6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R04-OAR-2018-0792; FRL–10003-83-Region 4]

Air Plan Approval; Alabama; 2010 1-Hour SO_2 NAAQS Transport Infrastructure

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve Alabama's August 20, 2018, State Implementation Plan (SIP) submission pertaining to the "good neighbor" provision of the Clean Air Act (CAA or Act) for the 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS). The good neighbor provision requires each state's implementation plan to address the interstate transport of air pollution in amounts that contribute significantly to nonattainment, or interfere with maintenance, of a NAAQS in any other state. In this action, EPA is proposing to determine that Alabama will not contribute significantly to nonattainment or interfere with maintenance of the 2010 1-hour SO_2 NAAQS in any other state. Therefore, EPA is proposing to approve the August 20, 2018, SIP revision as meeting the requirements of the good neighbor provision for the 2010 1-hour SO_2 NAAQS.

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 ID No. EPA-R04-OAR-2018-0792 at http://www.regulations.gov. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. 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. 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, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit http://www.epa.gov/dockets/commenting-epa-dockets.

FOR FURTHER INFORMATION CONTACT: Michele Notarianni, Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. Ms. Notarianni can be reached via phone number (404) 562-9031 or via electronic mail at notarianni.michele@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background

A. Infrastructure SIPs

On June 2, 2010, EPA promulgated a revised primary SO_2 NAAQS with a level of 75 parts per billion (ppb), based on a 3-year average of the annual 99^{th} percentile of 1-hour daily maximum concentrations. *See* 75 FR 35520 (June 22, 2010). Whenever EPA promulgates a new or revised NAAQS, CAA section 110(a)(1) requires states to make SIP submissions to provide for the implementation, maintenance, and enforcement of the NAAQS. This particular type of SIP submission is commonly referred to as an "infrastructure SIP." These submissions must meet the various requirements of CAA section 110(a)(2), as applicable.

Section 110(a)(2)(D)(i)(I) of the CAA requires SIPs to include provisions prohibiting any source or other type of emissions activity in one state from emitting any air pollutant in amounts that will contribute significantly to nonattainment, or interfere with maintenance, of the NAAQS in another state. The two clauses of this section are referred to as prong 1 (significant contribution to nonattainment) and prong 2 (interference with maintenance of the NAAQS).

In a letter dated August 20, 2018,[1] the Alabama Department of Environmental Management (ADEM) submitted a revision to the Alabama SIP only addressing prongs 1 and 2 of CAA section 110(a)(2)(D)(i)(I) for the 2010 1-hour SO_2 NAAQS.[2] EPA is proposing to approve ADEM's August 20, 2018, SIP submission because the State demonstrated that Alabama will not contribute significantly to nonattainment, or interfere with maintenance, of the 2010 1-hour SO_2 NAAQS in any other state. All other elements related to the infrastructure requirements of section 110(a)(2) for the 2010 1-hour SO_2 NAAQS for Alabama have been addressed in separate rulemakings.[3]

B. 2010 1-Hour SO_2 NAAQS Designations Background

In this action, EPA has considered information from the 2010 1-hour SO_2 NAAQS designations process, as discussed in more detail in section III.C of this notice. For this reason, a brief summary of EPA's designations process for the 2010 1-hour SO_2 NAAQS is included here.[4]

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[1] EPA received ADEM's August 20, 2018, SIP submission on August 27, 2018.

[2] On April 23, 2013, and October 24, 2017, ADEM submitted SIP revisions addressing all infrastructure elements with respect to the 2010 1-hour SO_2 NAAQS with the exception of prongs 1 and 2 of CAA section 110(a)(2)(D)(i)(I).

[3] EPA acted on all other infrastructure elements for the 2010 1-hour SO_2 NAAQS in Alabama's April 23, 2013, and October 24, 2017, SIP revisions on January 12, 2017 (82 FR 3637), October 12, 2017 (82 FR 47393), and July 6, 2018 (83 FR 31454).

[4] While designations may provide useful information for purposes of analyzing transport, particularly for a more source-specific pollutant such as SO_2, EPA notes that designations themselves are not dispositive of whether or not upwind emissions are impacting areas in downwind states. EPA has consistently taken the position that as to

After the promulgation of a new or revised NAAQS, EPA is required to designate areas as "nonattainment," "attainment," or "unclassifiable" pursuant to section 107(d)(1) of the CAA. The process for designating areas following promulgation of a new or revised NAAQS is contained in section 107(d) of the CAA. The CAA requires EPA to complete the initial designations process within two years of promulgating a new or revised standard. If the Administrator has insufficient information to make these designations by that deadline, EPA has the authority to extend the deadline for completing designations by up to one year.

EPA promulgated the 2010 1-hour SO_2 NAAQS on June 2, 2010. *See* 75 FR 35520 (June 22, 2010). EPA completed the first round of designations ("round 1")[5] for the 2010 1-hour SO_2 NAAQS on July 25, 2013, designating 29 areas in 16 states as nonattainment for the 2010 1-hour SO_2 NAAQS. *See* 78 FR 47191 (August 5, 2013). EPA signed Federal Register notices of promulgation for round 2 designations[6] on June 30, 2016 (81 FR 45039 (July 12, 2016)) and on November 29, 2016 (81 FR 89870 (December 13, 2016)), and round 3 designations[7] on December 21, 2017 (83 FR 1098 (January 9, 2018)).[8]

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impacts, CAA section 110(a)(2)(D) refers only to prevention of "nonattainment" in other states, not to prevention of nonattainment in designated nonattainment areas or any similar formulation requiring that designations for downwind nonattainment areas must first have occurred. *See e.g.,* Clean Air Interstate Rule, 70 FR 25162, 25265 (May 12, 2005); Cross-State Air Pollution Rule, 76 FR 48208, 48211 (August 8, 2011); Final Response to Petition from New Jersey Regarding SO_2 Emissions From the Portland Generating Station, 76 FR 69052 (November 7, 2011) (finding facility in violation of the prohibitions of CAA section 110(a)(2)(D)(i)(I) with respect to the 2010 1-hour SO_2 NAAQS prior to issuance of designations for that standard).

[5] The term "round" in this instance refers to which "round of designations."

[6] EPA and state documents and public comments related to the round 2 final designations are in the docket at regulations.gov with Docket ID No. EPA-HQ-OAR-2014-0464 and at EPA's website for SO_2 designations at https://www.epa.gov/sulfur-dioxide-designations.

[7] EPA and state documents and public comments related to round 3 final designations are in the docket at regulations.gov with Docket ID No. EPA-HQ-OAR-2017-0003 and at EPA's website for SO_2 designations at https://www.epa.gov/sulfur-dioxide-designations.

[8] Consent Decree, *Sierra Club* v. *McCarthy,* Case No. 3:13-cv-3953-SI (N.D. Cal. Mar. 2, 2015). This consent decree requires EPA to sign for publication in the Federal Register notices of the Agency's promulgation of area designations for the 2010 1-hour SO_2 NAAQS by three specific deadlines: July 2, 2016 ("round 2"); December 31, 2017 ("round 3"); and December 31, 2020 ("round 4").

On August 21, 2015 (80 FR 51052), EPA separately promulgated air quality characterization requirements for the 2010 1-hour SO_2 NAAQS in the Data Requirements Rule (DRR). The DRR requires state air agencies to characterize air quality, through air dispersion modeling or monitoring, in areas associated with sources that emitted 2,000 tons per year (tpy) or more of SO_2, or that have otherwise been listed under the DRR by EPA or state air agencies. In lieu of modeling or monitoring, state air agencies, by specified dates, could elect to impose federally-enforceable emissions limitations on those sources restricting their annual SO_2 emissions to less than 2,000 tpy, or provide documentation that the sources have been shut down. EPA expected that the information generated by implementation of the DRR would help inform designations for the 2010 1-hour SO_2 NAAQS that must be completed by December 31, 2020 ("round 4").

For Alabama, EPA designated all counties as attainment/unclassifiable or unclassifiable in round 3 except for a portion of Shelby County around the Lhoist North America of Alabama - Montevallo Plant (LNA - Montevallo) that is currently conducting monitoring to inform round 4 designations.[9] There are no nonattainment areas in Alabama for the 2010 1-hour SO_2 NAAQS based on rounds 1, 2, and 3 of EPA's designations process.[10]

[9] *See Technical Support Document: Chapter 3 Final Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for Alabama* at https://www.epa.gov/sites/production/files/2017-12/documents/03-al-so2-rd3-final.pdf.

[10] On August 5, 2013 (78 FR 47191) and effective October 4, 2013, EPA designated 29 areas in 16 states as nonattainment for the 2010 1-hour SO_2 NAAQS based on violating monitors using air quality data for the years 2009-2011, but did not, at that time, designate other areas in the country. On July 12, 2016 (81 FR 45039), effective September 12, 2016, and December 13, 2016 (81 FR 89870), effective January 12, 2017, EPA published a final rule establishing air quality designations for 65 areas in 24 states for the 2010 SO_2 NAAQS including seven nonattainment areas, 41 attainment/unclassifiable areas, and 17 unclassifiable areas. On January 9, 2018 (83 FR 1098) effective April 9, 2018, EPA designated six areas as nonattainment; 23 areas designated unclassifiable; and the rest of the areas covered by this round in all states, territories, and tribal lands were designated attainment/ unclassifiable. No areas in Alabama were designated as nonattainment in these actions. *See* https://www.epa.gov/sulfur-dioxide-designations/sulfur-dioxide-designations-regulatory-actions.

II. Relevant Factors Used to Evaluate the 2010 1-Hour SO_2 Interstate Transport SIPs

Although SO_2 is emitted from a similar universe of point and nonpoint sources as is directly emitted fine particulate matter ($PM_{2.5}$) and the precursors to ozone and $PM_{2.5}$, interstate transport of SO_2 is unlike the transport of $PM_{2.5}$ or ozone because SO_2 emissions sources usually do not have long range SO_2 impacts. The transport of SO_2 relative to the 2010 1-hour SO_2 NAAQS is more analogous to the transport of lead (Pb) relative to the Pb NAAQS in that emissions of SO_2 typically result in 1-hour pollutant impacts of possible concern only near the emissions source. However, ambient 1-hour concentrations of SO_2 do not decrease as quickly with distance from the source as do 3-month average concentrations of Pb, because SO_2 gas is not removed by deposition as rapidly as are Pb particles and because SO_2 typically has a higher emissions release height than Pb. Emitted SO_2 has wider ranging impacts than emitted Pb, but it does not have such wide-ranging impacts that treatment in a manner similar to ozone or $PM_{2.5}$ would be appropriate. Accordingly, while the approaches that the EPA has adopted for ozone or $PM_{2.5}$ transport are too regionally focused, the approach for Pb transport is too tightly circumscribed to the source. SO_2 transport is therefore a unique case and requires a different approach.

In SO_2 transport analyses, EPA focuses on a 50 km-wide zone because the physical properties of SO_2 result in relatively localized pollutant impacts near an emissions source that drop off with distance. Given the properties of SO_2, EPA selected a spatial scale with dimensions from four to 50 kilometers (km) from point sources – the "urban scale" – to assess trends in area-wide air quality that might impact downwind states.[11] As discussed further in

[11] For the definition of spatial scales for SO_2, see 40 CFR Part 58, Appendix D, section 4.4 ("Sulfur Dioxide (SO_2) Design Criteria"). For further discussion on how EPA applies these definitions with respect to interstate transport of

section III.B, EPA selected the urban scale as appropriate for assessing trends in both area-wide air quality and the effectiveness of large-scale pollution control strategies at SO_2 point sources. EPA's selection of this transport distance for SO_2 is consistent with 40 CFR 58, Appendix D, Section 4.4.4(4) "Urban scale," which states that measurements in this scale would be used to estimate SO_2 concentrations over large portions of an urban area with dimensions from four to 50 km. The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) is EPA's preferred modeling platform for regulatory purposes for near-field dispersion of emissions for distances up to 50 km. *See* Appendix W of 40 CFR part 51. Thus, EPA applied the 50-km threshold as a reasonable distance to evaluate emission source impacts into neighboring states and to assess air quality monitors within 50 km of the State's border, which is discussed further in section III.C.

As discussed in sections III.C and III.D, EPA first reviewed Alabama's analysis to assess how the State evaluated the transport of SO_2 to other states, the types of information used in the analysis, and the conclusions drawn by the State. EPA then conducted a weight of evidence analysis based on a review of the State's submission and other available information, including SO_2 air quality and available source modeling for other states' sources within 50 km of the Alabama border.[12]

SO_2, *see* EPA's proposed rulemaking on Connecticut's SO_2 transport SIP. *See* 82 FR 21351, 21352, 21354 (May 8, 2017).

[12] This proposed approval action is based on the information contained in the administrative record for this action and does not prejudge any other future EPA action that may make other determinations regarding Alabama's air quality status. Any such future actions, such as area designations under any NAAQS, will be based on their own administrative records and EPA's analyses of information that become available at those times. Future available information may include, and is not limited to, monitoring data and modeling analyses conducted pursuant to the DRR and information submitted to EPA by states, air agencies, and third-party stakeholders such as citizen groups and industry representatives.

III. Alabama's SIP Submission and EPA's Analysis

A. State Submission

Through a letter dated August 20, 2018, ADEM submitted a revision to the Alabama SIP addressing prongs 1 and 2 of CAA section 110(a)(2)(D)(i)(I) for the 2010 1-hour SO_2 NAAQS.[13] Alabama conducted a weight of evidence analysis to examine whether SO_2 emissions from the State adversely affect attainment or maintenance of the 2010 1-hour SO_2 NAAQS in downwind states.

ADEM based its conclusions for prongs 1 and 2 on attaining 2015-2017 SO_2 design values (DVs) [14] in Alabama and adjacent states; the lack of 2010 1-hour SO_2 NAAQS nonattainment areas in Alabama or within close proximity to Alabama; the existence of DRR modeling for Alabama SO_2 sources; and established federal and State control measures which address SO_2 emissions. EPA's evaluation of Alabama's August 20, 2018, SIP submission is detailed in sections III.B, C, and D.

B. EPA's Evaluation Methodology

EPA believes that a reasonable starting point for determining which sources and emissions activities in Alabama are likely to impact downwind air quality in other states with respect to the 2010 1-hour SO_2 NAAQS is by using information in EPA's National Emissions

[13] On September 5, 2019, September 20, 2019, September 25, 2019, December 2, 2019, and December 6, 2019, ADEM provided supplemental information pertaining to Escambia Operating Company - Big Escambia Creek Plant's (Big Escambia's) DRR modeling that addresses and resolves the issues with the original modeling for this source performed under the DRR (collectively, the "Big Escambia Supplement"). See Section III.C.1.b. for more information. Big Escambia is located in Escambia County, Alabama.

[14] A "Design Value" is a statistic that describes the air quality status of a given location relative to the level of the NAAQS. The DV for the primary 2010 1-hour SO_2 NAAQS is the 3-year average of annual 99th percentile daily maximum 1-hour values for a monitoring site. For example, the 2017 DV is calculated based on the three-year average from 2015-2017. The interpretation of the primary 2010 1-hour SO_2 NAAQS including the data handling conventions and calculations necessary for determining compliance with the NAAQS can be found in Appendix T to 40 CFR Part 50.

Inventory (NEI).[15] The NEI is a comprehensive and detailed estimate of air emissions for criteria pollutants, criteria pollutant precursors, and hazardous air pollutants from air emissions sources, that is updated every three years using information provided by the states and other information available to EPA. EPA evaluated data from the 2014 NEI (version 2), the most recently available, complete, and quality assured dataset of the NEI.

As shown in Table 1, the majority of SO_2 emissions in Alabama originate from point sources.[16] In 2014, the total SO_2 emissions from point sources in Alabama comprised approximately 96 percent of the total SO_2 emissions in the State. Further analysis of these data show that SO_2 emissions from fuel combustion from point sources make up approximately 74 percent of the total SO_2 emissions in the State. Because emissions from the other listed source categories are more dispersed throughout the State, those categories are less likely to cause high ambient concentrations when compared to a point source on a ton-for-ton basis. Based on EPA's analysis of the 2014 NEI, EPA believes that it is appropriate to focus the analysis on SO_2 emissions from Alabama's larger point sources (i.e., emitting over 100 tpy of SO_2 in 2017). which are located within the "urban scale," i.e., within 50 km of one or more state borders.

[15] EPA's NEI is available at https://www.epa.gov/air-emissions-inventories/national-emissions-inventory.

[16] Alabama's point sources listed in Table 1, for the purposes of this action, are comprised of all of the "Fuel Combustion" categories and "Industrial Processes (All Categories)," with the exception of residential fuel consumption. Residential fuel combustion is considered a nonpoint source and, thus, residential fuel combustion data is not included in the point source fuel combustion data and related calculations.

Table 1: Summary of 2014 NEI (Version 2) SO_2 Data for Alabama by Source Types		
Category	**Emissions (tpy)**	**Percent of Total SO_2 Emissions**
Fuel Combustion: Electric Generating Units (EGUs) (All Fuel Types)	119,922.45	60
Fuel Combustion: Industrial Boilers/Internal Combustion Engines (All Fuel Types)	27,658.08	14
Fuel Combustion: Commercial/Institutional (All Fuel Types)	13.58	0
Fuel Combustion: Residential (All Fuel Types)	84.40	0
Industrial Processes (All Categories)	43,805.93	22
Mobile Sources (All Categories)	1,528.60	1
Fires (All Types)	7,585.65	4
Waste Disposal	814.84	0
Solvent Processes	0.62	0
Miscellaneous (Non-Industrial, Gas Stations)	3.67	0
SO_2 Emissions Total	**201,417.82**	**100**

As explained in Section II, because the physical properties of SO_2 result in relatively localized pollutant impacts near an emissions source that drop off with distance, in SO_2 transport analyses, EPA focuses on a 50 km-wide zone. Thus, EPA focused its evaluation on Alabama's point sources of SO_2 emissions located within approximately 50 km of another state and their potential impact on neighboring states.

As discussed in section I.B., EPA's current implementation strategy for the 2010 1-hour SO_2 NAAQS includes the flexibility to characterize air quality for stationary sources subject to the DRR via either data collected at ambient air quality monitors sited to capture the points of maximum concentration, or air dispersion modeling (hereinafter referred to as "DRR monitors" or "DRR modeling," respectively). EPA's assessment of SO_2 emissions from Alabama's point sources located within approximately 50 km of another state and their potential impacts on neighboring states (see sections III.C.1. and II.C.2 of this notice) and SO_2 air quality data at

monitors within 50 km of the Alabama border (see section III.C.3. of this notice) is informed by all available data at the time of this proposed rulemaking.[17]

As described in Section III, EPA proposes to conclude that an assessment of Alabama's satisfaction of the prong 1 and 2 requirements under section 110(a)(2)(D)(i)(I) of the CAA for the 2010 1-hour SO_2 NAAQS may be reasonably based upon evaluating the downwind impacts via modeling and an assessment of SO_2 emissions from Alabama's point sources emitting more than 100 tpy of SO_2 (including fuel combustion sources) that are located within approximately 50 km of another state and upon any regulations intended to address Alabama's SO_2 point sources.

C. EPA's Prong 1 Evaluation – Significant Contribution to Nonattainment

Prong 1 of the good neighbor provision requires states' plans to prohibit emissions that will contribute significantly to nonattainment of a NAAQS in another state. ADEM states in its submission that Alabama does not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in another state based on the information provided therein. To evaluate Alabama's satisfaction of prong 1, EPA assessed Alabama's SIP submission with respect to the following factors: 1) potential ambient air quality impacts of SO_2 emissions from certain facilities in Alabama on neighboring states based on available air dispersion modeling results; 2) SO_2 emissions from Alabama sources; 3) SO_2 ambient air quality for Alabama and neighboring states; 4) SIP-approved Alabama regulations that address SO_2 emissions; and 5) federal regulations that reduce SO_2 emissions at Alabama sources. A detailed discussion of Alabama's SIP submission with respect to each of these factors follows. EPA proposes that these factors,

[17] EPA notes that the evaluation of other states' satisfaction of section 110(a)(2)(D)(i)(I) for the 2010 1-hour SO_2 NAAQS can be informed by similar factors found in this proposed rulemaking but may not be identical to the approach taken in this or any future rulemaking for Alabama, depending on available information and state-specific circumstances.

taken together, support the Agency's proposed determination that Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in another state. EPA's proposed conclusion is based, in part, on the fact that adjacent states with modeled DRR sources located within 50 km of the Alabama border do not have areas that are violating or that model violations of the 2010 1-hour SO_2 NAAQS and the fact that the valid SO_2 2016-2018 DVs for monitors in adjacent states show attainment of the 2010 1-hour SO_2 NAAQS.[18] Also, 2017 SO_2 emissions for Alabama's non-DRR sources emitting over 100 tons of SO_2 within 50 km of another state are at distances or emit levels of SO_2 that make it unlikely that these SO_2 emissions could interact with SO_2 emissions from the neighboring states' sources in such a way as to contribute significantly to nonattainment in these neighboring states. In addition, the downward trends in statewide SO_2 emissions, combined with federal and SIP-approved State regulations affecting SO_2 emissions from Alabama's sources, further support EPA's proposed conclusion.

1. SO_2 Designations Air Dispersion Modeling

a. State Submission

In its August 20, 2018, SIP submission, ADEM referenced a January 14, 2016, letter[19] that the State submitted to EPA identifying the facilities in Alabama with SO_2 emissions subject

[18] The Floyd County, Georgia monitor (AQS ID: 13-115-0003) does not have a valid DV for the 2015-2017 and 2016-2018 time periods. This monitor has valid DVs for the 2010-2012 through 2014-2016 time periods which declined over this period and are all below the level of the 2010 1-hour SO_2 NAAQS.

[19] Alabama's January 14, 2016, letter is available on www.regulations.gov at Docket ID No. EPA–HQ–OAR–2017–0003.

to the DRR.[20] ADEM explained that the DRR modeling data is contained in EPA's technical support document (TSD) for the SO_2 round 3 area designations.[21]

b. EPA Analysis

EPA evaluated available DRR modeling data for sources in Alabama within 50 km of another state, including the Big Escambia Supplement, and available DRR modeling data for sources in the adjacent states of Florida, Georgia, Mississippi, and Tennessee that are within 50 km of the Alabama border.[22] The purpose of evaluating DRR modeling results in adjacent states within 50 km of the Alabama border is to ascertain whether any nearby sources in Alabama are impacting a violation of the 2010 1-hour SO_2 NAAQS in another state.

Of the 15 sources in Alabama initially subject to the DRR, 10 sources conducted dispersion modeling.[23] Six of the 10 modeled sources are within 50 km of another state: Akzo

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[20] In 2017, Alabama provided recommendations and submitted air dispersion modeling for the 2010 1-hour SO_2 NAAQS for the DRR sources in the State which elected to comply with the DRR using modeling. The remainder of Alabama's DRR sources established federally-enforceable limits, shut down, or the State installed and began operation of new, approved SO_2 monitors to characterize SO_2 air quality around the source. *See* https://www.epa.gov/so2-pollution/so2-data-requirements-rule-january-13-2017-state-submittals-alabama.

[21] *See Technical Support Document: Chapter 3 Final Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for Alabama at* https://www.epa.gov/sites/production/files/2017-12/documents/03-al-so2-rd3-final.pdf. *See also Technical Support Document: Chapter 3 Proposed Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for Alabama* at https://www.epa.gov/sites/production/files/2017-08/documents/3_al_so2_rd3-final.pdf.

[22] As discussed in section I.B., Alabama used air dispersion modeling to characterize air quality in the vicinity of certain SO_2 emitting sources to identify the maximum 1-hour SO_2 concentrations in ambient air which informed EPA's round 3 SO_2 designations. EPA's preferred modeling platform for regulatory purposes is AERMOD (Appendix W of 40 CFR part 51). In these DRR modeling analyses using AERMOD, the impacts of the actual emissions for one or more of the recent 3-year periods (e.g., 2012-2014, 2013-2015, 2014-2016) were considered, and in some cases, the modeling was of currently effective limits on allowable emissions in lieu of or as a supplement to modeling of actual emissions. The available air dispersion modeling of certain SO_2 sources can support transport related conclusions about whether sources in one state are potentially contributing significantly to nonattainment or interfering with maintenance of the 2010 1-hour SO_2 standard in other states. While AERMOD was not designed specifically to address interstate transport, the 50-km distance that EPA recommends for use with AERMOD aligns with the concept that there are localized pollutant impacts of SO_2 near an emissions source that drop off with distance. Thus, EPA believes that the use of AERMOD provides a reliable indication of air quality for transport purposes.

[23] Of the remaining five sources in Alabama initially subject to the DRR which did not opt to conduct dispersion modeling, three sources accepted federally-enforceable permit limits to exempt out of the DRR requirements, one source provided documentation that the facility shut down, and one source installed a monitor. The three sources that accepted federally-enforceable permit limits to exempt out of the DRR requirements are: Alabama Power -

Nobel Functional Chemicals – Lemoyne Site (AkzoNobel); Alabama Power Company – James M. Barry Electric Generating Plant (Plant Barry); Ascend Performance Materials – Decatur Plant (Ascend); Big Escambia; PowerSouth Energy Cooperative – Charles R. Lowman Power Plant (Lowman); and Continental Carbon Company – Phenix City Plant (Continental Carbon).[24] With respect to Continental Carbon, EPA previously determined that the modeling and supporting information provided to meet DRR requirements was acceptable.[25] With respect to the modeling and other information submitted by the State for the remaining five modeled Alabama sources within 50 km of another state (i.e., AkzoNobel, Ascend, Big Escambia, Lowman, and Plant Barry), EPA previously determined that the Agency does not have sufficient information to demonstrate whether the areas around these sources meet or do not meet the 2010 1-hour SO_2 NAAQS or contribute to an area that does not meet the standard, and thus designated these areas as unclassifiable.[26] Although EPA does not have any indications that there are violations of the 2010 1-hour SO_2 NAAQS in these areas, the Agency assessed AkzoNobel, Ascend, Lowman, and Plant Barry in section III.C.2.b. of this proposed action with respect to interstate transport for the 2010 1-hour SO_2 NAAQS. Regarding Big Escambia, ADEM provided supplemental information in September and December of 2019 that addresses the issues with the original modeling for this source performed under the DRR for the purposes of evaluating interstate

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Gadsden Electric Generating Plant; Alabama Power - Greene County Electric Generating Plant; and Tennessee Valley Authority (TVA) - Colbert Fossil Plant. Alabama's one DRR source which shut down is the TVA - Widows Creek Fossil Plant. As mentioned in Section I.B., LNA - Montevallo installed a monitor to inform round 4 designations. *See* Docket ID No. EPA–HQ–OAR–2017–0003.

[24] The Mobile County area includes two DRR sources: AkzoNobel and Plant Barry. Due to the close proximity of AkzoNobel and Plant Barry to each other, a combined air dispersion modeling analysis was conducted for both facilities pursuant to the DRR.

[25] *See* https://www.epa.gov/sites/production/files/2017-08/documents/3_al_so2_rd3-final.pdf.

[26] *See* EPA's initial and final TSDs for Alabama at: https://www.epa.gov/sites/production/files/2017-08/documents/3_al_so2_rd3-final.pdf and https://www.epa.gov/sites/production/files/2017-12/documents/03-al-so2-rd3-final.pdf.

transport of SO_2 from Alabama into Florida.[27] EPA's TSD for Big Escambia summarizes the issues with the original DRR modeling and how ADEM has now addressed these issues for the purpose of evaluating potential ambient air impacts in the neighboring state of Florida.[28] Table 2 provides a summary of the 99th percentile daily maximum 1-hour average concentrations estimated by the modeling for Big Escambia and Continental Carbon, which are based on actual emissions for Big Escambia and potential to emit (PTE) emissions for Continental Carbon. Alabama's modeling analyses for Big Escambia and Continental Carbon indicate that the maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS in neighboring states. Based on the modeling results indicating that the maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS in neighboring states, no further analysis is necessary for assessing the potential impacts of the interstate transport of SO_2 emissions from these facilities.

Table 2: Alabama Sources with Valid[29] DRR Modeling Located within 50 km of Another State

DRR Source	County	Approximate Distance From Source to Adjacent State (km)	Other Facilities Included in Modeling	Modeled 99th Percentile Daily Maximum 1-Hour SO_2 Concentration in Nearest Neighboring State (ppb)	Model Grid Extends Into Another State?
Big	Escambia	8 (FL)	Escambia	58.8 ppb	Yes, into FL

[27] ADEM submitted the Big Escambia Supplement to EPA in separate correspondence dated September 5, 2019, September 20, 2019, September 25, 2019, December 2, 2019, and December 6, 2019, and it is included in the docket for this proposed action, with the exception of certain files due to their nature and size and incompatibility with the Federal Docket Management System. These files are available at the EPA Region 4 office for review. To request these files, please contact the person listed in this notice under the section titled "FOR FURTHER INFORMATION CONTACT."

[28] EPA's TSD addressing Big Escambia for this proposed rulemaking is located in the docket.

[29] As used in the heading for this table, the term "valid" means valid for the purpose of evaluating impacts for interstate transport of the 2010 1-hour SO_2 NAAQS from Alabama in neighboring states.

Table 2: Alabama Sources with Valid[29] DRR Modeling Located within 50 km of Another State					
DRR Source	**County**	**Approximate Distance From Source to Adjacent State (km)**	**Other Facilities Included in Modeling**	**Modeled 99th Percentile Daily Maximum 1-Hour SO_2 Concentration in Nearest Neighboring State (ppb)**	**Model Grid Extends Into Another State?**
Escambia			Operating Company-Flomaton (AL) and Breitburn Operating, L.P. (FL)	(FL) (*based on 2013-2015 actual emissions for the thermal oxidizer at Big Escambia and allowable/PTE emissions for the remaining units at Big Escambia and the nearby sources)*	(the northern portion of Escambia County, FL)
Continental Carbon	Russell	1 (GA)	IIG MinWool LLC (AL)	38.9 (GA) (*based on PTE emissions)*	Yes, into GA (the southwestern portion of Muscogee County and the northwestern portion of Chattahoochee County)

Table 3 provides a summary of the modeling results for the four DRR sources in neighboring states which are located within 50 km of Alabama and which elected to provide air dispersion modeling under the DRR: Gulf Power Company – Crist Electric Generating Station (Crist) in Florida; Georgia Power – Plant Bowen (Plant Bowen) and Georgia Power – Plant Wansley (Plant Wansley) in Georgia; and Mississippi Power Company's Victor J. Daniel Steam Electric Generating Plant (Plant Daniel) in Mississippi. The modeling results for all four sources indicated that the maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS.[30]

Table 3: Other States' Sources with DRR Modeling Located Within 50 Km of Alabama

DRR Source	County (State)	Approximate Distance From Source to Alabama Border (km)	Other Facilities Included in Modeling	Modeled 99th percentile daily maximum 1-hour SO_2 Concentration (ppb)*	Model Grid Extends Into Another State?
Crist	Escambia (FL)	17	Yes – International Paper Pensacola Facility	33.8	No
Plant Bowen	Bartow (GA)	46	No	57.6	No

[30] Although the modeling grids for Crist, Plant Bowen, and Plant Wansley do not extend into Alabama, EPA finds that the model results for these sources which show that the maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS indicate that there is not a transport issue in the areas modeled for which there is data.

Plant Wansley	Heard (GA)	24	Yes – Georgia Power - Plant Yates; Municipal Electric Authority of Georgia; Chattahoochee Energy Facility; and Wansley Combined-Cycle Generating Plant	15	No
Plant Daniel	Jackson (MS)	14	None	56.5	Yes – into AL (a portion of extreme southwest AL west of Mobile County, AL)

* The modeled 99th percentile daily maximum 1-hour SO_2 concentrations are based on: 2012-2014 actual SO_2 emissions for Crist and Plant Daniel; 2012-2014 actual SO_2 emissions for Plant Wansley; PTE for the other sources included in Plant Wansley's modeling; and 2014-2016 actual SO_2 emissions for Plant Bowen.

EPA believes that the modeling results in Tables 2 and 3, weighed along with other factors in this notice, support EPA's proposed conclusion that sources in Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in any other state.

2. SO_2 Emissions Analysis

a. State Submission

With respect to emissions trends, ADEM states that significant SO_2 emissions reductions have resulted from the implementation of several federal programs in Alabama. These federal programs are identified in section III.C.5 of this notice.

b. EPA Analysis

EPA reviewed statewide and EGU SO_2 emissions in Alabama from the NEI for the years 2005, 2008, 2011, and 2014 to examine any trends in SO_2 emissions over this period. As shown in Table 4, Alabama's statewide SO_2 emissions have declined by 66 percent from 592,670 tons in 2002 to 201,418 tons in 2014. Alabama EGU SO_2 emissions decreased by 74 percent from 461,634 tons in 2005 to 119,976 tons in 2014.

Table 4: Alabama SO_2 Emissions (tons) from the NEI				
	2005 NEI	**2008 NEI (Version 3)**	**2011 NEI (Version 2)**	**2014 NEI (Version 2)**
Total SO_2 Emissions	592,670	443,810	278,364	201,418
SO_2 Emissions from EGUs	461,634	362,671	179,849	119,976

As discussed in section III.B., EPA also finds that it is appropriate to examine the impacts of SO_2 emissions from stationary sources emitting greater than 100 tons of SO_2 in Alabama at distances ranging from zero km to 50 km from a neighboring state's border. Therefore, in addition to those sources addressed in section III.C.1.b. of this notice, EPA also assessed the potential impacts of SO_2 emissions from stationary sources not subject to the DRR that emitted over 100 tons of SO_2 in 2017 and are located in Alabama within 50 km from the border.[31] EPA assessed this information to evaluate whether the SO_2 emissions from these sources could interact with SO_2 emissions from the nearest source in a neighboring state in such a way as to impact a violation of the 2010 1-hour SO_2 NAAQS in that state. Table 5 lists sources in Alabama not subject to the DRR that emitted greater than 100 tpy of SO_2 in 2017 within 50 km of the State's border.

Currently, EPA does not have monitoring or modeling data suggesting that Florida, Georgia, North Carolina, and Tennessee are impacted by SO_2 emissions from the 14 Alabama sources not subject to the DRR listed in Table 5. Of these 14 Alabama sources, 10 are located over 50 km from the nearest source in another state emitting over 100 tons of SO_2. EPA believes that the distances greater than 50 km between sources make it unlikely that SO_2 emissions from the 10 Alabama sources could interact with SO_2 emissions from the neighboring states' nearest

[31] 2017 emissions are the latest available data for these sources in Alabama.

sources in Table 5 in such a way as to contribute significantly to nonattainment in Florida, Georgia, Mississippi, and Tennessee.

Table 5: Alabama Non-DRR SO_2 Sources Emitting Greater Than 100 TPY in 2017 Near Neighboring States

Alabama Source	2017 Annual SO_2 Emissions (tons)	Approximate Distance to Alabama Border (km)	Closest Neighboring State	Approximate Distance to Nearest Neighboring State SO_2 Source (km)	Nearest Neighboring State Non-DRR SO_2 Source & 2017 Emissions (>100 Tons SO_2)
American Midstream Chatom, LLC	948	5	Mississippi	44	Petro Harvester Operating Company LLC - South Cypress Creek (Petro-Cypress Creek) (128 tons)
Evonik Corporation	225	25	Mississippi	41	Plant Daniel (204 tons)
ExxonMobil Production Company	157	19	Mississippi	37	Plant Daniel (204 tons)
Georgia-Pacific (Penington)	1,236	37	Mississippi	70	Petro-Cypress Creek (128 tons)
Georgia-Pacific Brewton LLC	103	8	Florida	16	Breitburn Operating LP (1,491 tons)
Georgia-Pacific Cedar Springs LLC	512	<5	Georgia	96	Georgia Power Company - Plant Mitchell

					(633 tons in 2015)
Hilcorp Energy Company	126	33	Mississippi	60	Plant Daniel (204 tons)
MeadWestvaco Mahrt Mill	222	<5	Georgia	85	C-E Minerals Plants 1, 2, and 6 (292 tons)
Mineral Manufacturing Corporation	182	5	Georgia	109	C-E Minerals Plants 1, 2, and 6 (292 tons)
Nucor Steel Decatur LLC	110	39	Tennessee	102	Steel Dynamics Columbus (457 tons)
Rock-Tenn Mill Company, LLC	250	38	Mississippi	90	Petro-Cypress Creek (128 tons)
SSAB Alabama Inc	381	39	Mississippi	70	Plant Daniel (204 tons)
Tennessee Alloys Corporation	671	<5 9	Tennessee and Georgia	93	Resolute Forest Products – Calhoun Operations (TN) – (218 tons)
Union Oil of California - Chunchula Gas Plant	105 (2016 Emissions)	29	Mississippi	60	Plant Daniel (204 tons)

There are four Alabama sources not subject to the DRR that are located at or less than 50 km from the nearest source in another state which emit greater than 100 tons of SO_2: American Midstream Chatom, LLC; Evonik Corporation; ExxonMobil Production Company; and Georgia-Pacific Brewton LLC. EPA believes that the relatively low SO_2 emissions of each of these four Alabama sources combined with the emissions from the nearest sources emitting greater than

100 tons of SO_2 in neighboring states make it unlikely that the SO_2 emissions from these four Alabama sources could interact with SO_2 emissions from the neighboring states' sources in such a way as to contribute significantly to nonattainment in the neighboring states of Florida, Georgia, Mississippi, and Tennessee.

In addition, EPA evaluated 2017 SO_2 emissions data for four of the five DRR sources for which EPA could not rely on existing DRR modeling to assess their impacts for interstate transport for the 2010 1-hour SO_2 NAAQS on other states: AkzoNobel, Ascend, Lowman, and Plant Barry. Table 6 provides annual 2017 SO_2 emissions data along with the distances to the closest neighboring state's sources emitting over 100 tpy of SO_2.[32] Table 7 shows the SO_2 emissions trends for these sources from 2012-2017 (and 2018 if data is available).[33]

Table 6: Alabama DRR SO_2 Sources Without Valid DRR Modeling Near Neighboring States

Alabama Source	2017 Annual SO_2 Emissions (tons)	Approximate Distance to Alabama (km)	Closest Neighboring State	Approximate Distance to Nearest Neighboring State SO_2 Source (km)	Nearest Neighboring State SO_2 Source & 2017 Emissions (>100 Tons SO_2)
Ascend	1,628	40	Tennessee	123	Packaging Corp. of America (616 tons)
Lowman	1,110	51	Mississippi	73	Petro-Cypress Creek (128 tons)
Plant Barry	4,218	40	Mississippi	74	Plant Daniel (204 tons)
AkzoNobel	2,201	39	Mississippi	71	Plant Daniel (204 tons)

[32] Table 6 SO_2 emissions are from EPA's Air Markets Program Data (AMPD) accessible at: https://ampd.epa.gov/ampd/. EPA's AMPD is an application that provides both current and historical data collected as part of EPA's emissions trading programs.

[33] Table 7 SO_2 emissions for Lowman and Plant Barry are from EPA's AMPD.

Table 7: Alabama DRR SO_2 Sources Emitting Greater Than 100 TPY Near Neighboring States - Emissions Trends							
Alabama Source	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
AkzoNobel	3,293	2,752	2,320	3,587	3,646	2,201	N/A*
Ascend	2,182	2,595	2,839	2,594	2,179	1,628	N/A*
Lowman	3,619	3,893	4,546	2,506	1,241	1,110	808
Plant Barry	10,731	13,448	10,690	8,688	5,421	4,218	5,257

* 2018 emissions not yet available for AkzoNobel and Ascend from EPA's Emissions Inventory System (EIS).

Table 6 shows that the distances between the four Alabama DRR sources without valid DRR modeling and the nearest state's source emitting over 100 tpy of SO_2 exceed 50 km. EPA believes that the distances greater than 50 km between sources make it unlikely that SO_2 emissions from the four Alabama DRR sources could interact with SO_2 emissions from the neighboring states' nearest sources in Table 6 in such a way as to contribute significantly to nonattainment in Mississippi and Tennessee. Table 7 shows that 2017 SO_2 emissions have declined below 2012 levels for Ascend and Akzo Nobel) and that 2018 SO_2 emissions have declined below 2012 levels for Lowman and Plant Barry.

EPA also considered whether any changes in controls or operations had occurred at AkzoNobel, Ascend, Lowman, and Plant Barry. AkzoNobel entered into a consent decree with EPA that has reduced SO_2 emissions.[34] According to June 6, 2019, and December 2, 2019, e-mails from ADEM to EPA, Ascend ceased operating Boiler 5, Boiler 6 is set to cease operations

[34] The consent decree, entered on November 21, 2019, is available at: https://www.justice.gov/enrd/consent-decree/file/1201231/download. A press release is available at: https://www.epa.gov/newsreleases/settlement-reached-nouryon-functional-chemicals-llc-fka-akzo-nobel-functional-chemicals.

in 2020, and Cokers 1 and 2 are set to cease operations in 2021.[35] At Loman, three coal-fired boilers are set to be shut down in 2020. Plant Barry has retired Unit 3, and Units 1 and 2 are restricted to burn only natural gas as of January 1, 2017.

EPA also evaluated data in EPA's Air Quality System (AQS)[36] from the SO_2 monitors in the surrounding areas of AkzoNobel, Ascend, Lowman, and Plant Barry. The only monitor within 50 km of these sources is located in Mobile County, Alabama (AQS ID: 01-097-0003) and is approximately 23 km from AkzoNobel. The 2018 DV for this monitor is 11 ppb.

Based on the declining SO_2 emissions trends in Alabama shown in Table 4, and the Agency's analysis of the Alabama sources and respective data in Tables 5, 6, and 7, EPA believes that Alabama's potential for contributing significantly to nonattainment in a nearby state is reduced substantially.

3. SO_2 Ambient Air Quality

a. State Submission

In its August 20, 2018, SIP submission, ADEM indicated that there is one SO_2 monitor located in the State with complete data.[37] This monitor (AQS ID: 01-073-1003) is located in Jefferson County, Alabama, and has a 2015-2017 DV of 13 ppb. The monitor is well over 50 km from the State's border. ADEM also asserts that there are no monitors located in Florida, Georgia, Louisiana, Mississippi, or Tennessee that are violating the 2010 1-hour SO_2 NAAQS for the 2015-2017 monitoring period based on the DVs in EPA's AQS for these monitors.

b. EPA Analysis

[35] ADEM's June 6, 2019, and December 2, 2019, e-mails are included in the docket for this action at www.regulations.gov at Docket ID No. EPA-R04-OAR-2018-0792.
[36] EPA's AQS contains ambient air pollution data collected by EPA, state, local, and tribal air pollution control agencies. This data is available at https://www.epa.gov/air-trends/air-quality-design-values.
[37] At the time of SIP submission, the Jefferson County, Alabama, monitor (AQS ID: 01-073-1003) was the only monitor with a valid DV for the 2015-2017 time period.

EPA reviewed monitoring data for AQS monitors in Alabama within 50 km of another state and for AQS monitors within 50 km of Alabama in adjacent states using relevant data from EPA's AQS DV reports. The 2010 1-hour SO_2 standard is violated at an ambient air quality monitoring site (or in the case of dispersion modeling, at an ambient air quality receptor location) when the 3-year average of the annual 99th percentile of the daily maximum 1-hour average concentrations exceeds 75 ppb, as determined in accordance with Appendix T of 40 CFR part 50. The only AQS monitors in Alabama within 50 km of another state are the Mobile County monitor (AQS ID: 01-097-0003), and the Sumter County monitor (AQS ID: 01-119-0003). The Mobile County monitor is approximately 30 km from Mississippi and 45 km from Florida, and the Sumter County monitor is approximately 13 km from Mississippi. The Mobile County monitor began operation on January 1, 2016. The monitor has a complete, quality-assured 2016-2018 DV of 11 ppb, which is 85 percent below the level of the 2010 1-hour SO_2 NAAQS. The Sumter County monitor began operation on January 1, 2018. Since the monitor has not operated for three years, it has not yet collected a valid DV. During 2018, the Sumter County monitor recorded a 99th percentile daily maximum 1-hour SO_2 concentration of approximately 4 ppb. Neither the Mobile County nor Sumter County monitor has measured any daily exceedances of the 2010 1-hour SO_2 NAAQS during their respective years of operation.

Table 8 shows that there are three AQS monitors in the adjacent states of Florida (Escambia County monitor), Georgia (Floyd County monitor), and Mississippi (Jackson County monitor) which are located within 50 km of the Alabama border. Currently, there are no AQS monitors with complete, valid data indicating a violation of the 2010 1-hour SO_2 NAAQS located within 50 km of Alabama in the states of Florida, Georgia, and Mississippi. Further, the DVs from these monitors show a general downward trend in SO_2 concentrations and that the

DVs from 2012-2018 have remained below the standard, with the exception of the Floyd County monitor in Georgia which did not have a valid DV for 2015-2017 and 2016-2018.[38]

Table 8: 2010 1-Hour SO_2 DVs (ppb) for AQS Monitors Located in Adjacent States Within 50 km of Alabama

State	County	AQS ID	2010-2012	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	Approximate Distance to State Border (km)
Florida	Escambia	12-033-0004	27	22	25	24	16	8	6	23
Georgia	Floyd	13-115-0003	74	67	46	35	42	*ND	*ND	12
Mississippi	Jackson	28-059-0006	27	23	27	28	21	12	6	13

* ND indicates no data due to relocation of the Floyd County, Georgia monitor to serve as a DRR monitor (AQS ID: 13-115-0006) listed in Table 8.

EPA notes that the 2014-2016 DV for the Floyd County, Georgia AQS monitor (AQS ID: 13-115-0003) of 42 ppb is 44 percent below the level of the 2010 1-hour SO_2 NAAQS. None of the monitors listed in Table 8 has measured any daily exceedances of the 2010 1-hour SO_2 NAAQS during 2017 or 2018. Thus, based on this assessment, EPA believes that these data support EPA's proposed conclusion that Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in any other state.

EPA also evaluated monitoring data provided to date for AQS monitors located in states adjacent to Alabama within 50 km of the State's border that were established to characterize the air quality around specific sources subject to EPA's DRR to inform the Agency's future round 4

[38] The Floyd County, Georgia monitor (AQS ID: 13-115-0003) was relocated in January 2017 to the opposite side of the International Paper-Rome facility to characterize the area of expected maximum 1-hour SO_2 concentration near the source under the DRR. The relocated monitor (AQS ID: 13-115-0006) is shown in Table 9 of this notice and does not have a valid 2016-2018 DV due to the relocation.

designations for the 2010 1-hour SO_2 NAAQS in lieu of modeling (hereinafter referred to as "DRR monitors"). There is only one DRR monitor – located in Floyd County, Georgia (AQS ID: 13-115-0006) – that is within 50 km of the Alabama border. Although this monitor does not have three or more years of complete data to establish DVs, EPA evaluated the available, annual 99th percentile SO_2 concentration data for 2017 and 2018 (see Table 9). The Floyd County DRR monitor was sited in the vicinity of the International Paper – Rome facility, a DRR source.

Table 9: Annual 99th Percentile of 1-Hour Daily Maximum SO_2 Concentrations (ppb) for Round 4 DRR Monitors Located in Adjacent States Within 50 km of Alabama

County (State)	Round 4 Monitored Source	AQS ID	2017 99th Percentile Concentration	2018 99th Percentile Concentration	Approximate Distance to Alabama (km)
Floyd (GA)	International Paper - Rome	13-115-0006	22	15	12

Though the annual 99th percentile daily maximum 1-hour SO_2 concentrations shown in Table 9 are not directly comparable to a DV for the 2010 1-hour SO_2 NAAQS, which is in the form of the 3-year average of the 99th percentile of daily maximum 1-hour values, EPA notes that the highest annual 99th percentile daily maximum 1-hour values observed at the Floyd County DRR monitor in 2017 and 2018 were 22 ppb and 15 ppb, respectively. The Floyd County DRR monitor has not measured any daily exceedances of the 2010 1-hour SO_2 NAAQS during 2017 or 2018. After careful review of the State's assessment and all available monitoring data, EPA believes that the AQS monitoring data assessed support EPA's proposed conclusion that Alabama will not contribute significantly to 2010 1-hour SO_2 violations in the neighboring states.

4. SIP-Approved Regulations Addressing SO_2 Emissions

a. State Submission

Alabama's August 20, 2018, SIP submission identifies SIP-approved measures which help ensure that SO_2 emissions in the State will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in any other state. Specifically, ADEM lists the following SIP-approved Alabama regulations which establish emission limits and other control measures for SO_2: ADEM Administrative Code Chapter 335-3-5 – *Control of Sulfur Compound Emissions* and Rules 335-3-14-.01 – *General Provisions*; 335-3-14-.02 – *Permit Procedure*; 335-3-14-.03 – *Standards for Granting Permits*; 335-3-14-.04 – *Air Permits Authorizing Construction in Clean Air Areas (Prevention of Significant Deterioration (PSD))*; and 335-3-14-.05 – *Air Permits Authorizing Construction in or Near Nonattainment Areas*.

b. EPA Analysis

EPA believes that Alabama's SIP-approved measures summarized in III.C.4.a. of this notice, which establish emissions limits, permitting requirements, and other control measures for SO_2, effectively address emissions of SO_2 from sources in the State. For the purposes of ensuring that SO_2 emissions at new major sources or major modifications at existing major sources in Alabama do not contribute significantly to nonattainment or interfere with maintenance of the 2010 1-hour SO_2 NAAQS, the State has a SIP-approved major source new source review (NSR) program. Alabama's SIP-approved nonattainment NSR regulation, Rule 335-3-14-.05, applies to the construction of any new major stationary source or major modification at an existing major stationary source in an area designated as nonattainment. Alabama's SIP-approved prevention of significant deterioration (PSD) regulation, Rule 335-3-14-.04, applies to the construction of any new major stationary source or any major modification

at an existing major stationary source in an area designated as attainment or unclassifiable or not yet designated. Rules 335-3-14-.01 – *General Provisions,* 335-3-14-.02 – *Permit Procedure,* and 335-3-14-.03 – *Standards for Granting Permits* govern the preconstruction permitting of modifications to and construction of minor stationary sources. These major and minor NSR rules ensure that SO_2 emissions due to major modifications at existing major stationary sources, modifications at minor stationary sources, and the construction of new major and minor sources in Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in neighboring states.

5. Federal Regulations Addressing SO_2 Emissions in Alabama

a. State Submission

ADEM identified EPA programs which, either directly or indirectly, have significantly reduced SO_2 emissions in Alabama. These programs include: 2007 Heavy-Duty Highway Rule; Acid Rain Program; Cross-State Air Pollution Rule; National Emission Standards for Hazardous Air Pollutants; New Source Performance Standards; Nonroad Diesel Rule; and Tier 1 and 2 Mobile Source Rules.

b. EPA Analysis

In addition to the list of federal regulations identified in section III.C.5.a. of this notice which contribute to SO_2 reductions in Alabama, EPA notes that some facilities in the State are also subject to the federal requirements contained in EPA's Mercury Air Toxic Standards (MATS). These regulations reduce acid gases, which also result in reductions of SO_2 emissions. EPA believes that the federal control measures for SO_2 which Alabama lists in the State's SIP submission, along with MATS, may lower SO_2 emissions, which, in turn, are expected to

continue to support EPA's proposed conclusion that SO_2 emissions from Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in another state.

6. Conclusion

EPA proposes to determine that Alabama's August 20, 2018, SIP submission satisfies the requirements of prong 1 of CAA section 110(a)(2)(D)(i)(I). This proposed determination is based on the following considerations: current air quality data for AQS SO_2 monitors located in the states of Florida, Georgia, and Mississippi that are within 50 km of Alabama's border are well below the 2010 1-hour SO_2 NAAQS; modeling for the two Alabama DRR sources whose modeling grids extend into a portion of other states indicate that the maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS in neighboring states; modeling for four DRR sources in the surrounding states of Florida, Georgia, and Mississippi located within 50 km of Alabama indicate that the areas around these sources do not violate the 2010 1-hour SO_2 NAAQS; declining statewide and EGU SO_2 emissions from 2005 to 2014 in Alabama suggest that the State's potential for contributing significantly to nonattainment of the 2010 1-hour SO_2 NAAQS is reduced substantially; SO_2 emissions from Alabama sources not subject to the DRR and which emitted over 100 tons of SO_2 in 2017 are not likely interacting with SO_2 emissions from the nearest sources in bordering states in such a way as to contribute significantly to nonattainment in the surrounding states of Florida, Georgia, Mississippi, and Tennessee; Alabama DRR sources without valid DRR modeling are located over 50 km from the nearest state's SO_2 source and their SO_2 emissions show an overall general downward trend; and the implementation of current Alabama SIP-approved measures and federal emissions control programs help to further reduce and control SO_2 emissions from sources within Alabama.

Further, EPA has no information indicating that Alabama sources will contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in another state.

Based on the analysis provided by Alabama in its SIP submission and EPA's analysis of the factors described in section III.C, EPA proposes to find that sources within Alabama will not contribute significantly to nonattainment of the 2010 1-hour SO_2 NAAQS in any other state.

D. EPA's Prong 2 Evaluation – Interference with Maintenance of the NAAQS

Prong 2 of the good neighbor provision requires state plans to prohibit emissions that will interfere with maintenance of a NAAQS in another state.

1. State Submission

In its August 20, 2018, SIP submission, ADEM relied upon the information provided for prong 1 to demonstrate that emissions within Alabama will not interfere with maintenance of the 2010 1-hour SO_2 NAAQS in any neighboring state. Further, ADEM notes that there are no monitors located in the surrounding states of Florida, Georgia, Louisiana, Mississippi, and Tennessee that are violating the 2010 1-hour SO_2 NAAQS for the 2015-2017 monitoring period. ADEM also highlighted the State's PSD regulation (335-3-14-.04) and states that this regulation "will continue to apply to any future, large sources in Alabama, further ensuring that maintenance efforts in neighboring states are addressed."

2. EPA Analysis

In *North Carolina v. EPA*, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) explained that the regulating authority must give prong 2 "independent significance" from prong 1 by evaluating the impact of upwind state emissions on downwind areas that, while currently in attainment, are at risk of future nonattainment. *North Carolina v. EPA*, 531 F.3d 896, 910-11 (D.C. Cir. 2008). EPA interprets prong 2 to require an

evaluation of the potential impact of a state's emissions on areas that are currently measuring clean data, but that may have issues maintaining that air quality. Therefore, in addition to the analysis presented by Alabama, EPA has also reviewed additional information on SO_2 air quality and emission trends to evaluate the State's conclusion that Alabama will not interfere with maintenance of the 2010 1-hour SO_2 NAAQS in downwind states. This evaluation builds on the analysis regarding significant contribution to nonattainment (prong 1).

For the prong 2 analysis, EPA evaluated the data discussed in section III.C. of this notice for prong 1, with a specific focus on evaluating emissions trends in Alabama, analyzing air quality data, and assessing how future sources of SO_2 are addressed through existing SIP-approved and federal regulations. Given the continuing trend of decreasing statewide SO_2 emissions from sources within Alabama, and the fact that all areas in other states within 50 km of the Alabama border have DVs attaining the 2010 1-hour SO_2 NAAQS, EPA believes that evaluating whether these decreases in emissions can be maintained over time is a reasonable criterion to ensure that sources within Alabama do not interfere with its neighboring states' ability to maintain the 2010 1-hour SO_2 NAAQS.

With respect to air quality data trends, the valid 2016-2018 DVs for AQS SO_2 monitors both in Alabama within 50 km of another state's border and in adjacent states within 50 km of Alabama's border are below the 2010 1-hour SO_2 NAAQS.[39] Further, modeling results for DRR sources in the State within 50 km of Alabama's border did not exceed the level of the 2010 1-hour SO_2 NAAQS in neighboring states and modeling results for DRR sources in neighboring states within 50 km of Alabama's border show maximum impacts did not exceed the level of the

[39] As noted in Section III.C.3.b, the Floyd County, Georgia monitor (AQS ID: 13-115-0003) does not have a valid 2016-2018 DV as this monitor was relocated in January 2017 to the opposite side of the International Paper-Rome facility to characterize the area of expected maximum 1-hour SO_2 concentration near the source under the DRR.

2010 1-hour SO_2 NAAQS. Thus, these modeling results demonstrate that Alabama's largest point sources of SO_2 are not expected to interfere with maintenance of the 2010 1-hour SO_2 NAAQS in another state.

As discussed in sections III.C.4 and III.C.5, EPA believes that federal and SIP-approved State regulations that both directly and indirectly reduce emissions of SO_2 in Alabama help ensure that the State does not interfere with maintenance of the NAAQS in another state. SO_2 emissions from future major modifications and new major sources will be addressed by Alabama's SIP-approved major NSR regulations described in section III.C.4. In addition, ADEM Rules 335-3-14-.01 – *General Provisions*, 335-3-14-.02 – *Permit Procedure*, and 335-3-14-.03 – *Standards for Granting Permits* govern the preconstruction permitting of modifications to and construction of minor stationary sources. These major and minor source permitting regulations are designed to ensure that emissions from these activities will not interfere with maintenance of the 2010 1-hour SO_2 NAAQS in the State or in any other state.

3. Conclusion

EPA proposes to determine that Alabama's August 20, 2018, SIP submission satisfies the requirements of prong 2 of CAA section 110(a)(2)(D)(i)(I). This determination is based on the following considerations: statewide and EGU SO_2 emissions from 2005 to 2014 in Alabama have declined significantly (66 and 74 percent, respectively); current Alabama SIP-approved measures and federal emissions control programs adequately control SO_2 emissions from sources within Alabama; Alabama's SIP-approved PSD and minor source NSR permit programs will address future large and small SO_2 sources; current air quality data for AQS SO_2 monitors in Florida, Georgia, and Mississippi within 50 km of Alabama's border have DVs well below the 2010 1-hour SO_2 NAAQS; and modeling for DRR sources in Alabama indicate that the

maximum impacts did not exceed the level of the 2010 1-hour SO_2 NAAQS in neighboring states; modeling for DRR sources within 50 km of Alabama's border located in the states of Florida, Georgia, and Mississippi demonstrate that Alabama's largest point sources of SO_2 will not interfere with maintenance of the 2010 1-hour SO_2 NAAQS in another state. Based on the analysis provided by Alabama in its SIP submission and EPA's analysis of the factors described in section III.C of this notice, EPA proposes to find that emission sources within Alabama will not interfere with maintenance of the 2010 1-hour SO_2 NAAQS in any other state.

IV. Proposed Action

In light of the above analysis, EPA is proposing to approve Alabama's August 20, 2018, SIP submission as demonstrating that emissions from Alabama will not contribute significantly to nonattainment or interfere with maintenance of the 2010 1-hour SO_2 NAAQS in another state.

V.

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. This proposed 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 proposed 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);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;

- 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 application of those requirements would be inconsistent with the CAA; 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).

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 as specified by Executive

Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Particulate Matter, Reporting and recordkeeping requirements, Sulfur oxides.

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

Dated: December 17, 2019.

Blake M. Ashbee

Acting Regional Administrator,

Region 4.

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