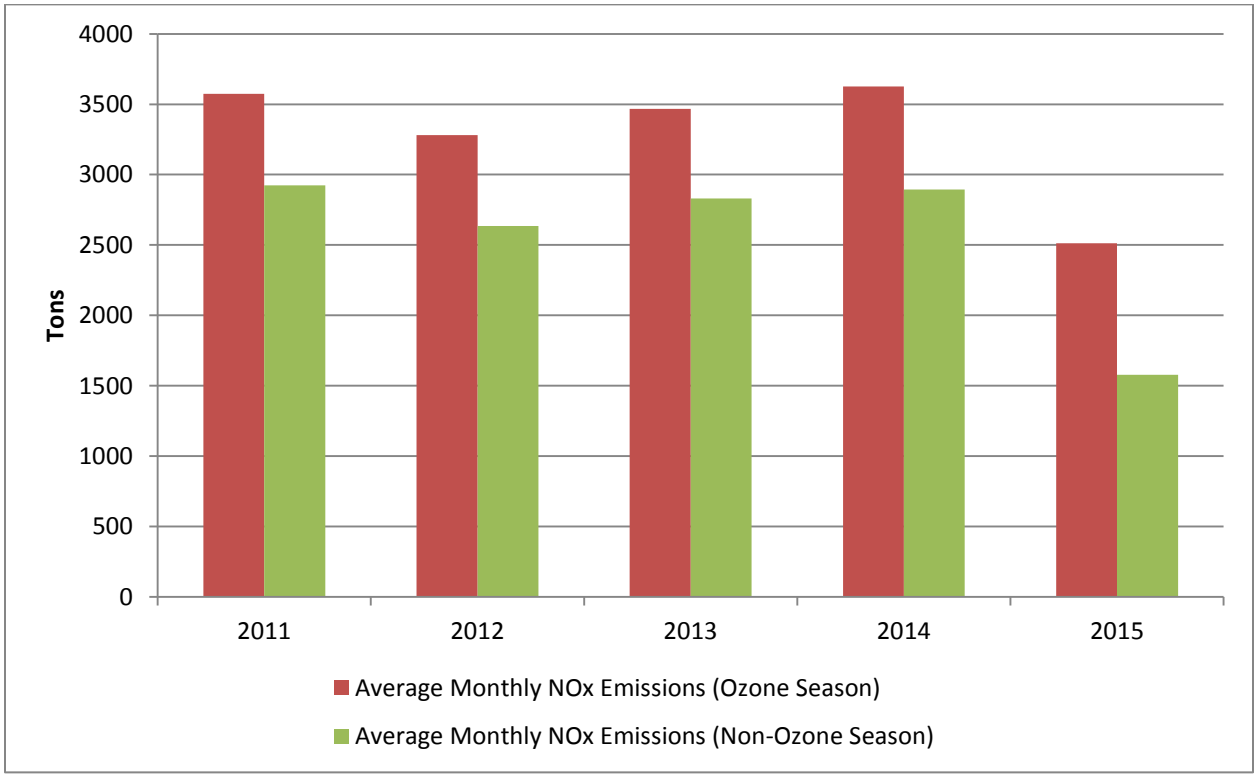
The commenter misrepresents this discussion of modeling bias as evidence that visibility impacts due to NOx from Arkansas sources are higher during the winter. The commenter replaces "NO_3 concentrations" with "the adverse impacts of Arkansas NOx emissions on visibility." Further, the full context of the quote reveals a statement indicating that the model over-predicts NO_3 concentrations in the winter months.

The proposed SIP addresses NOx emission reduction obligations for Arkansas power plants in accordance with the requirements of 40 C.F.R. 51.308(e)(4) and no further demonstration is required because EPA performed a demonstration showing that CSAPR achieves greater

[7] "Modeling and Emission Inventory: Review and Analysis for Louisiana's Regional Haze State Implementation Plan Submittal" at A-34 (Emphasis added)

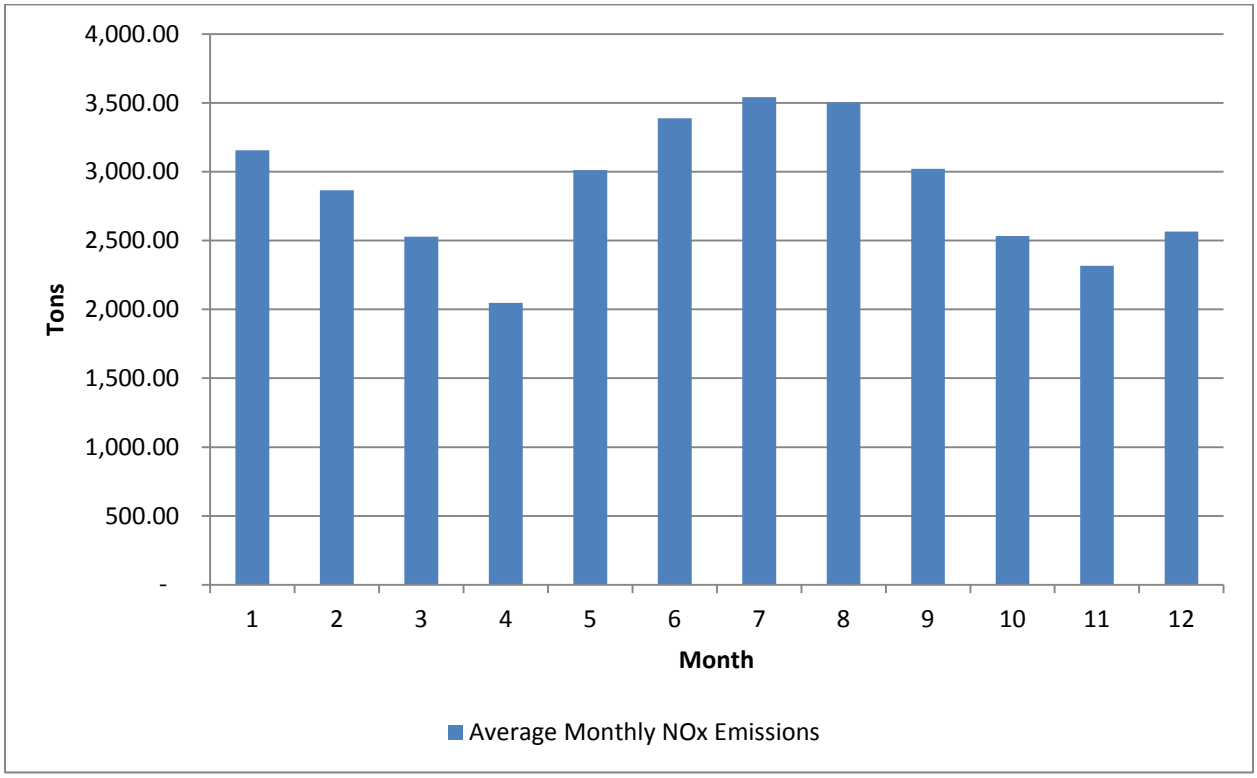
reasonable progress than BART, even for ozone-season NOx trading program states, during their 2012 rulemaking.[8] Nevertheless, ADEQ has evaluated NOx emissions from Arkansas power plants and found that average monthly NOx emissions from Arkansas power plants are lower outside of the ozone season than during the ozone season.[9] NOx emissions from Arkansas power plants peak during the summer months. Winter-time NOx emissions from Arkansas power plants are typically lower than summer-time emissions, but higher than spring and fall emissions. Therefore, the evidence suggests that any increase in light extinction due to nitrates during winter months at Class I areas impacted by Arkansas sources is not a result of increased NOx emissions from power plants outside the ozone season. Figure 3 compares average monthly NOx emissions from Arkansas power plants during the ozone season and outside the ozone season for 2011–2015. Figure 4 illustrates the monthly NOx emission profiles for Arkansas power plants averaged for 2011–2015.

Figure 3 Comparison of Ozone-Season and Non-Ozone Season Average Monthly NOx Emissions from Arkansas Power Plants (2011–2015)



[8] 76 FR 82219
[9] EPA Air Markets Program Data < https://ampd.epa.gov/ampd/>

Figure 4 Average 2011–2015 Monthly NOx Emissions from Arkansas Power Plants



No changes to the SIP are necessary as a result of this comment.

Comment 4

Several commenters noted the health problems that can be caused or exacerbated by exposure to NOx and ozone. These health problems include chest pain, coughing, throat irritation, air way inflammation, reduced lung function, and worsening of existing conditions, such as bronchitis, emphysema, and asthma. One commenter pointed out that exposure can lead to increased medical care. One commenter asserted that the proposed approach would not help Arkansans avoid the poisonous gases and hazes emitted by power plants. This commenter stated that the citizens of Arkansas should neither have to continue to breathe these gases, nor put up with the reduced visibility caused by the haze that accompanies it. Others were concerned that the proposed approach would mean that Arkansans do not gain the health advantages of breathing cleaner air.

Response 4:

ADEQ acknowledges the commenters concerns with respect to health problems that can be caused or exacerbated by exposure to NOx and ozone. However, the Regional Haze Program requires states to submit SIPs to improve visibility in Class I areas rather than to address health-based standards. ADEQ does promulgate and implement SIPs to protect the public health and welfare from exposure to dangerous concentrations of NOx and ozone. However, these SIPs are

submitted to EPA to fulfill Clean Air Act § 110 requirements and not § 169 requirements. Although not relevant to the proposed SIP, ADEQ would like to assure the commenters that Arkansas is in attainment with all state and federal health- and welfare-based ambient air quality standards including the current NO_2 NAAQS and the ozone NAAQS.

No changes to the SIP are necessary as a result of this comment.

Comment 5

Some commenters expressed the concern that State's proposed approach of reliance upon the CSAPR ozone season NOx trading program in place of source-specific NOx represents an opportunity for unwarranted further delay in pollution reductions, would result in unhealthy air for Arkansans, and would continue to cause haze in the State's parks and the Upper Buffalo Wilderness Area. One Commenter points out that under the FIP, NOx reductions would be required at Flint Creek, White Bluff, and Independence by spring of 2018. This commenter further contended that progress for improving Arkansas's air quality would be further slowed as it has been since December 2007 when ADEQ's state plan was due.

Response 5:

ADEQ disagrees with the commenters that the proposed approach would result in unwarranted further delay in pollution reductions, result in unhealthy air, and would continue to causes haze in Arkansas's state parks and the federally-designated Upper Buffalo Wilderness area. Arkansas is on track to meet all of the visibility goals included in the State's 2008 SIP and in EPA's FIP, and the state is in attainment for all state and federal air quality standards. Emissions of NOx from anthropogenic sources in Arkansas have also decreased since Arkansas submitted its SIP in 2008.[10] Overall NOx emissions from anthropogenic sources in Arkansas have decreased by eight percent. NOx emissions from Arkansas power plants have decreased almost twenty-nine percent since 2008.[11]

EPA has proposed a reconsideration of their 2016 FIP that would extend the NOx BART compliance dates for Flint Creek, White Bluff, and Independence by twenty-one months to January 27, 2020. Therefore, ADEQ does not anticipate that the FIP would result in NOx emission reductions from those sources in 2018. CSAPR is already driving NOx emission reductions from those sources. In fact some NOx controls have already been installed at Arkansas power plants and others are expected to be installed in the near term (See Response 2).

[10] 2008 National Emission Inventory version 3, 2011 National Emissions Inventory version 2, 2014 National Emissions Inventory version 1

[11] Air Markets Program Data Annual NOx emissions 2008–2016

ADEQ's assessment of air quality and visibility trends for the state of Arkansas and EPA's analyses in support of rulemakings described in Response 2 support ADEQ's reasoning that proposed approach is better and achieves emission reductions sooner than BART.

No changes to the SIP are necessary as a result of this comment.

Comment 6:
Some commenters expressed concern with that the State's proposed program could cause economic harm to Arkansas's tourism industry. These commenters pointed out that the Class I areas are pristine and a source of economic activity to Arkansas's huge tourism industry.

Response 6:
ADEQ concurs with the commenters that Arkansas's Class I areas are pristine and a source of economic activity for Arkansas's tourism industry. ADEQ does not agree with the commenters assertion that implementation of the proposed SIP could cause economic harm to Arkansas's tourism industry. Visibility progress in Arkansas's Class I areas is already surpassing both Arkansas's 2018 goals established in the 2008 SIP and EPA's 2018 goals established in the 2016 FIP (See Response 2). Arkansas values its Class I areas and state parks. Arkansas is on track to meet the national goal of eliminating anthropogenic visibility impairment at its Class I areas by 2064.

No changes to the SIP are necessary as a result of this comment.

Comment 7:
Some commenters questioned why there are no pollution controls for NOx at Flint Creek, White Bluff, and Independence. The commenters claim that these three power plants are among the last in the United States to not have standards for NOx. Another commenter stated that it is time for ADEQ to insist that energy companies update their air equipment.

Response 7:
ADEQ develops and implements strategies for control of sources of air contaminants as are necessary to ensure attainment and maintenance of the NAAQs and to meet other State and Clean Air Act requirements. The facilities retain the discretion to install pollution controls in order to meet the requirements of the CSAPR trading program, and ADEQ anticipates that some or all of the three power plants mentioned by the commenters may install NOx controls to comply with CSAPR (See Response 2).

No changes to the SIP are necessary as a result of this comment.

Comment 8:
Some commenters supported the Department's determination that no additional controls for NOx are needed to achieve reasonable progress for the Regional Haze implementation period ending in 2018. One commenter asserted that reasonable progress controls during the first planning period are not necessary for Arkansas sources because IMPROVE monitoring data show that the haze index has been consistently below the glide path for Arkansas's Class I areas and is projected to remain so through the end of the second planning period. The commenter further argued that even if controls were required for reasonable progress during the first planning period, NOx controls on Arkansas power plants are not necessary because such controls would provide minimal visibility improvement at Arkansas's Class I areas. The commenter also pointed out that EPA's analysis in support of the 2016 FIP indicates that nitrate from all point sources included in regional modeling is projected to account for only three percent of total light extinction at the Caney Creek and Upper Buffalo Class I areas, with nitrate from Arkansas sources being responsible for only 0.29% of total light extinction at Caney Creek and 0.25% at Upper Buffalo.

Response 8:
ADEQ acknowledges and appreciates this comment.

No changes to the SIP are necessary as a result of this comment.

Comment 9:
Several commenters point out compliance with CSAPR will achieve greater reasonable progress than source-specific NOx emission limitations. One commenter points out that the 2016 CSAPR Update rule reduced ozone season NOx budgets from 15,110 tons in 2015 to 12,048 tons in 2017, and 9,210 tons in 2018 and beyond. Two commenters pointed out that the 2018 CSAPR trading program ozone allocation for Arkansas power plants would result in greater NOx emission reductions than EPA determined would be necessary under reasonable progress in the FIP. These commenters support ADEQ's position that no new NOx emission controls are required beyond CSAPR for achieving reasonable progress.

Response 9:
ADEQ acknowledges and appreciates this comment.

No changes to the SIP are necessary as a result of this comment.

Comment 10:
One commenter noted that significant progress has been made in reducing light extinction from point sources at the two Arkansas Class I areas and stated that Arkansas is well on its way to meeting its Clean Air Act visibility improvement goals by 2064.

Response 10:
ADEQ acknowledges and appreciates this comment.

No changes to the SIP are necessary as a result of this comment.

Comment 11:
Some commenters claimed that Arkansas cannot lawfully rely on the 2012 "Better than BART" rule because the rule is based on a version of CSAPR that no longer exists. The commenters asserted that the following actions render Arkansas's determination to rely upon CSAPR as unlawful: EPA's tolling of the compliance deadlines in response to litigation over the original CSAPR rule; increased allocations to Arkansas EGUs under CSAPR budgets to comply with the 1997 ozone standard; invalidation of the 2014 SO_2 budgets for Alabama, Georgia, South Carolina, and Texas; and the invalidation of 2014 NOx budgets for Florida, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia. The commenters also argued that the analysis in support of EPA's 2012 "Better than BART" rule was flawed and that EPA's skewed comparison found that CSAPR achieves barely more visibility improvement than BART at Breton and Caney Creek wilderness areas.

Other commenters asserted that the Regional Haze Rule plainly allows compliance with CSAPR to constitute NOx BART for the purposes of the Regional Haze Program. The commenters referred to federal rulemakings in which EPA finalized determinations that the Clean Air Interstate Rule Trading Program and its successor, CSAPR, provide greater reasonable progress toward the national visibility goal than source-specific BART.

No changes to the SIP are necessary as a result of this comment.

Response 11:
ADEQ disagrees with the commenters that claim that Arkansas cannot lawfully rely on the 2012 "Better than BART" rule as a result of changes to the CSAPR program. 40 C.F.R. 51.308(e)(4) allows states the option to not require BART-eligible power plants in the state to install, operate, and maintain BART for a pollutant covered by a trading program under 40 C.F.R § 52.38 or 40 C.F.R § 52.39 if the state is subject to the program is still in effect. Arkansas is subject to CSAPR based on 40 C.F.R § 52.38, and therefore Arkansas meets the requirements of 40 C.F.R. 51.308(e)(4). Furthermore, EPA has performed a sensitivity analysis that shows, in spite of changes to the CSAPR program, that CSAPR continues to provide greater reasonable progress than BART (See Response 2). On September 29, 2017, EPA affirmed the continued validity of the Agency's 2012 determination that participation in CSAPR meets RHR criteria for an alternative to source-specific BART.[12] ADEQ would like to point out that the Regional Haze

[12] 82 FR 45481

Rule allows states to use CSAPR as an approvable alternative to BART, but such a program does not constitute BART.

The commenters contention that EPA's analysis in support of the 2012 rule was flawed is not relevant. 40 C.F.R. 51.308(e)(4) remains in effect.

No changes to the SIP are necessary as a result of this comment.

Comment 12:

Some Commenters asserted that the State ignored the Clean Air Act requirement to take into consideration the four reasonable progress factors in determining reasonable progress. The Commenters further point out that ADEQ did not provide any evidence that EPA's four-factor analysis was incorrect. Based on these assertions, the Commenters argue that the SIP "violates" the Clean Air Act and is "unlawful." The Commenters further assert that the Clean Air Act mandates that the state consider all pollutants for reasonable progress. They also state that human-caused impairment must be eliminated at some point. The Commenters further contend that there is no "off ramp" for states to ignore pollutants and that the requirements to inventory visibility impairing emissions from all sources and conduct a four-factor analysis are the bedrock of reasonable progress requirements and lend necessary structure for the state's decision making process. The Commenters also state that there are no statutory or regulatory provisions that allow states to rely on CSAPR in lieu of conducting a four-factor analysis for reasonable progress.

Response 12:

ADEQ disagrees with the Commenters that assert ADEQ's proposed SIP "violates" the Clean Air Act and is "unlawful." ADEQ agrees that the four statutory factors must be considered when setting reasonable progress goals. However, ADEQ did not propose revisions to the State's reasonable progress goals in this particular SIP proposal. ADEQ anticipates proposing revised reasonable progress goals in a subsequent SIP proposal after the State establishes its determination for the controls that are necessary for reasonable progress for all pollutants, not just NOx. ADEQ merely proposed a partial SIP revision addressing NOx for subject-to-BART facilities participating in CSAPR.

The Commenters' statement that "there is no "off ramp" for states to ignore pollutants and that the requirements to inventory visibility impairing emissions from all sources and conduct a four-factor analysis of reasonable progress requirements" holds ADEQ to a different standard than EPA and is inconsistent with EPA guidance. For the Regional Haze FIP, EPA did not perform a four-factor analysis for primary organic aerosols, elemental carbon, soil, and crustal material. ADEQ followed EPA's 2007 "Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program" to identify key pollutants and source categories for the first planning period. Based on the pollutant source apportionment data results from CENRAPs CAMx model, we identified that SO_2 is the key pollutant impacting visibility at Arkansas Class I areas. In fact,

EPA came to the same conclusion in the preamble for their proposed FIP. In the proposed FIP, EPA states "[f]or both Caney Creek and Upper Buffalo, SO_2 emissions (sulfate precursor) are the principal driver of regional haze on the 20% worst days in Arkansas Class I areas" and "sulfate from point sources is expected to continue being the principle driver of regional haze on the 20% worst days at Arkansas Class I areas." Both the proposed SIP and EPA's proposed FIP note that NO_3 from Arkansas point sources contribute less than half a percent of total light extinction at Class I areas. Because NO_3 from Arkansas point sources has such a small impact on visibility impairment, NOx controls for Arkansas point sources would not have a significant impact on visibility and are therefore unreasonable for the first planning period.

Despite EPA's determination that SO_2 was the primary driver of visibility extinction at Arkansas Class I areas, EPA promulgated in the 2016 FIP NOx control requirements for Entergy Independence for the purposes of reasonable progress because controls would achieve cost-effective reductions in NOx emissions, not because they would result in perceptible visibility improvement. EPA did propose as an alternative to only require SO_2 controls for Entergy Independence. ADEQ disagreed with EPA's determination regarding reasonable progress controls in comments on the proposed FIP. ADEQ's proposed determination that no controls are necessary for NOx to achieve reasonable progress during the first planning period is consistent with EPA guidance and EPA's method for ruling out primary organic aerosols, elemental carbon, soil, and crustal material for controls prior to performing a four-factor analysis. ADEQ will perform a four-factor analysis for SO_2 in a subsequent SIP revision.

Although ADEQ is not proposing any controls for NOx for reasonable progress during the first planning period, ADEQ noted in the proposed SIP that emission reductions are already being achieved by current programs, including CSAPR, and that those emissions reductions are anticipated to be greater than required under the 2016 FIP. The Commenters are incorrect in stating that ADEQ is relying upon CSAPR in lieu of performing a four-factor analysis. ADEQ determined, consistent with EPA guidance, that the four-factors need only be considered for key pollutants and source categories. In the case of Arkansas Class I areas, the key pollutant is SO_2.

No changes to the SIP are necessary as a result of this comment.

Comment 13:

Some Commenters asserted that ADEQ failed to consider whether measures were needed to make reasonable progress at Class I areas outside the state. The Commenters state that, by failing to consider whether measures are necessary to make reasonable progress at Missouri Class I areas, the proposed SIP violates the Regional Haze Rule and is unapprovable.

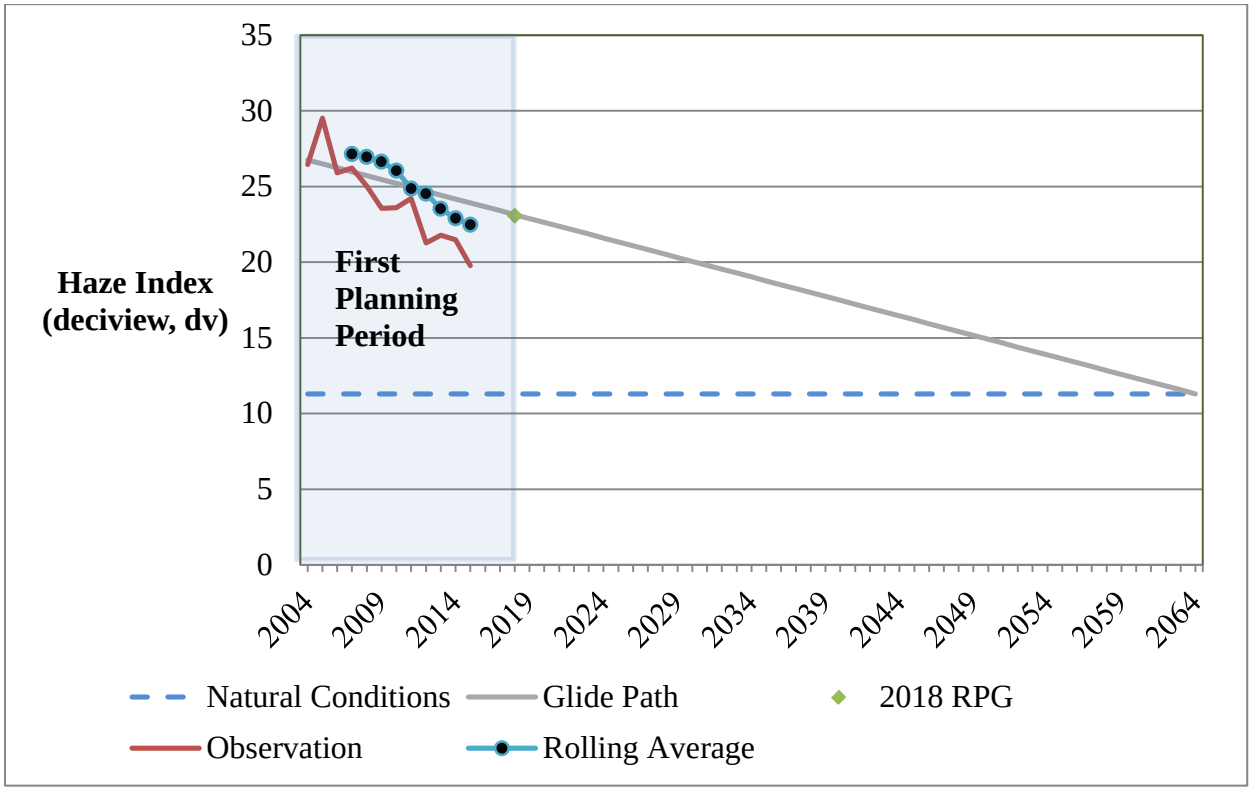
Response 13:

ADEQ disagrees with the Commenters that ADEQ failed to consider whether measures were needed to make reasonable progress outside the state. On June 14, 2017, ADEQ sent a letter to Missouri Department of Natural Resources (Missouri DNR) to offer the opportunity for

consultation on the proposed SIP revision. As part of this consultation, Missouri had the opportunity to inform ADEQ whether they thought additional controls were necessary to achieve reasonable progress at Missouri Class I areas. Missouri DNR had no comments. ADEQ also engaged in interstate consultation in during the development of the State's 2008 Regional Haze SIP.

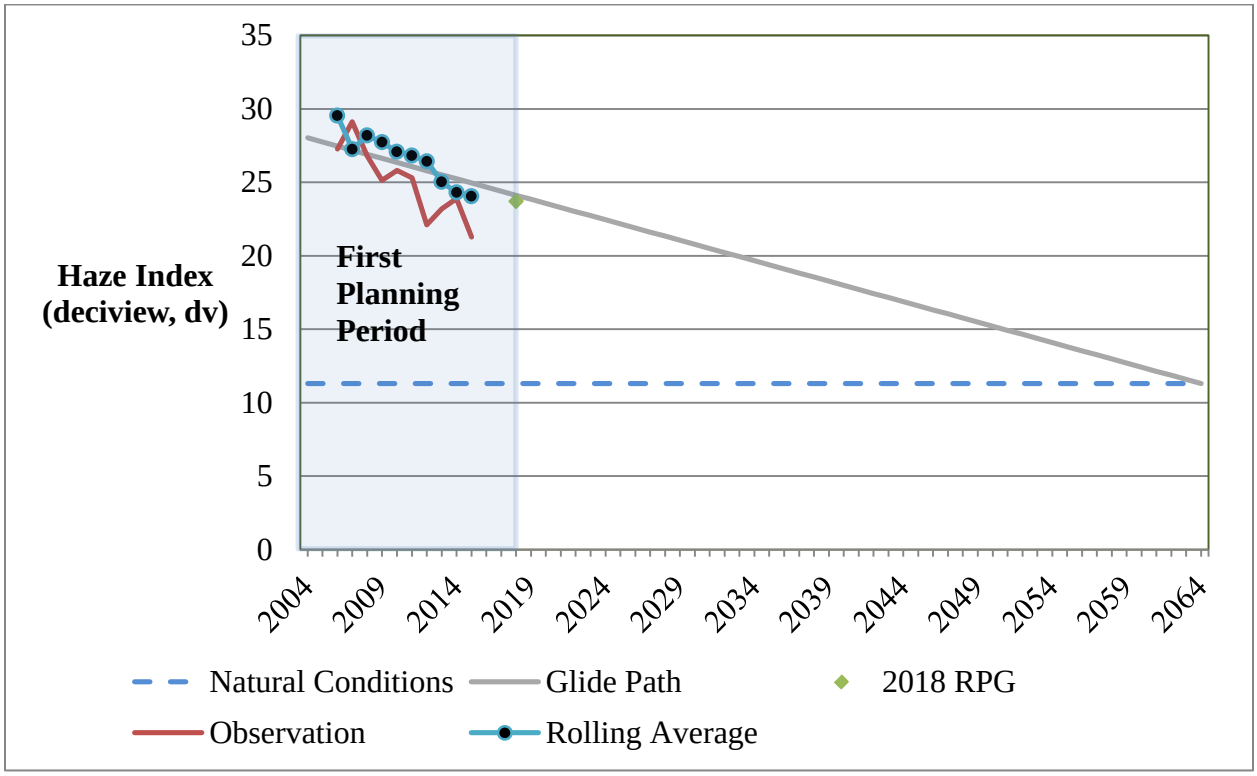
Class I areas in Missouri impacted by Arkansas sources are on track to meet the goals established by the Missouri DNR. Figures 5 and 6 demonstrate the progress achieved at Missouri's Class I areas: Hercules Glades and Mingo Wilderness Areas.[13]

Figure 5 Hercules Glades Reasonable Progress Assessment – 20% Worst Days



[13] Reasonable Progress Goals for Missouri Class I areas were obtained from Missouri DNR's Regional Haze Five-Year Progress Report. Data obtained from http://vista.cira.colostate.edu/DataWarehouse/IMPROVE/Data/SummaryData/RHR_2015/SIA_group_means_7_16.csv

Figure 6 Mingo Reasonable Progress Assessment – 20% Worst Days



In addition to the fact that visibility progress in Arkansas and Missouri Class I areas is already on track to meet Arkansas's and Missouri's goals, particulate source apportionment modeling data shows that NOx visibility impacts from Arkansas stationary sources, including power plants, on Class I areas are incredibly small, especially when comparing visibility impacts from other pollutants and out-of-state sources.

ADEQ will include in the final SIP the additional information provided above that demonstrates that no additional NOx controls are necessary to ensure Missouri DNR's visibility goals for Hercules Glades and Mingo Wilderness Areas are met.

Comment 14:

Some Commenters stated that the proposed conclusion that the replacement of FIP-mandated NOx emission limits with nothing violates Clean Air Act anti-backsliding requirements found at 42 U.S.C. § 7510(l). The Commenters cite legal precedent for interpretation of § 110(l) wherein EPA interpreted that section as allowing the agency to approve a plan revision that weakened some existing control measures while strengthening others as long as "actual emissions in the air are not increased" in one case and "unless the agency finds it will make the air quality worse" in another case. The Commenters further point out a "suggestion" by the Ninth Circuit, in a case regarding a challenge to Nevada's regional haze plan, that weakening or removing any pollution controls would violate § 110(l).

Response 14:

ADEQ disagrees with the commenters that ADEQ is replacing FIP-mandated emissions controls with nothing. ADEQ does not have the authority to modify the FIP. Instead, ADEQ is replacing portions of its SIP, which remains partially disapproved, with a trading program that has been approved as an alternative to BART by EPA. ADEQ has not proposed in this action to "eliminate" any federal requirement and would not purport to have the authority to do so. In addition, ADEQ is not proposing that facilities not address NOx requirements for regional haze, but instead rely on CSAPR consistent with the requirements in 40 C.F.R. 51.308(e) and for which EPA has performed the necessary analysis to demonstrate that CSAPR achieves greater reasonable progress than BART (See Response 2).

ADEQ disagrees with the unsupported assertion that the SIP revision would interfere with attainment, reasonable further progress in any attainment area, or "any other applicable requirement of this chapter." 42 U.S.C.A. § 7410(l). The commenters have provided no basis for asserting that this particular Arkansas SIP revision would interfere with an applicable requirement of the Clean Air Act simply by foregoing source-specific emissions limits and instead relying upon CSAPR.

The commenters address an issue that is relevant to the structure of the CSAPR program in general and pertinent to EPA's action approving CSAPR as an alternative to BART rather Arkansas's reliance upon BART in this specific case.

Commenters cite to a number of cases that are not relevant to the proposed SIP revision. Many of the referenced cases are distinguishable because they interpret 42 U.S.C.A. § 7410(l) in the context of the NAAQS program and not regional haze. *El Comite Para el Bienestar de Earlimart v. U.S. E.P.A.* 786 F.3d 688, 695–96 (9th Cir. 2015) (holding a pesticide element of a nonattainment SIP intended to address NAAQS, specifically VOCs, met the requirements of 42 U.S.C.§ 7410(l)); *Alabama Envtl. Council v. Adm'r,* U.S. E.P.A., 711 F.3d 1277, 1294 (11th Cir. 2013)(affirming EPA's approval of Alabama's visible emissions rule); *Kentucky Res. Council, Inc. v. E.P.A.*, 467 F.3d 986 (6th Cir. 2006)*(*Decision of Environmental Protection Agency (EPA) to promulgate rule approving state's request to move vehicle inspection and maintenance (I/M) program into contingency measures portion of State Implementation Plan (SIP) was not arbitrary and capricious under 8-hour National Ambient Air Quality Standards (NAAQS)); *Indiana v. E.P.A.*, 796 F.3d 803 (7th Cir. 2015) (EPA did not act arbitrarily or capriciously in approving Illinois's NAAQS SIP for ozone, despite Indiana's contention that Illinois's revision of its motor vehicle inspection and maintenance (I/M) program to exempt pre–1996 model-year vehicles that met certain idle exhaust and gas cap pressure testing requirements had caused ozone levels to exceed NAAQS). Of those that reference regional haze, these cases only review EPA's BART determinations.

In *Oklahoma v. U.S. E.P.A.*, the EPA simply held that 42 U.S.C. § 7410(l) afforded the EPA to review the legal sufficiency of a state BART determination in meeting the factors congress set forth for BART. 723 F.3d 1201, 1207 (10th Cir. 2013). Similarly, the Ninth Circuit held that an environmental organization failed to show that EPA's SIP approval of a BART determination in Nevada interfered with Clean Air Act's NAAQS requirements for a county in Nonattainment to make "reasonable further progress." *WildEarth Guardians v. U.S. E.P.A.*, 759 F.3d 1064, 1074 (9th Cir. 2014). EPA already determined the adequacy of CSAPR in meeting the regional haze rule requirements in a separate action (See Response 2). In addition, the case in *Wildearth* is distinguishable from this instance, because Arkansas is in attainment with all NAAQS. These two cases, *Oklahoma* and *Wildearth,* are also distinguishable because they address BART requirements. In contrast, the commenters do not raise any issues regarding BART-subject electric generating units with regard to this SIP, but commenters only discuss these requirements in relation to Independence Units 1 and 2, which are not BART-eligible or subject-to-BART due to their date of construction.

Comment 15:

Some commenters argued that ADEQ failed to demonstrate that the 2016 CSAPR emission allocations will ensure greater reasonable progress toward natural visibility than BART. The commenters pointed out that CSAPR initial allocations can be supplemented by intra- and interstate trading. The commenters also took issue with ADEQ's evaluation of emission reductions that would be achieved under CSAPR versus emission reductions that would be achieved by EPA's FIP. The commenters argued that ADEQ's focus on NOx emission reductions was contrary to EPA's methodology for examination of the aggregate visibility improvement from BART compared to the aggregate visibility improvements from CSAPR across all affected Class I areas in CSAPR states. The commenters also took issue with ADEQ's comparison of emission reductions within Arkansas from CSAPR and BART within Arkansas. In addition to challenging the methodology used by ADEQ to evaluate emissions reductions under CSAPR versus the 2016 FIP, the commenters also asserted that the proposed SIP uses an "arbitrary" and "unlawfully" revised 2016 emissions baseline that distorts the actual emissions reductions achieved under CSAPR. The commenters argue that ADEQ failed to make an "apples-to-apples" comparison because the 2016 FIP controls were generally based on a 2001–2003 baseline, with the exception of White Bluff, and ADEQ compared emissions based on 2016. The commenters claim that, because Arkansas sources are already required to comply with CSAPR allocations, CSAPR is not surplus to reductions required to meet other provisions of the Clean Air Act.

Response 15:

ADEQ is proposing to rely upon CSAPR as an alternative to BART based on 40 C.F.R. 51.308(e) and we proposed that no new NOx controls were necessary to achieve reasonable progress. In promulgating 40 C.F.R. 51.308, EPA performed the necessary analysis to

demonstrate that CSAPR achieves greater reasonable progress than BART (See Response 2). In the proposed SIP, we provided for informational purposes a simple evaluation of anticipated emission reductions under CSAPR versus the 2016 FIP. The comparison was performed for 2016 because this was the most recent year for which data was available. The commenters misrepresent EPA's requirements for alternatives to BART by stating that emission reductions achieved under an alternative to BART program must be surplus to reductions required to meet other provisions of the Clean Air Act without including the phrase "as of the baseline date of the SIP." The baseline of Arkansas's 2008 SIP revision was 2000–2004, and ADEQ did not propose to revise that baseline in the current SIP revision.

ADEQ will remove the information regarding anticipated emission reductions under the FIP versus CSAPR because it is not necessary for approval of the SIP.

Comment 16:

Some commenters pointed out that the proposed SIP does not demonstrate that Arkansas power plants that are subject-to-BART meet the standards for an exemption to BART requirements under 42 USC 7491(b)(2)(A). The Commenters argue that the standard by which sources could be exempted from the BART requirements requires that the Administrator finalize a rule, after notice and opportunity for comments, that a major source is not "reasonable [ ] anticipated to cause or contribute to a significant impairment of visibility" in any Class I area and that such an exemption requires concurrence by the appropriate federal land managers. The commenters further purport that there is no indication that the State has even consulted with federal land managers or any other state affected by Arkansas emissions as required under the Regional Haze Rule.

Response 16:

ADEQ is not proposing that the subject-to-BART power plants meet the standards for an exemption to BART requirements under 42 U.S.C 749(b)(2)(A). The SIP proposes to rely upon CSAPR as an alternative to NOx BART requirements for power plants in accordance with 40 C.F.R. 51.308(e)(4). The commenters are incorrect in their statement that there is no indication that the State has even consulted with federal land managers or any other state affected by Arkansas emissions as required under the Regional Haze Rule. ADEQ laid out its consultation process for the proposed SIP revision on pages 23 and 24 and provided documentation in Tab E of the proposed SIP showing that Arkansas contacted federal land managers and Missouri at least sixty days prior to the public hearing in accordance with Regional Haze Rule requirements. Documentation of communication and responses to federal land manager and state comments will be included in the final SIP.

No changes to the SIP are necessary as a result of this comment.

Comment 17:

Some commenters asserted that the proposed SIP's reliance upon emission reductions that would be achieved in 2018 and beyond is unlawful. Other commenters point out that the CSAPR emission budgets will be fully in effect during the first planning period and thus provide visibility improvements during the first planning period. These commenters contrast this with the timing of the emissions reductions that would result due to the 2016 FIP, which are unlikely to occur until after 2018 and are therefore not reasonable to make reasonable progress during the first planning period.

Response 17:

Arkansas meets all current requirements under 40 C.F.R. § 51.308(e)(4), which provides states with the option to not require BART-eligible power plants in the state to install, operate, and maintain BART for a pollutant covered by a trading program under § 52.38 or § 52.39 if the state is subject to the program (See Response 2).

Furthermore, the CSAPR program is already achieving emission reductions in Arkansas and the most stringent emission budget for Arkansas sources under the CSAPR update for the 2008 ozone NAAQS begin in 2018, which is within the first planning period.

No changes to the SIP are necessary as a result of this comment.

Comment 18:

One commenter observed that Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 19, Chapter 15, as it reads currently, continues to require certain controls with a compliance date of five years after EPA approval of the Arkansas Regional Haze State Implementation Plan. The commenters note that ADEQ references replacing such requirements in APC&EC Regulation No. 19. However, the commenters recommend that ADEQ consider adding additional clarification in the narrative of the proposed SIP regarding ADEQ's plans to address the Chapter 15 requirements in the event the proposed SIP is approved.

Response 18

ADEQ agrees the commenters observations that additional clarification regarding the disposition of APC&EC Regulation No. 19 Chapter 15 is needed.

ADEQ will include in the final SIP a narrative explaining the State's plans to repeal Regulation No. 19 Chapter 15 in an upcoming rulemaking.

Comment 19:

One commenter stated that they agree with ADEQ that reasonable progress goals are not necessary for the first planning period.

Response 19

ADEQ disagrees with the commenter that we proposed that no reasonable progress goals are necessary for the first planning period. The Regional Haze Rule requires the State to set reasonable progress goals for the first planning period. ADEQ did not include reasonable progress goals in the proposed SIP because the State anticipates proposing a subsequent SIP to replace the remaining controls required by EPA's 2016 FIP. The subsequent SIP proposal will include reasonable progress goals based on controls that would be implemented before the end of the first planning period.

No changes to the SIP are necessary as a result of this comment.

Comment 20:

One commenter provided suggestions for clarification, correction of typographical errors, and correction of corporate names.

Response 20:

ADEQ appreciates the suggestions and will make the recommended changes.