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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R06-OAR-2015-0189; FRL-9966-97-Region 6]

Approval and Promulgation of Implementation Plans; Arkansas; Approval of Regional Haze State Implementation Plan Revision and Withdrawal of Federal Implementation Plan for NO_X for Electric Generating Units in Arkansas

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA) is proposing to approve a proposed revision to the Arkansas Regional Haze State Implementation Plan (SIP) submitted for parallel processing on July 12, 2017, by the State of Arkansas through the Arkansas Department of Environmental Quality (ADEQ). Specifically, the EPA is proposing to approve the State's proposed SIP revision, which addresses nitrogen oxide (NO_X) requirements for the Arkansas Electric Cooperative Corporation (AECC) Bailey Plant Unit 1; AECC McClellan Plant Unit 1; the American Electric Power/Southwestern Electric Power Company (AEP/SWEPCO) Flint Creek Plant Boiler No. 1; Entergy Arkansas, Inc. (Entergy) Lake Catherine Plant Unit 4; Entergy White Bluff Plant Units 1 and 2 and the Auxiliary Boiler; and Entergy Independence Plant Units 1 and 2. In conjunction with this proposed approval, we are proposing to withdraw federal implementation plan (FIP) emission limits for NO_X that would otherwise apply to the nine aforementioned units.

DATES: Written comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

ADDRESSES: Submit your comments, identified by Docket No. EPA-R06-OAR-2015-0189, at *http://www.regulations.gov* or via email to *R6AIR_ARHaze@epa.gov*. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact Dayana Medina, medina.dayana@epa.gov. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *http://www2.epa.gov/dockets/commenting-epa-dockets*.

Docket: The index to the docket for this action is available electronically at *www.regulations.gov* and in hard copy at the EPA Region 6, 1445 Ross Avenue, Suite 700, Dallas, Texas. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (e.g., copyrighted material), and some may not be publicly available at either location (e.g., CBI).

FOR FURTHER INFORMATION CONTACT: Dayana Medina, 214-665-7241, medina.dayana@epa.gov. To inspect the hard copy materials, please schedule an appointment with Dayana Medina or Mr. Bill Deese at 214-665-7253.

SUPPLEMENTARY INFORMATION: Throughout this document wherever "we," "us," or "our" is used, we mean the EPA.

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I. Background

A. The Regional Haze Program

Regional haze is visibility impairment that is produced by a multitude of sources and activities that are located across a broad geographic area and emit fine particulates ($PM_{2.5}$) (e.g., sulfates, nitrates, organic carbon (OC), elemental carbon (EC), and soil dust), and their precursors (e.g., sulfur dioxide (SO_2), NO_X, and in some cases, ammonia (NH_3) and volatile organic compounds (VOCs)). Fine particle precursors react in the atmosphere to form $PM_{2.5}$,

which impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that can be seen. $PM_{2.5}$ can also cause serious adverse health effects and mortality in humans; it also contributes to environmental effects such as acid deposition and eutrophication.

Section 169A of the CAA directs states to evaluate the use of retrofit controls at certain larger, often under-controlled, older stationary sources in order to address visibility impacts from these sources. Specifically, section 169A(b)(2)(A) of the CAA requires states to revise their SIPs to contain such measures as may be necessary to make reasonable progress toward the natural visibility goal, including a requirement that certain categories of existing major stationary sources built between 1962 and 1977 procure, install, and operate the "Best Available Retrofit Technology" (BART). Larger "fossil-fuel fired steam electric plants" are one of these source categories. Under the Regional Haze Rule, states are directed to conduct BART determinations for "BART-eligible" sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area. Section 169A(g)(2) of the CAA establishes that in determining BART, states must take into consideration the following five factors: (1) costs of compliance, (2) the energy and nonair quality environmental impacts of compliance, (3) any existing pollution control technology in use at the source, (4) the remaining useful life of the source, and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. The evaluation of BART for electric generating units (EGUs) that are located at fossil-fuel fired power plants having a generating capacity in excess of 750 megawatts must follow the "Guidelines for BART Determinations Under the Regional Haze Rule" at appendix Y to 40 CFR Part 51 (hereinafter referred to as the "BART Guidelines"). Rather than requiring source-specific BART controls, states also have the flexibility to adopt an emissions

trading program or other alternative program as long as the alternative provides for greater progress towards improving visibility than BART.

The vehicle for ensuring continuing progress towards achieving the natural visibility goal is the submission of a series of regional haze SIPs that contain long-term strategies to make reasonable progress towards natural visibility conditions and establish reasonable progress goals (RPGs) for every Class I area within the state. States have significant discretion in establishing RPGs,[1] but are required to consider the following factors established in section 169A of the CAA: (1) the costs 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 any potentially affected sources. States must determine whether additional control measures beyond BART and other "on the books" controls are reasonable based on a consideration of the four reasonable progress factors. States must demonstrate in their SIPs how these factors are considered when selecting the RPGs for each applicable Class I area. We commonly refer to this as the "reasonable progress analysis" or "four factor analysis."

Additional information about the Regional Haze program can be found in the background sections of our previous proposed rulemakings on Arkansas regional haze.[2]

B. Our Previous Actions on Arkansas Regional Haze

Arkansas submitted a SIP on September 9, 2008, to address the first regional haze implementation period. On August 3, 2010, Arkansas submitted a SIP revision with non-substantive revisions to the APCEC Regulation 19, Chapter 15; this Chapter identified the BART-eligible and subject-to-BART sources in Arkansas and established the BART emission

[1] *Guidance for Setting Reasonable Progress Goals under the Regional Haze Program*, June 1, 2007, memorandum from William L. Wehrum, Acting Assistant Administrator for Air and Radiation, to EPA Regional Administrators, EPA Regions 1-10 (pp.4-2, 5-1).
[2] See 76 FR 64186 and 80 FR 18944.

limits for subject-to-BART sources. On September 27, 2011, the State submitted supplemental information to address the regional haze requirements. We are hereafter referring to these regional haze submittals collectively as the "2008 Arkansas Regional Haze SIP." On March 12, 2012, we partially approved and partially disapproved the 2008 Arkansas Regional Haze SIP.[3] On September 27, 2016, we published a FIP addressing the deficiencies identified in the disapproved portions of the 2008 Arkansas Regional Haze SIP (the Arkansas Regional Haze FIP).[4] Among other things, the FIP established NO_X emission limits under the BART requirements for Bailey Unit 1; McClellan Unit 1; Flint Creek Boiler No. 1; Lake Catherine Unit 4; and White Bluff Units 1 and 2 and the Auxiliary Boiler. The FIP also established NO_X emission limits under the reasonable progress requirements for Independence Units 1 and 2.

In response to petitions submitted by the State of Arkansas and industry parties seeking reconsideration and an administrative stay of the final Arkansas Regional Haze FIP,[5] in a letter dated April 14, 2017, we announced the convening of a proceeding to reconsider several elements of the FIP, including the appropriate compliance dates for the NO_X emission limits for Flint Creek Unit 1, White Bluff Units 1 and 2, and Independence Units 1 and 2.[6] EPA also published a notice in the Federal Register on April 25, 2017, administratively staying the effectiveness of the 18-month NO_X compliance dates in the FIP for these units for a period of 90

[3] 77 FR 14604.
[4] 81 FR 66332; *see also* 81 FR 68319 (October 4, 2016) (correction).
[5] See the docket associated with this proposed rulemaking for a copy of the petitions for reconsideration and administrative stay submitted by the State of Arkansas; Entergy Arkansas Inc., Entergy Mississippi Inc., and Entergy Power LLC (collectively "Entergy"); AECC; and the Energy and Environmental Alliance of Arkansas (EEAA).
[6] See letter dated April 14, 2017, regarding "Convening a Proceeding for Reconsideration of Final Rule, 'Promulgation of Air Quality Implementation Plans; State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan,' published September 7, 2016. 81 Fed. Reg. 66332." A copy of this letter is included in the docket, Docket No. EPA-R06-OAR-2015-0189.

days.[7] On July 13, 2017, the EPA published a proposed rule that would extend the NO_X compliance dates for Flint Creek Unit 1, White Bluff Units 1 and 2, and Independence Units 1 and 2, by 21 months to January 27, 2020.[8]

C. CSAPR as an Alternative to Source-Specific NO_X BART

In 2005, the EPA published the Clean Air Interstate Rule (CAIR), which required 27 states and the District of Columbia to reduce emissions of SO_2 and NO_X that significantly contribute to or interfere with maintenance of the 1997 national ambient air quality standards (NAAQS) for fine particulates and/or 8-hour ozone in any downwind state.[9] EPA demonstrated that CAIR would achieve greater reasonable progress toward the national visibility goal than would BART; therefore, states could rely on CAIR as an alternative to EGU BART for SO_2 and NO_X.[10] Although Arkansas was subject to certain of the NO_X requirements of CAIR, including the state-wide ozone season NO_X budget but not the annual NO_X budget, and although this would have been sufficient for Arkansas to rely on CAIR to satisfy NO_X BART, it elected not to rely on CAIR in its 2008 Regional Haze SIP to satisfy the NO_X BART requirement for its EGUs.

On July 11, 2008, the D.C. Circuit found CAIR was fatally flawed and on December 23, 2008, the Court remanded CAIR to EPA without vacatur to "preserve the environmental benefits provided by CAIR".[11] In 2011, acting on the D.C. Circuit's remand, we promulgated the Cross-State Air Pollution Rule (CSAPR) to replace CAIR and issued FIPs to implement the rule in CSAPR-subject states.[12] Arkansas EGUs are covered under CSAPR for ozone season NO_X.[13]

In 2012, we issued a limited disapproval of several states' regional haze SIPs because

[7] 82 FR 18994.
[8] 82 FR 32284.
[9] 70 FR 25161 (May 12, 2005).
[10] 70 FR 39104, 39139 (July 6, 2005).
[11] *North Carolina* v. *EPA*, 531 F.3d 896, 901 (D.C. Cir. 2008), *modified*, 550 F.3d 1176, 1178 (D.C. Cir. 2008).
[12] 76 FR 48207 (August 8, 2011).
[13] 76 FR 82219 (December 30, 2011).

of reliance on CAIR as an alternative to EGU BART for SO_2 and/or NO_X.[14] We also determined that CSAPR would provide for greater reasonable progress than BART and amended the Regional Haze Rule to allow for CSAPR participation as an alternative to source-specific SO_2 and/or NO_X BART for EGUs, on a pollutant-specific basis.[15] As Arkansas did not rely on CAIR to satisfy the NO_X BART requirements in the 2008 Regional Haze SIP, Arkansas was not included in the EPA's limited disapproval of regional haze SIPs that relied on CAIR to satisfy certain regional haze requirements.[16] As noted above, in the 2012 rulemaking in which we promulgated those limited disapprovals, the EPA also promulgated FIPs to replace reliance on CAIR with reliance on CSAPR in many of those regional haze SIPs; however, Arkansas was likewise not included in that FIP action.

CSAPR has been subject to extensive litigation, and on July 28, 2015, the D.C. Circuit issued a decision generally upholding CSAPR but remanding without vacating the CSAPR emissions budgets for a number of states.[17] We are in the process of responding to the remand of these CSAPR budgets. On October 26, 2016, we finalized an update to the CSAPR rule that addresses the 1997 ozone NAAQS portion of the remand and also addresses the CAA requirements regarding interstate transport for the 2008 ozone NAAQS.[18] Additionally, three states, Alabama, Georgia, and South Carolina, have adopted or committed to adopt SIPs to replace the remanded FIPs and will continue the states' participation in the CSAPR program with the same budgets. On November 10, 2016, we proposed a rule intended to address the remainder

[14] The limited disapproval triggered the EPA's obligation to issue a FIP or approve a SIP revision to correct the relevant deficiencies within 2 years of the final limited disapproval action. CAA section 110(c)(1); 77 FR 33642, at 33654 (June 7, 2012).
[15] See 40 CFR section 51.308(e)(4).
[16] *See* 77 FR 33642, at 33654.
[17] Arkansas' ozone season NO_X budget was not included in the remand. *EME Homer City Generation* v. *EPA*, 795 F.3d 118, 138 (D.C. Cir. 2015).
[18] 81 FR74504 (October 26, 2016).

of the Court's remand.[19] This separate proposed rule includes a sensitivity analysis showing that the set of actions EPA has taken or expects to take in response to the D.C. Circuit's decision would not adversely impact the analytic demonstration for our 2012 determination that CSAPR participation meets the criteria to qualify as an alternative to BART. Based on that assessment, the EPA proposed that states may continue to rely on CSAPR as being better than BART on a pollutant-specific basis. As of the date of this proposed action, EPA has not yet finalized that proposed rulemaking. EPA can approve regional haze SIP submissions that rely on participation in CSAPR as an alternative to BART only after finalizing the November 2016 proposed rule or otherwise determining that participation in CSAPR remains a viable BART alternative.

II. Our Evaluation of Arkansas' Proposed Regional Haze SIP Revision

On July 12, 2017, Arkansas submitted a proposed SIP revision with a request for parallel processing, addressing the NO_X requirements for Bailey Unit 1, McClellan Unit 1, Flint Creek Boiler No. 1, Lake Catherine Unit 4, White Bluff Units 1 and 2 and the Auxiliary Boiler, and Independence Units 1 and 2 (July 2017 Arkansas Regional Haze SIP). This proposed SIP revision is the subject of this proposed action, in conjunction with our proposed withdrawal of the emission limits for NO_X that we promulgated in our September 27, 2016 FIP for the same EGUs addressed in the proposed SIP revision. The EPA is proposing action on the SIP revision at the same time that ADEQ is completing the corresponding public comment and rulemaking process at the state level. The July 2017 SIP revision request will not be complete and will not meet all the SIP approvability criteria until the state completes the public process and submits the final, adopted SIP revision with a letter from the Governor or Governor's designee to EPA. The

[19] 81 FR 78954 (November 10, 2016).

EPA is proposing to approve the SIP revision request after completion of the state public process and final submittal.

Arkansas' July 2017 Regional Haze SIP revision proposal addresses certain portions of the 2008 Regional Haze SIP that were partially disapproved by EPA on March 12, 2012.[20] The 2008 Regional Haze SIP included source-by-source NO_X BART determinations for subject-to-BART EGUs in Arkansas. EPA's March 12, 2012 final action on the 2008 Regional Haze SIP included disapproval of the State's source-by-source NO_X BART determinations for these EGUs. These EGUs are Bailey Unit 1; McClellan Unit 1; Flint Creek Boiler No. 1; Lake Catherine Unit 4; White Bluff Units 1 and 2 and its auxiliary boiler. EPA's March 12, 2012 final action on the 2008 Regional Haze SIP also included a determination that the State did not satisfy the statutory and associated regulatory requirements for the reasonable progress analysis. We promulgated a FIP on September 27, 2016, that established source specific NO_X BART emission limits for these seven EGUs and NO_X emission limits under reasonable progress for Independence Units 1 and 2 to address the disapproved portions of the 2008 Regional Haze SIP submittal.

Arkansas' July 2017 Regional Haze SIP revision addresses the NO_X BART requirements for Arkansas' EGUs by relying on CSAPR as an alternative to BART. The July 2017 Regional Haze SIP revision proposal also makes the determination that no additional NO_X emission controls for Arkansas sources, beyond participation in CSAPR's ozone season NO_X trading program, are required for achieving reasonable progress in Arkansas. As noted above, the July 2017 Regional Haze SIP revision addresses NO_X requirements for the same EGUs for which we established source-specific NO_X emission limits in our September 27, 2016 FIP.

A. Reliance on CSAPR to Satisfy NO_X BART

[20] 77 FR 14604.

Arkansas' 2017 Regional Haze SIP revision proposal relies on EPA's determination that CSAPR provides for greater reasonable progress than BART to address the NO_X BART requirements for its EGUs. Consistent with 40 CFR 51.308(e)(4), Arkansas makes the determination that since the Arkansas EGUs are currently subject to the CSAPR requirements for ozone-season NO_X, the State need not require subject-to-BART EGUs to install, operate, and maintain BART for NO_X. We are proposing to find that it is appropriate for Arkansas to rely on participation in the CSAPR ozone season NO_X trading program to satisfy the NO_X BART requirements for Arkansas EGUs. EPA's 2012 determination and our November 2016 proposed determination that implementation of CSAPR meets the criteria for a BART alternative are based on an analytic demonstration that implementation of CSAPR across all states subject to CSAPR would result in greater reasonable progress than BART toward restoring natural visibility conditions in relevant locations.[21] Our proposed approval of Arkansas' 2017 Regional Haze SIP revision is dependent upon our November 10, 2016 proposed determination,[22] which is based in part on the analysis we conducted for our 2012 determination that CSAPR is better than BART,[23] but with updates to reflect the changes to CSAPR to address the Court's remand.

We are proposing to find that the NO_X BART requirements for EGUs in Arkansas will be satisfied by participation in CSAPR's ozone season NO_X program. Finalization of today's proposed SIP approval is dependent upon finalization of the November 10, 2016 proposed finding that CSAPR continues to be better than BART or EPA otherwise determining that participation in CSAPR remains a viable alternative to source-specific BART.[24]

B. Reasonable Progress Analysis for NO_X

[21] 77 FR 33642.
[22] 81 FR 78954.
[23] 77 FR 33642.
[24] 81 FR 78954.

In determining whether additional controls are necessary under the reasonable progress requirements and in establishing RPGs, a state must consider four statutory factors in section 169A(g)(1) of the CAA: (1) the costs of compliance, (2) the time necessary for compliance, (3) the energy and nonair quality environmental impacts of compliance, and (4) the remaining useful life of any existing source subject to such requirements.

Arkansas' 2017 Regional Haze SIP revision includes a discussion of the key pollutants and source categories that contribute to visibility impairment in Arkansas Class I areas. In this SIP revision, Arkansas refers back to the 2008 Arkansas Regional Haze SIP, which included air quality modeling performed by the Central Regional Air Planning Association (CENRAP) in support of SIP development in the central states region.[25] The CENRAP modeling included PSAT with CAMx version 4.4, which 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. Arkansas' 2017 Regional Haze SIP revision provides a discussion of region-wide PSAT results and also provides a discussion of Arkansas PSAT data. The conclusion that Arkansas' 2017 Regional Haze SIP revision draws from this re-presentation of the CENRAP modeling results is that sulfate (SO_4) from point sources is the primary contributor to total light extinction at Arkansas Class I areas on the 20% worst days, whether looking at all regional sources or only Arkansas sources. In contrast, nitrate (NO_3) is responsible for a much smaller proportion of total light extinction at Arkansas Class I areas. With regard to light extinction due to NO_3, the PSAT results show that when looking at only Arkansas sources, the majority of the light extinction due to NO_3 is clearly attributed to on-road mobile sources whereas looking at all region-wide sources the light extinction due to NO_3 is nearly

[25] The central states region includes Texas, Oklahoma, Louisiana, Arkansas, Kansas, Missouri, Nebraska, Iowa, Minnesota, and the tribal governments within these states.

equally attributed to on-road mobile and point sources on the 20% worst days in 2002. In particular, NO_3 from Arkansas point sources contribute 0.36 inverse megameters (Mm^{-1}) out of a total light extinction of approximately 115.87 Mm^{-1} at Caney Creek on the 20% worst days in 2002. NO_3 from Arkansas point sources also contribute 0.18 Mm^{-1} out of a total light extinction of approximately 115 Mm^{-1} at Upper Buffalo on the 20% worst days in 2002. In terms of percent contribution, NO_3 from Arkansas point sources contribute approximately 0.31% of the total light extinction at Caney Creek and 0.16% of the total light extinction at Upper Buffalo on the 20% worst days in 2002. NO_3 from Arkansas area sources had an even smaller contribution to light extinction on the 20% worst days in 2002, contributing approximately 0.18 Mm^{-1} out of a total light extinction of approximately 115.87 Mm^{-1} at Caney Creek and 0.11 Mm^{-1} out of a total light extinction of approximately 115 Mm^{-1} at Upper Buffalo. In terms of percent contribution, NO_3 from Arkansas area sources contribute approximately 0.16% of the total light extinction at Caney Creek and 0.1% of the total light extinction at Upper Buffalo on the 20% worst days in 2002. Based on its evaluation of the CENRAP modeling results, Arkansas concludes that given the small amount of visibility impairment due to NO_3 from Arkansas point sources, it does not expect that additional NO_X controls on Arkansas point sources would yield meaningful visibility improvements at Arkansas Class I areas. Taking this into consideration and given that Arkansas EGUs are required to participate in the CSAPR ozone season NO_X trading program, the state determines it is appropriate to screen out point sources in Arkansas from further evaluation of NO_X controls under reasonable progress.

1. Regional Particulate Source Apportionment Tool (PSAT) Data for Caney Creek and Upper Buffalo

Arkansas' 2017 Regional Haze SIP revision explains that the region-wide PSAT results

show that on the 20% worst days in 2002, point sources are the primary contributor to total light extinction at Arkansas' Class I areas. Arkansas explains that point sources are responsible for approximately 60% of the total light extinction at each Arkansas Class I area on the 20% worst days in 2002.[26] Area sources are the next largest contributor to total light extinction at Arkansas Class I areas, contributing approximately 13% and 16% of light extinction at Caney Creek and Upper Buffalo, respectively.[27] The remaining source categories each contribute between 2% and 6% of total light extinction at Arkansas' Class I areas.

Looking at the modeled relative contribution to light extinction from each species on the 20% worst days in 2002, the PSAT results show that SO_4 contributes approximately 87.05 Mm^{-1} to the total light extinction at Caney Creek and 83.18 Mm^{-1} to the total light extinction at Upper Buffalo, or approximately 72% and 69% of the total modeled light extinction at each Class I area, respectively. SO_4 due to point sources (including point sources both in and outside Arkansas) contributes 75.1 Mm^{-1} to the total light extinction at Caney Creek and 72.17 Mm^{-1} at Upper Buffalo, or approximately 62% and 60% of the total light extinction at each Class I area on the 20% worst days in 2002, respectively. SO_4 due to point sources is responsible for approximately 86% and 87% of the light extinction due to SO_4 at Caney Creek and Upper Buffalo, respectively. The other source categories (i.e., natural, on-road, non-road, and area sources) each contribute much smaller proportions of light extinction due to SO_4. By comparison, NO_3 contributes approximately 13.78 Mm^{-1} to the total light extinction at Caney

[26] Point sources (considering sources both in and outside Arkansas) are responsible for approximately 81.04 Mm^{-1} out of a total light extinction of 115.87 Mm^{-1} at Caney Creek and 77.8 Mm^{-1} out of a total light extinction of 115 Mm^{-1} at Upper Buffalo on the 20% worst days in 2002. See Table 1 of the 2017 Arkansas Regional Haze SIP revision, page 10.

[27] Area sources (considering sources both in and outside Arkansas) are responsible for approximately 17.81 Mm^{-1} out of a total light extinction of 115.87 Mm^{-1} at Caney Creek and 20.46 Mm^{-1} out of a total light extinction of 115 Mm^{-1} at Upper Buffalo on the 20% worst days in 2002. See Table 1 of the 2017 Arkansas Regional Haze SIP revision, page 10.

Creek and 13.3 Mm_{-1} at Upper Buffalo, or approximately 11% of the total light extinction at each Class I area, respectively. Primary organic aerosols (POA) contribute approximately 8%, elemental carbon (EC) contributes approximately 4%, soil contributes approximately 1%, and crustal material (CM) contributes approximately 3 to 5% of the total modeled visibility extinction at each Arkansas Class I area on the 20% worst days in 2002. NO_3 due to on-road sources contributes 4.7 Mm^{-1} and NO_3 due to point sources contributes 4.06 Mm^{-1} at Caney Creek, or approximately one-third of the light extinction due to NO_3 at the Class I area. NO_3 due to point sources contributes 3.93 Mm^{-1} and NO_3 due to on-road sources contributes 4.14 Mm^{-1} at Upper Buffalo, or approximately 30% to 31% of the light extinction due to NO_3 at the Class I area. Area sources are the primary driver of light extinction attributed to POA, soil, and CM. Non-road and area sources are the primary drivers of light extinction attributed to EC.

The PSAT results also show that point sources are projected to remain the primary contributor to light extinction at Arkansas' Class I areas on the 20% worst days in 2018, contributing approximately 45.27 Mm^{-1} at Caney Creek and 43.02 Mm^{-1} at Upper Buffalo, or approximately 65% of total light extinction at Caney Creek and 61% of total light extinction at Upper Buffalo. Area sources are projected to continue being the second largest contributor to light extinction on the 20% worst days in 2018, contributing approximately 16.96 Mm^{-1} at Caney Creek and 19.71 Mm^{-1} at Upper Buffalo, or approximately 24% of total light extinction at Caney Creek and 28% of total light extinction at Upper Buffalo. The PSAT results show that 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 20% worst days in 2018.

Arkansas explains that the PSAT results show that the light extinction attributed to SO_4 is projected to decrease by approximately 44% at Caney Creek and 45% at Upper Buffalo on the

20% worst days in 2018. However, SO_4 is projected to continue being the primary driver of total light extinction at Arkansas Class I areas on the 20% worst days in 2018, and point sources are projected to continue being the primary source of light extinction due to SO_4. SO_4 due to point sources is projected to contribute approximately 39.83 Mm^{-1} at Caney Creek and 37.09 Mm^{-1} at Upper Buffalo, or approximately 53% and 49% of total light extinction on the 20% worst days in 2018 at each Class I area, respectively. The other species (i.e., NO_3, POA, EC, soil, and CM) are also projected to have reductions in their contribution to total light extinction at Caney Creek and Upper Buffalo in 2018. These species' relative contributions to total light extinction in 2018 are projected to remain much smaller than that of SO_4. For example, NO_3 is projected to contribute approximately 7.57 Mm^{-1} at Caney Creek and 9.22 Mm^{-1} at Upper Buffalo on the 20% worst days in 2018, or approximately 10 to 12% of the total light extinction at each Class I area.

2. Arkansas Source PSAT Data for Caney Creek and Upper Buffalo

In its 2017 Regional Haze SIP submittal, Arkansas explains that species attributed to Arkansas sources in particular contribute approximately 10% of total light extinction on the 20% worst days in 2002 at Arkansas Class I areas,[28] and are projected to contribute approximately 13% to 14% of total light extinction on the 20% worst days in 2018.[29]

When considering only Arkansas sources, area sources are responsible for a greater portion of the visibility extinction than point sources on the 20% worst days in 2002 at Arkansas Class I areas. For example, Arkansas area sources contribute 5.03 Mm^{-1}, or approximately 37% of the light extinction attributed to Arkansas sources at Caney Creek, and approximately 4% of

[28] Arkansas sources contribute approximately 13.58 Mm^{-1} out of a total light extinction of 115.87 Mm^{-1} at Caney Creek on the 20% worst days in 2002, and 13.46 Mm^{-1} out of a total light extinction of 115 Mm^{-1} at Upper Buffalo. See Tables 1 and 3 of the 2017 Arkansas Regional Haze SIP revision, pages 10 and 16.

[29] Arkansas sources contribute approximately 11.24 Mm^{-1} out of a total light extinction of 69.55 Mm^{-1} at Caney Creek on the 20% worst days in 2018, and 12.02 Mm^{-1} out of a total light extinction of 70.79 Mm^{-1} at Upper Buffalo. See Tables 2 and 4 of the 2017 Arkansas Regional Haze SIP revision, pages 13 and 19.

total light extinction at the Class I area on the 20% worst days in 2002. Arkansas area sources also contribute 6.72 Mm^{-1}, or approximately 50% of light extinction attributed to Arkansas sources at Upper Buffalo, and approximately 6% of the total light extinction at the Class I area on the 20% worst days in 2002. By comparison, Arkansas point sources contribute 3.85 Mm^{-1}, or approximately 28% of the light extinction attributed to Arkansas sources at Caney Creek, and approximately 3% of the total light extinction at the Class I area on the 20% worst days in 2002. Arkansas point sources also contribute 3.25 Mm^{-1}, or approximately 24% of light extinction attributed to Arkansas sources at Upper Buffalo, and approximately 3% of the total light extinction at the Class I area on the 20% worst days in 2002. The other source categories in Arkansas each contribute between 7% and 14% to light extinction attributed to Arkansas sources at Caney Creek and Upper Buffalo.

Looking at each species and their modeled relative contributions to light extinction at Arkansas Class I areas, SO_4 from all Arkansas sources contributes 4.14 Mm^{-1} at Caney Creek and 3.97 Mm^{-1} at Upper Buffalo, or approximately 3% of the total modeled light extinction at each Class I area on the 20% worst days in 2002. SO_4 due to Arkansas point sources contributes 2.94 Mm^{-1} at Caney Creek and 2.62 Mm^{-1} at Upper Buffalo, or approximately two-thirds of the light extinction attributed to SO_4 from all Arkansas sources at each Class I area. POA from Arkansas sources contributes approximately 3% and 2% of the total light extinction on the 20% worst days in 2002 at Caney Creek and Upper Buffalo, respectively. NO_3 from all Arkansas sources contributes 2.11 Mm^{-1} at Caney Creek and 1.07 Mm^{-1} at Upper Buffalo, or approximately 2% and 1% of the total light extinction on the 20% worst days in 2002 at each Class I area, respectively. NO_3 due to Arkansas on-road sources contributes 1.09 Mm^{-1} at Caney Creek and 0.54 Mm^{-1} at Upper Buffalo, or approximately 50% of the light extinction attributed

to NO_3 from Arkansas sources at Arkansas Class I areas on the 20% worst days in 2002. NO_3 due to Arkansas point sources contributes 0.36 Mm^{-1} at Caney Creek and 0.18 Mm^{-1} at Upper Buffalo, or approximately 17% of the light extinction attributed to NO_3 from all Arkansas sources at each Class I area. EC from Arkansas sources contributes approximately 1% and soil from Arkansas sources contributes approximately 0.2% to the total light extinction at Caney Creek and Upper Buffalo on the 20% worst days in 2002. CM from Arkansas sources, primarily area sources, contribute approximately 1 and 2% of total light extinction at Caney Creek and Upper Buffalo, respectively.

The PSAT results show that area sources are projected to continue having a larger impact on visibility extinction than point sources at Caney Creek and Upper Buffalo when only considering sources located in Arkansas on the 20% worst days in 2018. For example, Arkansas area sources are projected to contribute 4.84 Mm^{-1} at Caney Creek, or approximately 43% of the light extinction attributed to Arkansas sources at Caney Creek, and approximately 6% of the total light extinction at that Class I area on the 20% worst days in 2018. Arkansas area sources are also projected to contribute 6.52 Mm^{-1} at Upper Buffalo, or approximately 54% of the light extinction attributed to Arkansas sources at Upper Buffalo, and approximately 8% of the total light extinction at that Class I area on the 20% worst days in 2018. By comparison, Arkansas point sources are projected to contribute 4.05 Mm^{-1} at Caney Creek and 3.63 Mm^{-1} at Upper Buffalo, or approximately 36% of the light extinction attributed to Arkansas sources at Caney Creek and approximately 30% of the light extinction attributed to Arkansas sources at Upper Buffalo. Other source categories in Arkansas are projected to contribute between 2% and 9% each to light extinction from Arkansas sources at Arkansas Class I areas on the 20% worst days in 2018.

The PSAT results also show that light extinction attributed to Arkansas NO_3 sources is projected to decrease by 62% at Caney Creek and 41% at Upper Buffalo on the 20% worst days in 2018, largely due to a decrease in light extinction attributed to NO_3 from Arkansas on-road sources. Overall light extinction due to SO_4 from Arkansas sources (all source categories combined) is projected to decrease at Arkansas Class I areas. However, light extinction due to SO_4 from point sources located in Arkansas is projected to increase by 4% at Caney Creek and 5% at Upper Buffalo on the 20% worst days in 2018. Arkansas' 2017 Regional Haze SIP revision states that even so, the contribution to total light extinction of SO_4 from Arkansas point sources remains relatively small- 3% of total light extinction at each Arkansas Class I area.

3. Arkansas' Conclusions Regarding Key Pollutants and Source Category Contributions

Arkansas asserts that when only sources located in Arkansas are considered, light extinction due to area sources (all pollutant species considered) is greater compared to point sources for both Caney Creek and Upper Buffalo on the 20% worst days both in 2002 and in 2018. Even though area sources contribute a larger proportion of the total light extinction compared to other source categories when only Arkansas sources are considered, Arkansas asserts that the cost-effectiveness of controlling many individual small area sources is difficult to quantify. Therefore, Arkansas did not evaluate area sources for controls under reasonable progress.

Arkansas also asserts that the region-wide PSAT data indicate that the relative regional contribution of SO_4 to light extinction at Arkansas Class I areas is much higher than that of other pollutants on the 20% worst days. However, the PSAT results for Arkansas sources show that the relative contribution to light extinction of the various species due to Arkansas sources is not as

weighted toward SO_4 compared to the region-wide contribution results. Nevertheless, SO_4 is still the species with the largest contribution to light extinction at Caney Creek and Upper Buffalo on the 20% worst days in both the regional contribution results and the Arkansas source contribution results. After examination of both region-wide PSAT data and data for Arkansas sources, Arkansas identifies SO_4 as the key species contributing to light extinction at Caney Creek and Upper Buffalo. Since the primary driver of SO_4 formation is emissions of SO_2 from point sources when looking at both the regional PSAT data and the data for Arkansas sources, Arkansas states it will evaluate in a subsequent SIP revision 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.

Arkansas also asserts that only a very small proportion of total light extinction is due to NO_3 from Arkansas sources and that this proportion has historically been driven by on-road sources, which are regulated by national vehicle emission standards. Arkansas points out that the PSAT data show that NO_3 from Arkansas point sources contributes less than 0.5% of the total light extinction at Caney Creek and Upper Buffalo on the 20% worst days in 2002, and that this contribution is expected to decrease on the 20% worst days in 2018. Arkansas asserts that the level of visibility impairment due to NO_3 from Arkansas point sources is miniscule, and that the state therefore does not anticipate that additional NO_X controls on Arkansas point sources would yield meaningful visibility improvements at Arkansas Class I areas. Additionally, Arkansas points out that Arkansas EGUs with a nameplate capacity of 25 megawatts (MW) or greater participate in the CSAPR ozone season NO_X emissions trading program. Arkansas notes that the Independence facility's EGUs participate in CSAPR for ozone season NO_X and also that the EPA promulgated NO_X controls for this facility in the Arkansas Regional Haze FIP to ensure

reasonable progress toward improving visibility. Arkansas makes the determination that because of the small impact at Arkansas Class I areas due to NO_3 from Arkansas sources, participation of Arkansas EGUs in CSAPR for ozone season NO_X satisfies the reasonable progress requirements for NO_X for sources in Arkansas.

Further, Arkansas states that the 2018 CSAPR trading program ozone season allocations for Arkansas EGUs add up to 3,708 NO_X tons less than the 2016 ozone season NO_X emissions from Arkansas EGUs.[30] Arkansas also states that it anticipates that some EGUs will choose to install combustion controls to comply with CSAPR that would achieve emissions reductions year-round, not just in the ozone season. Therefore, Arkansas anticipates that the total annual NO_X reductions associated with compliance with the 2018 CSAPR ozone season trading program would be greater than 3,708 NO_X tons.

4. Our Evaluation of Arkansas' Analysis

We agree with Arkansas' assertion that when only sources located in Arkansas are considered, light extinction due to area sources (all pollutant species considered) is greater compared to that of point sources for both Caney Creek and Upper Buffalo on the 20% worst days in 2002. In particular, light extinction due to Arkansas areas sources (all pollutant species considered) was 5.03 Mm^{-1} out of total light extinction of 115.87 Mm^{-1} at Caney Creek and 6.72 Mm^{-1} out of total light extinction of 115 Mm^{-1} at Upper Buffalo. By comparison, light extinction due to Arkansas point sources (all pollutant species considered) was 3.85 Mm^{-1} out of total light extinction of 115.87 Mm^{-1} at Caney Creek and 3.25 Mm^{-1} out of total light extinction of 115 Mm^{-1} at Upper Buffalo. We also agree that the cost of controlling many individual small area sources may be difficult to quantify, and we are therefore proposing to find that it is acceptable

[30] See Appendix A of Arkansas' 2017 Regional Haze SIP submittal, which can be found in the docket associated with this proposed rulemaking.

for Arkansas to choose not to evaluate area sources for controls under reasonable progress in this implementation period. This is consistent with EPA's decision not to conduct a four factor analysis of area sources under reasonable progress in this implementation period in the Arkansas Regional Haze FIP.[31]

We agree with Arkansas that the PSAT results for Arkansas sources show that the relative contribution to light extinction of SO_4 on the 20% worst days at Arkansas Class I areas is not as great compared to the regional contribution results. However, SO_4 is still the species with the largest contribution to light extinction at Caney Creek and Upper Buffalo on the 20% worst days in both the regional data and the Arkansas source data. Therefore, we agree with Arkansas' identification of SO_4 as the key species contributing to light extinction at Caney Creek and Upper Buffalo on the 20% worst days. This is consistent with our finding in the Arkansas Regional Haze FIP that the CENRAP's CAMx modeling shows that SO_4 from point sources is the driver of regional haze at Caney Creek and Upper Buffalo on the 20% worst days in both 2002 and 2018.[32]

With regard to NO_X, we also accept Arkansas' assertion that a very small proportion of total light extinction is due to NO_3 from Arkansas sources and that this is driven by on-road sources. Because on-road sources are primarily regulated by national vehicle emission standards. we are proposing to find that it is reasonable for Arkansas to choose not to evaluate on-road sources for additional NO_X control measures to address visibility impairment in this

[31] In the FIP we explained that the CENRAP CAMx modeling with PSAT showed that point sources are responsible for a majority of the light extinction at Arkansas Class I areas on the 20% worst days in 2002 (this is taking into account all pollutant species and sources both in and outside Arkansas). We reasoned that since other source types (*i.e.*, natural, on-road, non-road, and area) each contributed a much smaller proportion of the total light extinction at each Class I area, it was appropriate to focus only on point sources in our reasonable progress analysis for this implementation period. See 80 FR 18944 and 81 FR 66332 at 66336. See also the "Arkansas Regional Haze FIP Response to Comments (RTC) Document," pages 71-99.

[32] 80 FR 18996.

implementation period. This is consistent with EPA's decision not to conduct a four factor analysis of on-road mobile sources under reasonable progress in this implementation period in the Arkansas Regional Haze FIP.[33]

Arkansas points out that the PSAT data show that NO_3 from Arkansas point sources contributes less than 0.5% of the total light extinction at Caney Creek and Upper Buffalo on the 20% worst days in 2002, and that this contribution is expected to decrease on the 20% worst days in 2018. NO_3 from Arkansas point sources contributes 0.36 Mm^{-1} out of a total light extinction of 115.87 Mm^{-1} at Caney Creek and 0.18 Mm^{-1} out of a total light extinction of 115 Mm^{-1} at Upper Buffalo on the 20% worst days in 2002. Arkansas considers this level of visibility impairment due to NO_3 from Arkansas point sources to be miniscule. Although the 2017 Regional Haze SIP revision does not provide a discussion of data from the existing visibility monitoring network, the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network, we looked at recent IMPROVE monitor data to determine the level of contribution from NO_3 to the monitored light extinction at Caney Creek and Upper Buffalo. The monitor data show that for the 20% most impaired days in 2013 – 2015, the average contribution of NO_3 to total extinction (including Rayleigh) was approximately 9.43 Mm^{-1} out of a total average light extinction of 69.13 Mm^{-1} at Caney Creek and 15.25 Mm^{-1} out of a total average light extinction of 66.37 Mm^{-1} at Upper Buffalo. In terms of percent contribution, the average contribution of NO_3 to total light extinction was approximately 14% at Caney Creek and 23% at Upper Buffalo.[34] This consists of NO_3 from all source categories (i.e., point, area, on-road, non-road, and natural) and from all sources, rather than just Arkansas sources. By comparison, the monitor data show that the

[33] See 80 FR 18944 and 81 FR 66332 at 66336. See also the "Arkansas Regional Haze FIP RTC Document," pages 71-99.
[34] See Excel spreadsheet titled "Nitrate_percentage_extinction_CACR_UPBU.xlsx." This spreadsheet is found in the docket associated with this proposed rulemaking.

average contribution of SO_4 to total extinction was approximately 34.21 Mm^{-1} out of a total average light extinction of 69.13 Mm^{-1} at Caney Creek and 28.19 Mm^{-1} out of a total average light extinction of 66.37 Mm^{-1} at Upper Buffalo. In terms of percent contribution, the average contribution of SO_4 to total light extinction was approximately 50% at Caney Creek and 43% at Upper Buffalo on the 20% most impaired days in 2013 – 2015. Based on the CENRAP PSAT data discussed above, we expect that a large proportion of NO_3 from Arkansas sources is likely due to on-road sources and that the average percentage contribution of NO_3 from Arkansas point sources at Arkansas Class I areas is considerably smaller than 14% at Caney Creek and 23% at Upper Buffalo. Taking into consideration that states have significant discretion in determining what sources to analyze for controls under reasonable progress, we are proposing to find that it is reasonable for Arkansas to reach the conclusion that, for the first implementation period, additional NO_X controls for Arkansas point sources are not anticipated to yield meaningful visibility improvements at Arkansas Class I areas in view of the amount of visibility impairment attributed to these sources.

Arkansas' conclusions with regard to the percentage contribution to light extinction from NO_3 on the 20% worst days is generally consistent with the findings we made in the Arkansas Regional Haze FIP.[35] In the FIP, we made the finding that NO_3 from point sources is not considered a driver of regional haze at Caney Creek and Upper Buffalo on the 20% worst days, contributing only approximately 3% of the total light extinction, as projected by CENRAP's CAMx source apportionment modeling.[36] We also stated in the FIP proposal that because of the small contribution of NO_3 from point sources to the total light extinction at Caney Creek and Upper Buffalo on the most impaired days, we did not expect that NO_X controls under the

[35] 81 FR 66332; *see also* 81 FR 68319 (October 4, 2016) (correction).
[36] 80 FR 18996.

reasonable progress requirements would offer as much improvement on the most impaired days compared to SO_2 controls.[37] However, in the FIP, we decided to look at 2011 National Emissions Inventory (NEI) data for NO_X for Arkansas point sources to determine if there are any large point sources that are reasonable candidates for evaluation under the four reasonable progress factors. Based on this assessment, we proceeded with an analysis of the four reasonable progress factors for NO_X controls for the Independence facility as we reasoned that it is the second largest point source of NO_X emissions in the state and potentially one of the largest single contributors to visibility impairment at Class I areas in Arkansas.[38] We also conducted CALPUFF modeling to determine the maximum 98th percentile visibility impacts from the Independence facility and the predicted visibility improvement due to NO_X controls at the facility. That analysis revealed that low NO_X burner controls would be very cost-effective and would result in an improvement of the 98th percentile visibility impacts from the Independence facility at Caney Creek and Upper Buffalo, and we finalized NO_X controls for the Independence facility under the reasonable progress requirements.[39]

In the July 2017 Regional Haze SIP revision, Arkansas takes a different, but nonetheless equally reasonable, approach to determine whether additional controls are necessary under reasonable progress. In its evaluation, Arkansas places greater emphasis on the relative contributions of sources within Arkansas to light extinction at Caney Creek and Upper Buffalo rather than the relative contributions of all sources both in and outside Arkansas. Arkansas also focuses its assessment on the CENRAP's CAMx source apportionment modeling rather than conducting or relying on CALPUFF modeling, and reaches the conclusion that, for the first

[37] 80 FR 18996.
[38] 80 FR 18995.
[39] 81 FR 66332.

implementation period, additional NO_X controls for Arkansas point sources are not anticipated to yield meaningful visibility improvements at Arkansas Class I areas on the 20% worst days in view of the amount of visibility impairment attributed to these sources. Additionally, Arkansas points out that the Independence facility and other EGUs in Arkansas with a nameplate capacity of 25 MW or greater are participating in CSAPR for ozone season NO_X.[40] Thus, NO_X emissions from Independence and other Arkansas sources will be addressed under reasonable progress through EGU participation in the CSAPR ozone season NO_X trading program. We believe that Arkansas is within its discretion to take the approach of focusing on the CENRAP's CAMx source apportionment modeling to help inform its decision regarding whether NO_X controls under reasonable progress are warranted. Given the relatively small level of visibility impairment due to NO_{X3} from Arkansas point sources at Caney Creek and Upper Buffalo on the 20% worst days and considering that Arkansas EGUs are participating in CSAPR for ozone season NO_X, we are proposing to find that Arkansas' decision to screen out Arkansas point sources from further evaluation of additional NO_X controls is reasonable and we are proposing to approve Arkansas' determination that Arkansas EGU participation in CSAPR for ozone season NO_X is sufficient to satisfy the reasonable progress requirements for NO_X in Arkansas for the first implementation period. We find that Arkansas has addressed our concerns presented in our final partial disapproval[41] of the 2008 Regional Haze SIP revision with respect to reasonable progress for NO_X by providing additional analysis that shows that NO_X emissions are not the driver of regional haze on the 20% worst days in Arkansas Class I areas and that further analysis of additional NO_X controls for Arkansas sources under reasonable progress is therefore not

[40] 81 FR 74504.
[41] 77 FR 14604.

warranted for the first implementation period considering that NO_X emissions from Arkansas EGUs are addressed through participation in the CSAPR ozone season NO_X trading program.

C. Required Consultation

The Regional Haze Rule requires states to provide the designated Federal Land Managers (FLMs) with an opportunity for consultation at least 60 days prior to holding any public hearing on a SIP revision for regional haze for the first implementation period.[42] Arkansas sent letters to the FLMs on June 14, 2017, providing notification of the proposed SIP revision and providing electronic access to the draft SIP revision and related documents.[43] The Regional Haze Rule at section 51.308(d)(3)(i) also provides that if a state has emissions that are reasonably anticipated to contribute to visibility impairment in a Class I area located in another state, the state must consult with the other state(s) in order to develop coordinated emission management strategies. Since Missouri has two Class I areas impacted by Arkansas sources, Arkansas sent a letter to the Missouri Department of Natural Resources (MDNR) on June 14, 2017, providing notification of the proposed SIP revision and providing electronic access to the draft SIP revision and related documents.[44] Arkansas stated it will consider and respond to any comments received from the FLMs and from the MDNR on the proposed SIP revision before finalizing and submitting the final SIP revision to EPA.

[42]On January 10, 2017, the EPA revised the Regional Haze Rule, including the FLM consultation requirements at 40 CFR section 51.308(i)(2). See 82 FR 3078. However, these revisions to the Regional Haze Rule are intended to address requirements for the second implementation period rather than the first implementation period; Arkansas' 2017 Regional Haze SIP revision addresses regional haze requirements for the first implementation period. For the first implementation period, the Regional Haze Rule required states to provide the FLMs with an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on an implementation plan (or plan revision) for regional haze. See 64 FR 35714, at 35769.

[43] See Tab D of the 2017 Arkansas Regional Haze SIP revision, which can be found in the docket associated with this rulemaking.

[44] See Tab D of the 2017 Arkansas Regional Haze SIP revision, which can be found in the docket associated with this rulemaking.

We are proposing to find that Arkansas has provided an opportunity for consultation to the FLMs and to the MDNR on the proposed SIP revision, as required under section 51.308(i)(2) and 51.308(d)(3)(i). Our final determination with respect to Arkansas' satisfaction of the consultation requirements under the Regional Haze Rule will be contingent upon Arkansas' appropriate consideration and responses to comments from the FLMs and the MDNR in the final SIP submission.

III. Proposed Action

A. Arkansas' Proposed Regional Haze SIP Revision

The EPA has made the preliminary determination that the July 12, 2017 proposed revisions to the Arkansas Regional Haze SIP and the request by the State for parallel processing are in accordance with the CAA and consistent with the CAA and the EPA's rule on regional haze. Therefore, the EPA proposes to approve the following revisions to the Arkansas Regional Haze SIP that were proposed for adoption on July 8, 2017 and submitted for parallel processing on July 12, 2017: the NO_X BART requirements for Bailey Unit 1; McClellan Unit 1; Flint Creek Boiler No. 1; Lake Catherine Unit 4; and White Bluff Units 1 and 2 and the Auxiliary Boiler, will be satisfied by participation in CSAPR. We cannot finalize today's proposed SIP approval until we finalize the November 10, 2016 proposed finding that CSAPR continues to be better than BART[45] or otherwise determine that participation in CSAPR remains a viable BART alternative because such a determination provides the basis for Arkansas to rely on CSAPR participation as an alternative to source specific EGU BART for NO_X. Given the relatively small level of visibility impairment due to NO_3 from Arkansas point sources at Caney Creek and Upper

[45] 81 FR 78954.

Buffalo and considering that Arkansas EGUs are participating in CSAPR for ozone season NO_X, we are proposing to find that Arkansas' decision not to conduct further analysis of additional NO_X controls for Arkansas sources is reasonable and we are proposing to approve Arkansas' determination that Arkansas EGU participation in CSAPR for ozone season NO_X is sufficient to satisfy the reasonable progress requirements for NO_X in Arkansas for the first implementation period.

The EPA is proposing this action in parallel with the state's rulemaking process. We cannot take a final action until the state completes its rulemaking process, adopts its final regulations, and submits these final adopted regulations as a revision to the Arkansas SIP. If during the response to comments process, the final SIP revision is changed significantly from the proposed SIP revision upon which the EPA proposed, the EPA may have to withdraw our initial proposed rule and re-propose based on the final SIP submittal.

B. Partial FIP Withdrawal

We are proposing to withdraw those portions of the Arkansas Regional Haze FIP at 40 CFR § 52.173 that impose NO_X requirements on Bailey Unit 1; McClellan Unit 1; Flint Creek Boiler No. 1; Lake Catherine Unit 4; White Bluff Units 1 and 2 and the Auxiliary Boiler; and Independence Units 1 and 2.[46] We are proposing that these portions of the FIP will be replaced by the July 2017 Regional Haze SIP revision that we are proposing to approve in this action.

C. Clean Air Act Section 110(l)

[46] The proposed amendatory language for this proposed revision of the earlier promulgated FIP is set forth at the end of this proposal. If the action is finalized as proposed, the final action will also present additional amendatory language reflecting our approval of the submitted SIP revision.

Section 110(l) of the CAA states that "[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."[47] EPA does not interpret section 110(l) to require a full attainment or maintenance demonstration before any changes to a SIP may be approved. Generally, a SIP revision may be approved under section 110(l) if EPA finds that it will at least preserve status quo air quality, particularly where the pollutants at issue are those for which an area has not been designated nonattainment.

We do not believe an approval of the 2017 Regional Haze SIP revision, as proposed, will interfere with CAA requirements for BART or reasonable progress because all areas in the state are designated as attainment for all NAAQS, and our proposal is supported by an evaluation that those CAA requirements are met. The SIP replaces federal determinations for source specific NO_X emission limits for BART EGUs in Arkansas. Following promulgation of the FIP, EPA finalized an update to the CSAPR rule on October 26, 2016, that addresses the 1997 ozone NAAQS portion of the remand and the CAA requirements addressing interstate transport for the 2008 ozone NAAQS.[48] On November 10, 2016, EPA proposed a rule intended to address the remainder of the court's remand, which also included an assessment of the impacts of the set of actions that the EPA has taken or expects to take in response to the D.C. Circuit's remand on our 2012 demonstration that participation in CSAPR provides for greater reasonable progress than BART.[49] Based on that assessment, the EPA proposed in the November 10, 2016 action that states may continue to rely on CSAPR as being better than BART on a pollutant-specific basis. As such, Arkansas now has the option to propose to rely on compliance with CSAPR to satisfy

[47] 42 U.S.C. 7410(l).
[48] 81 FR74504.
[49] 81 FR 78954.

the NO_X BART requirement for EGUs. Finalization of EPA's November 10, 2016, proposed finding that CSAPR continues to be better than BART[50] or EPA otherwise determining that CSAPR remains a viable BART alternative will provide the basis for Arkansas to rely on CSAPR participation as an alternative to source specific EGU BART for NO_X.

With regard to reasonable progress, Arkansas has provided an analysis of anthropogenic sources of visibility impairment and arrived at the determination that Arkansas EGU participation in CSAPR for ozone season NO_X is sufficient to satisfy the reasonable progress requirements for NO_X in Arkansas for the first implementation period. The Independence facility, on which the FIP imposed NO_X controls under the reasonable progress requirements, is subject to CSAPR for ozone season NO_X. Even though we are withdrawing the source-specific NO_X controls in the FIP for the Independence facility, its NO_X emissions will still be addressed under the reasonable progress requirements through participation in the CSAPR ozone season NO_X emissions trading program.

We also believe that approval of the submitted SIP revision will not interfere with attainment and maintenance of the NAAQS within the state of Arkansas. No areas in Arkansas are currently designated nonattainment for any NAAQS pollutants. The SIP revision we are proposing to approve would allow Arkansas to rely on compliance with CSAPR to satisfy the NO_X BART requirement for Arkansas EGUs as well as the reasonable progress requirements for NO_X. Additionally, the CSAPR 2018 NO_X ozone season allocations for Arkansas sources are more stringent than the 2017 allocations. As all areas are attaining the NAAQS even with current emissions levels, reductions in those levels as a result of compliance with the 2018 NO_X ozone season allocations will not interfere with attainment. Therefore, we do not deem this to be an

[50] 81 FR 78954.

instance where a full attainment or maintenance demonstration is needed to bolster our determination that approval of the submitted SIP revision would not interfere with attainment and maintenance of the NAAQS. We are not aware of any basis for concluding or demonstrating that Arkansas' July 2017 Regional Haze SIP revision, when implemented, would interfere with the maintenance of the NAAQS in Arkansas.

IV. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);

- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because this action does not involve technical standards; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Air pollution control, Best available retrofit technology, Environmental protection, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Regional haze, Reporting and recordkeeping requirements, Visibility.

Dated: August 29, 2017.

Samuel Coleman,
Acting Regional Administrator, Region 6.

Title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows:

PART 52–APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

Subpart E–-Arkansas

2. Section 52.173 is amended by:

a. Revising paragraphs (c)(3) through (10) and (c)(12)

b. Removing paragraphs (c)(13) and (14)

c. Redesignating paragraphs (c)(15) through (29) as paragraphs (c)(13) through (27) and

d. Revising redesignated paragraphs (c)(14), (15), (17), (18), (20), (21), (22), (23) and (24)

Revisions to read as follows:

§52.173 Visibility protection.

* * * * *

(c) * * *

(3) *Emissions limitations for AECC Bailey Unit 1 and AECC McClellan Unit 1.* The individual SO_2 and PM emission limits for each unit are as listed in the following table.

Unit	SO_2 Emission Limit	PM Emission Limit
AECC Bailey Unit 1	Use of fuel with a sulfur content limit of 0.5% by weight.	Use of fuel with a sulfur content limit of 0.5% by weight.
AECC McClellan Unit 1	Use of fuel with a sulfur content limit of 0.5% by weight.	Use of fuel with a sulfur content limit of 0.5% by weight.

(4) *Compliance dates for AECC Bailey Unit 1 and AECC McClellan Unit.* The owner or operator of each unit must comply with the SO_2 and PM requirements listed in paragraph (c)(3)

of this section by October 27, 2021. As of October 27, 2016, the owner or operator of each unit shall not purchase fuel for combustion at the unit that does not meet the sulfur content limit in paragraph (c)(3) of this section. The owner or operator of each unit must comply with the requirement in paragraph (c)(3) of this section to burn only fuel with a sulfur content limit of 0.5% by weight by October 27, 2021.

(5) *Compliance determination and reporting and recordkeeping requirements for AECC Bailey Unit 1 and AECC McClellan Unit for SO_2 and PM.* To determine compliance with the SO_2 and PM requirements listed in paragraph (c)(3) of this section, the owner or operator shall sample and analyze each shipment of fuel to determine the sulfur content by weight, except for natural gas shipments. A "shipment" is considered delivery of the entire amount of each order of fuel purchased. Fuel sampling and analysis may be performed by the owner or operator of an affected unit, an outside laboratory, or a fuel supplier. All records pertaining to the sampling of each shipment of fuel as described above, including the results of the sulfur content analysis, must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives.

(6) *Emissions limitations for AEP Flint Creek Unit 1 and Entergy White Bluff Units 1 and 2.* The individual SO_2 emission limits for each unit are as listed in the following table, as specified in pounds per million British thermal units (lb/MMBtu). The SO_2 emission limits of 0.06 lb/MMBtu are on a rolling 30 boiler-operating-day averaging period.

Unit	SO_2 Emission Limit (lb/MMBtu)
AEP Flint Creek Unit 1	0.06
Entergy White Bluff Unit 1	0.06
Entergy White Bluff Unit 2	0.06

(7) *Compliance dates for AEP Flint Creek Unit 1 and Entergy White Bluff Units 1 and 2.* The owner or operator of AEP Flint Creek Unit 1 must comply with the SO_2 emission limit listed in paragraph (c)(6) of this section by April 27, 2018. The owner or operator of White Bluff Units 1 and 2 must comply with the SO_2 emission limit listed in paragraph (c)(6) of this section by October 27, 2021.

(8) *Compliance determination and reporting and recordkeeping requirements for AEP Flint Creek Unit 1 and Entergy White Bluff Units 1 and 2.* (i) For purposes of determining compliance with the SO_2 emission limit listed in paragraph (c)(6) of this section for AEP Flint Creek Unit 1 and with the SO_2 emission limits listed in paragraph (c)(6) of this section for White Bluff Units 1 and 2, the emissions for each boiler-operating-day for each unit shall be determined by summing the hourly emissions measured in pounds of SO_2. For each unit, heat input for each boiler-operating-day shall be determined by adding together all hourly heat inputs, in millions of BTU. Each boiler-operating-day of the 30-day rolling average for a unit shall be determined by adding together the pounds of SO_2 from that day and the preceding 29 boiler-operating-days and dividing the total pounds of SO_2 by the sum of the heat input during the same 30 boiler-operating-day period. The result shall be the 30 boiler-operating-day rolling average in terms of lb/MMBtu emissions of SO_2. If a valid SO_2 pounds per hour or heat input is not available for any hour for a unit, that heat input and SO_2 pounds per hour shall not be used in the calculation of the 30 boiler-operating-day rolling average for SO_2. For each day, records of the total SO_2 emitted that day by each emission unit and the sum of the hourly heat inputs for that day must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the 30 boiler-operating-day rolling average for SO_2 for each unit as

described above must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives.

(ii) The owner or operator shall continue to maintain and operate a CEMS for SO_2 on the units listed in paragraph (c)(6) of this section in accordance with 40 CFR 60.8 and 60.13(e), (f), and (h), and appendix B of part 60. The owner or operator shall comply with the quality assurance procedures for CEMS found in 40 CFR part 75. Compliance with the emission limits for SO_2 shall be determined by using data from a CEMS.

(iii) Continuous emissions monitoring shall apply during all periods of operation of the units listed in paragraph (c)(6) of this section, including periods of startup, shutdown, and malfunction, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments. Continuous monitoring systems for measuring SO_2 and diluent gas shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Hourly averages shall be computed using at least one data point in each fifteen-minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality assurance, preventive maintenance activities, or backups of data from data acquisition and handling system, and recertification events. When valid SO_2 pounds per hour emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained by using other monitoring systems approved by the EPA to provide emission data for a minimum of 18 hours in each 24-hour period and at least 22 out of 30 successive boiler operating days.

(9) *Emissions limitations for Entergy White Bluff Auxiliary Boiler.* The individual SO_2 and PM emission limits for the unit are as listed in the following table in pounds per hour (lb/hr).

Unit	SO_2 Emission limit (lb/hr)	PM Emission limit (lb/hr)
Entergy White Bluff Auxiliary Boiler	105.2	4.5

(10) *Compliance dates for Entergy White Bluff Auxiliary Boiler.* The owner or operator of the unit must comply with the SO_2 and PM emission limits listed in paragraph (c)(9) of this section by October 27, 2016.

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(12) *Emissions limitations for Entergy Lake Catherine Unit 4.* The unit must not burn fuel oil until BART determinations are promulgated for the unit for SO_2 and PM for the fuel oil firing scenario through a FIP and/or through EPA action upon and approval of revised BART determinations submitted by the State as a SIP revision.

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(14) *Compliance dates for Domtar Ashdown Mill Power Boiler No. 1.* The owner or operator of the boiler must comply with the SO_2 and NO_X emission limits listed in paragraph (c)(13) of this section by November 28, 2016.

(15) *Compliance determination and reporting and recordkeeping requirements for Domtar Ashdown Paper Mill Power Boiler No. 1.* (i)(A) SO_2 emissions resulting from combustion of fuel oil shall be determined by assuming that the SO_2 content of the fuel delivered to the fuel inlet of the combustion chamber is equal to the SO_2 being emitted at the stack. The owner or operator must maintain records of the sulfur content by weight of each fuel oil shipment, where a "shipment" is considered delivery of the entire amount of each order of fuel

purchased. Fuel sampling and analysis may be performed by the owner or operator, an outside laboratory, or a fuel supplier. All records pertaining to the sampling of each shipment of fuel oil, including the results of the sulfur content analysis, must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. SO_2 emissions resulting from combustion of bark shall be determined by using the following site-specific curve equation, which accounts for the SO_2 scrubbing capabilities of bark combustion:

$$Y= 0.4005 * X – 0.2645$$

Where:

Y= pounds of sulfur emitted per ton of dry fuel feed to the boiler

X= pounds of sulfur input per ton of dry bark

(B) The owner or operator must confirm the site-specific curve equation through stack testing. By October 27, 2017, the owner or operator must provide a report to EPA showing confirmation of the site specific-curve equation accuracy. Records of the quantity of fuel input to the boiler for each fuel type for each day must be compiled no later than 15 days after the end of the month and must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Each boiler-operating-day of the 30-day rolling average for the boiler must be determined by adding together the pounds of SO_2 from that boiler-operating-day and the preceding 29 boiler-operating-days and dividing the total pounds of SO_2 by the sum of the total number of boiler operating days (i.e., 30). The result shall be the 30 boiler-operating-day rolling average in terms of lb/day emissions of SO_2. Records of the total SO_2 emitted for each day must be compiled no later than 15 days after the end of the month and must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the 30 boiler-operating-day rolling averages for SO_2 as described in

this paragraph (c)(15)(i) must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives.

(ii) If the air permit is revised such that Power Boiler No. 1 is permitted to burn only pipeline quality natural gas, this is sufficient to demonstrate that the boiler is complying with the SO_2 emission limit under paragraph (c)(13) of this section. The compliance determination requirements and the reporting and recordkeeping requirements under paragraph (c)(15)(i) of this section would not apply and confirmation of the accuracy of the site-specific curve equation under paragraph (c)(15)(i)(B) of this section through stack testing would not be required so long as Power Boiler No. 1 is only permitted to burn pipeline quality natural gas.

(iii) To demonstrate compliance with the NO_X emission limit under paragraph (c)(13) of this section, the owner or operator shall conduct stack testing using EPA Reference Method 7E once every 5 years, beginning 1 year from the effective date of our final rule. Records and reports pertaining to the stack testing must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives.

(iv) If the air permit is revised such that Power Boiler No. 1 is permitted to burn only pipeline quality natural gas, the owner or operator may demonstrate compliance with the NO_X emission limit under paragraph (c)(13) of this section by calculating NO_X emissions using fuel usage records and the applicable NO_X emission factor under AP-42, Compilation of Air Pollutant Emission Factors, section 1.4, Table 1.4-1. Records of the quantity of natural gas input to the boiler for each day must be compiled no later than 15 days after the end of the month and must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the calculation of NO_X emissions for each day must be compiled no later than 15 days after the end of the month and must be maintained by the owner or operator

and made available upon request to EPA and ADEQ representatives. Each boiler-operating-day of the 30-day rolling average for the boiler must be determined by adding together the pounds of NO_X from that day and the preceding 29 boiler-operating-days and dividing the total pounds of NO_X by the sum of the total number of hours during the same 30 boiler-operating-day period. The result shall be the 30 boiler-operating-day rolling average in terms of lb/hr emissions of NO_X. Records of the 30 boiler-operating-day rolling average for NO_X must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives. Under these circumstances, the compliance determination requirements and the reporting and recordkeeping requirements under paragraph (c)(15)(iii) of this section would not apply.

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(17) *SO_2 and NO_X Compliance dates for Domtar Ashdown Mill Power Boiler No. 2.* The owner or operator of the boiler must comply with the SO_2 and NO_X emission limits listed in paragraph (c)(16) of this section by October 27, 2021.

(18) *SO_2 and NO_X Compliance determination and reporting and recordkeeping requirements for Domtar Ashdown Mill Power Boiler No. 2.* (i) NO_X and SO_2 emissions for each day shall be determined by summing the hourly emissions measured in pounds of NO_X or pounds of SO_2. Each boiler-operating-day of the 30-day rolling average for the boiler shall be determined by adding together the pounds of NO_X or SO_2 from that day and the preceding 29 boiler-operating-days and dividing the total pounds of NO_X or SO_2 by the sum of the total number of hours during the same 30 boiler-operating-day period. The result shall be the 30 boiler-operating-day rolling average in terms of lb/hr emissions of NO_X or SO_2. If a valid NO_X pounds per hour or SO_2 pounds per hour is not available for any hour for the boiler, that NO_X

pounds per hour shall not be used in the calculation of the 30 boiler-operating-day rolling average for NO_X. For each day, records of the total SO_2 and NO_X emitted for that day by the boiler must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the 30 boiler-operating-day rolling average for SO_2 and NO_X for the boiler as described above must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives.

(ii) The owner or operator shall continue to maintain and operate a CEMS for SO_2 and NO_X on the boiler listed in paragraph (c)(16) of this section in accordance with 40 CFR 60.8 and 60.13(e), (f), and (h), and appendix B of part 60. The owner or operator shall comply with the quality assurance procedures for CEMS found in 40 CFR part 60. Compliance with the emission limits for SO_2 and NO_X shall be determined by using data from a CEMS.

(iii) Continuous emissions monitoring shall apply during all periods of operation of the boiler listed in paragraph (c)(16) of this section, including periods of startup, shutdown, and malfunction, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments. Continuous monitoring systems for measuring SO_2 and NO_X and diluent gas shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Hourly averages shall be computed using at least one data point in each fifteen-minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality assurance, preventive maintenance activities, or backups of data from data acquisition and handling system, and recertification events. When valid SO_2 or NO_X pounds per hour emission data are not obtained because of continuous monitoring system

breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained by using other monitoring systems approved by the EPA to provide emission data for a minimum of 18 hours in each 24-hour period and at least 22 out of 30 successive boiler operating days.

(iv) If the air permit is revised such that Power Boiler No. 2 is permitted to burn only pipeline quality natural gas, this is sufficient to demonstrate that the boiler is complying with the SO_2 emission limit under paragraph (c)(16) of this section. Under these circumstances, the compliance determination requirements under paragraphs (c)(18)(i) through (iii) of this section would not apply to the SO_2 emission limit listed in paragraph (c)(16) of this section.

(v) If the air permit is revised such that Power Boiler No. 2 is permitted to burn only pipeline quality natural gas and the operation of the CEMS is not required under other applicable requirements, the owner or operator may demonstrate compliance with the NO_X emission limit under paragraph (c)(16) of this section by calculating NO_X emissions using fuel usage records and the applicable NO_X emission factor under AP-42, Compilation of Air Pollutant Emission Factors, section 1.4, Table 1.4-1. Records of the quantity of natural gas input to the boiler for each day must be compiled no later than 15 days after the end of the month and must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the calculation of NO_X emissions for each day must be compiled no later than 15 days after the end of the month and must be maintained and made available upon request to EPA and ADEQ representatives. Each boiler-operating-day of the 30-day rolling average for the boiler must be determined by adding together the pounds of NO_X from that day and the preceding 29 boiler-operating-days and dividing the total pounds of NO_X by the sum of the total number of hours during the same 30 boiler-operating-day period. The result shall be the

30 boiler-operating-day rolling average in terms of lb/hr emissions of NO_X. Records of the 30 boiler-operating-day rolling average for NO_X must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives. Under these circumstances, the compliance determination requirements under paragraphs (c)(18)(i) through (iii) of this section would not apply to the NO_X emission limit.

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(20) *PM compliance dates for Domtar Ashdown Mill Power Boiler No. 2.* The owner or operator of the boiler must comply with the PM BART requirement listed in paragraph (c)(19) of this section by November 28, 2016.

(21) Alternative *PM Compliance Determination for Domtar Ashdown Paper Mill Power Boiler No.2.* If the air permit is revised such that Power Boiler No. 2 is permitted to burn only pipeline quality natural gas, this is sufficient to demonstrate that the boiler is complying with the PM BART requirement under paragraph (c)(19) of this section.

(22) *Emissions limitations for Entergy Independence Units 1 and 2.* The individual emission limits for each unit are as listed in the following table in pounds per million British thermal units (lb/MMBtu). The SO_2 emission limits listed in the table as lb/MMBtu are on a rolling 30 boiler-operating-day averaging period.

Unit	SO_2 Emission limit (lb/MMBtu)
Entergy Independence Unit 1	0.06
Entergy Independence Unit 2	0.06

(23) *Compliance dates for Entergy Independence Units 1 and 2.* The owner or operator of each unit must comply with the SO_2 emission limits in paragraph (c)(22) of this section by October 27, 2021.

(24) *Compliance determination and reporting and recordkeeping requirements for Entergy Independence Units 1 and 2.* (i) For purposes of determining compliance with the SO_2 emissions limit listed in paragraph (c)(22) of this section for each unit, the SO_2 emissions for each boiler-operating-day shall be determined by summing the hourly emissions measured in pounds of SO_2. For each unit, heat input for each boiler-operating-day shall be determined by adding together all hourly heat inputs, in millions of BTU. Each boiler-operating-day of the thirty-day rolling average for a unit shall be determined by adding together the pounds of SO_2 from that day and the preceding 29 boiler-operating-days and dividing the total pounds of SO_2 by the sum of the heat input during the same 30 boiler-operating-day period. The result shall be the 30 boiler-operating-day rolling average in terms of lb/MMBtu emissions of SO_2. If a valid SO_2 pounds per hour or heat input is not available for any hour for a unit, that heat input and SO_2 pounds per hour shall not be used in the calculation of the applicable 30 boiler-operating-days rolling average. For each day, records of the total SO_2 emitted that day by each emission unit and the sum of the hourly heat inputs for that day must be maintained by the owner or operator and made available upon request to EPA and ADEQ representatives. Records of the 30 boiler-operating-day rolling average for each unit as described above must be maintained by the owner or operator for each boiler-operating-day and made available upon request to EPA and ADEQ representatives.

(ii) The owner or operator shall continue to maintain and operate a CEMS for SO_2 on the units listed in paragraph (c)(22) in accordance with 40 CFR 60.8 and 60.13(e), (f), and (h), and appendix B of part 60. The owner or operator shall comply with the quality assurance procedures for CEMS found in 40 CFR part 75. Compliance with the emission limits for SO_2 shall be determined by using data from a CEMS.

(iii) Continuous emissions monitoring shall apply during all periods of operation of the units listed in paragraph (c)(22) of this section, including periods of startup, shutdown, and malfunction, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments. Continuous monitoring systems for measuring SO_2 and diluent gas shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Hourly averages shall be computed using at least one data point in each fifteen-minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality assurance, preventive maintenance activities, or backups of data from data acquisition and handling system, and recertification events. When valid SO_2 pounds per hour emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained by using other monitoring systems approved by the EPA to provide emission data for a minimum of 18 hours in each 24-hour period and at least 22 out of 30 successive boiler operating days.

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