Final Technical Support Document

Mississippi
Area Designations for the 2010 SO_2 Primary National Ambient Air Quality Standard

Summary

Pursuant to section 107(d) of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA, or the Agency) must designate areas as either "unclassifiable," "attainment," or "nonattainment" for the 2010 1-hour sulfur dioxide (SO_2) primary national ambient air quality standard (NAAQS). Section 107(d) of the CAA defines a nonattainment area as one that does not meet the NAAQS or that contributes to a NAAQS violation in a nearby area, an attainment area as any area other than a nonattainment area that meets the NAAQS, and an unclassifiable area as any area that cannot be classified on the basis of available information as meeting or not meeting the NAAQS.

July 2, 2016, is the deadline established by the U.S. District Court for the Northern District of California for the EPA to designate certain areas. This deadline is the first of three deadlines established by the court for the EPA to complete area designations for the 2010 SO_2 NAAQS. This deadline applies to certain areas in Mississippi because one emission source meets the conditions of the court's order.

Mississippi submitted updated recommendations on September 18, 2015. Table 1 below lists Mississippi's recommendation and identifies the county in Mississippi that the EPA is designating in order to meet the July 2, 2016, court-ordered deadline. This final designation is based on an assessment and characterization of air quality through ambient air quality data, air dispersion modeling, other evidence and supporting information, or a combination of the above.

Table 1 – Mississippi's Recommended and the EPA's Final Designations

Area	State's Recommended Area Definition	State's Recommended Designation	The EPA's Final Area Definition	The EPA's Final Designation
Lamar County, Mississippi	Lamar County	Unclassifiable/ Attainment	Same as state's Recommendation (Lamar County)	Same as state's Recommendation

Background

On June 3, 2010, the EPA revised the primary (health based) SO_2 NAAQS by establishing a new 1-hour standard at a level of 75 parts per billion (ppb) which is met at an ambient air quality monitoring site when the 3-year average of the 99th percentile of 1-hour daily maximum concentrations does not exceed 75 ppb. This NAAQS was published in the *Federal Register* on

June 22, 2010 (75 FR 35520), and is codified at 40 CFR 50.17. The EPA determined this is the level necessary to protect public health with an adequate margin of safety, especially for children, the elderly, and those with asthma. These groups are particularly susceptible to the health effects associated with breathing SO_2. The two prior primary standards of 140 ppb evaluated over 24 hours, and 30 ppb evaluated over an entire year, codified at 40 CFR 50.4, remain applicable.[1] However, the EPA is not currently designating areas on the basis of either of these two primary standards. Similarly, the secondary standard for SO_2, set at 500 ppb evaluated over 3 hours, codified at 40 CFR 50.5, has not been revised, and the EPA is also not currently designating areas on the basis of the secondary standard.

General Approach and Schedule

Section 107(d) of the CAA requires that not later than 1 year after promulgation of a new or revised NAAQS, state governors must submit their recommendations for designations and boundaries to EPA. Section 107(d) also requires the EPA to provide notification to states no less than 120 days prior to promulgating an initial area designation that is a modification of a state's recommendation. If a state does not submit designation recommendations, the EPA may promulgate the designations that it deems appropriate without prior notification to the state, although it is our intention to provide such notification when possible. If a state or tribe disagrees with the EPA's intended designations, it is given an opportunity within the 120-day period to demonstrate why any proposed modification is inappropriate. The EPA is required to complete designations within 2 years after promulgation of a new or revised NAAQS, unless the EPA determines that sufficient information is not available, in which case the deadline is extended to 3 years. The 3-year deadline for the revised SO_2 NAAQS was June 2, 2013.

On August 5, 2013, the EPA published a final rule establishing air quality designations for 29 areas in the United States for the 2010 SO_2 NAAQS, based on recorded air quality monitoring data from 2009 - 2011 showing violations of the NAAQS (78 FR 47191). In that rulemaking, the EPA committed to address, in separate future actions, the designations for all other areas for which the Agency was not yet prepared to issue designations.

Following the initial August 5, 2013, designations, three lawsuits were filed against the EPA in different U.S. District Courts, alleging the Agency had failed to perform a nondiscretionary duty under the CAA by not designating all portions of the country by the June 2, 2013, deadline. In an effort intended to resolve the litigation in one of those cases, plaintiffs, Sierra Club and the Natural Resources Defense Council, and the EPA filed a proposed consent decree with the U.S. District Court for the Northern District of California. On March 2, 2015, the court entered the consent decree and issued an enforceable order for the EPA to complete the area designations according to the court-ordered schedule.

[1] 40 CFR 50.4(e) provides that the two prior primary NAAQS will no longer apply to an area 1 year after its designation under the 2010 NAAQS, except that for areas designated nonattainment under the prior NAAQS as of August 22, 2010, and areas not meeting the requirements of a SIP Call under the prior NAAQS, the prior NAAQS will apply until that area submits and EPA approves a SIP providing for attainment of the 2010 NAAQS. Mississippi is not designated nonattainment under the previous primary NAAQS, nor is it an area not meeting the requirements of a SIP Call under the prior NAAQS.

According to the court-ordered schedule, the EPA must complete the remaining designations by three specific deadlines. By no later than July 2, 2016 (16 months from the court's order), the EPA must designate two groups of areas: (1) areas that have newly monitored violations of the 2010 SO_2 NAAQS and (2) areas that contain any stationary sources that had not been announced as of March 2, 2015, for retirement and that, according to the EPA's Air Markets Database, emitted in 2012 either: (i) more than 16,000 tons of SO_2, or (ii) more than 2,600 tons of SO_2 with an annual average emission rate of at least 0.45 pounds of SO_2 per one million British thermal units (lbs SO_2/mmBTU). Specifically, a stationary source with a coal-fired unit that, as of January 1, 2010, had a capacity of over 5 megawatts and otherwise meets the emissions criteria, is excluded from the July 2, 2016, deadline if it had announced through a company public announcement, public utilities commission filing, consent decree, public legal settlement, final state or federal permit filing, or other similar means of communication, by March 2, 2015, that it will cease burning coal at that unit.

The last two deadlines for completing remaining designations are December 31, 2017, and December 31, 2020. The EPA has separately promulgated requirements for state and other air agencies to provide additional monitoring or modeling information on a timetable consistent with these designation deadlines. We expect this information to become available in time to help inform these subsequent designations. These requirements were promulgated on August 21, 2015 (80 FR 51052), in a rule known as the SO_2 Data Requirements Rule (DRR), codified at 40 CFR part 51 subpart BB.

Updated designations guidance was issued by the EPA through a March 20, 2015, memorandum from Stephen D. Page, Director, U.S. EPA, Office of Air Quality Planning and Standards, to Air Division Directors, U.S. EPA Regions 1-10. This memorandum supersedes earlier designation guidance for the 2010 SO_2 NAAQS, issued on March 24, 2011, and it identifies factors that the EPA intends to evaluate in determining whether areas are in violation of the 2010 SO_2 NAAQS. The guidance also contains the factors the EPA intends to evaluate in determining the boundaries for all remaining areas in the country, consistent with the court's order and schedule. These factors include: 1) Air quality characterization via ambient monitoring or dispersion modeling results; 2) Emissions-related data; 3) Meteorology; 4) Geography and topography; and 5) Jurisdictional boundaries. This guidance was supplemented by two non-binding technical assistance documents intended to assist states and other interested parties in their efforts to characterize air quality through air dispersion modeling or ambient air quality monitoring for sources that emit SO_2. Notably, the EPA's documents, titled "SO_2 NAAQS Designations Modeling Technical Assistance Document" (Modeling TAD) and "SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document" (Monitoring TAD), were available to states and other interested parties. Both of these TADs were most recently updated in February 2016.

Based on complete, quality assured and certified ambient air quality data collected between 2013 and 2015, no violations of the 2010 SO_2 NAAQS have been recorded at ambient air quality monitors in any undesignated part of Mississippi. However, there is one source in the State meeting the emissions criteria of the consent decree for which the EPA must complete designations by July 2, 2016. In this final technical support document, the EPA discusses its review and technical analysis of Mississippi's updated recommendations for the areas that we

must designate. The EPA also discusses any intended and final modifications from the State's recommendation based on all available data before us.

The following are definitions of important terms used in this document:

1) 2010 SO_2 NAAQS – the primary NAAQS for SO_2 promulgated in 2010. This NAAQS is 75 ppb, based on the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations. See 40 CFR 50.17.
2) Attaining monitor – an ambient air monitor meeting all methods, quality assurance, and siting criteria and requirements whose valid design value is equal to or less than 75 ppb, based on data analysis conducted in accordance with Appendix T of 40 CFR part 50.
3) Design Value – a statistic computed according to the data handling procedures of the NAAQS (in 40 CFR part 50 Appendix T) that, by comparison to the level of the NAAQS, indicates whether the area is violating the NAAQS.
4) Designated nonattainment area – an area which the EPA has determined has violated the 2010 SO_2 NAAQS or contributed to a violation in a nearby area. A nonattainment designation reflects considerations of the state's recommendations and all of the information discussed in this document. The EPA's decision is based on all available information including the most recent 3 years of air quality monitoring data, available modeling analyses, and any other relevant information.
5) Designated unclassifiable area – an area for which the EPA cannot determine based on all available information whether or not it meets the 2010 SO_2 NAAQS.
6) Designated unclassifiable/attainment area – an area which the EPA has determined to have sufficient evidence to find either is attaining or is likely to be attaining the NAAQS. The EPA's decision is based on all available information including the most recent 3 years of air quality monitoring data, available modeling analyses, and any other relevant information.
7) Modeled violation – a violation based on air dispersion modeling.
8) Recommended attainment area – an area a state or tribe has recommended that the EPA designate as attainment.
9) Recommended nonattainment area – an area a state or tribe has recommended that the EPA designate as nonattainment.
10) Recommended unclassifiable area – an area a state or tribe has recommended that the EPA designate as unclassifiable.
11) Recommended unclassifiable/attainment area – an area a state or tribe has recommended that the EPA designate as unclassifiable/attainment.
12) Violating monitor – an ambient air monitor meeting all methods, quality assurance, and siting criteria and requirements whose valid design value exceeds 75 ppb, based on data analysis conducted in accordance with Appendix T of 40 CFR part 50.

Technical Analysis for Lamar County, Mississippi

Introduction

The Lamar County, Mississippi, area contains a stationary source that, according to the EPA's Air Markets Database, emitted in 2012 either more than 16,000 tons of SO_2 or more than 2,600 tons of SO_2 and had an annual average emission rate of at least 0.45 pounds of SO_2 per one million British thermal units (lbs SO_2/mmBTU). Specifically, in 2012, the R.D. Morrow, Sr. Generating Plant (R.D. Morrow Plant) emitted 3,948 tons of SO_2 and had an emissions rate of 0.64 lbs SO_2/mmBTU. The R.D. Morrow Plant owned and operated by South Mississippi Electric Power Association (SMEPA),[2] is located in central Mississippi in the eastern portion of Lamar County. As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Pursuant to the March 2, 2015, court-ordered schedule, the EPA must designate the area surrounding this facility by July 2, 2016.

In its submission, Mississippi recommended that the area surrounding R.D. Morrow electric generating facility, specifically the entirety of Lamar County (Lamar County Area), be designated as unclassifiable/attainment based on an assessment and characterization of air quality from the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO_2 are expected. This assessment and characterization was performed using air dispersion modeling software, i.e., AERMOD, analyzing actual emissions.

On February 16, 2016, the EPA notified Mississippi that we intended to designate the Lamar County area as unclassifiable/attainment, based on our view that the area was meeting the NAAQS. Additionally, we informed Mississippi that our intended boundaries for the unclassifiable/attainment area consisted of the entirety of Lamar County. Our intended designation and associated boundaries were based on, among other things, the technical air dispersion modeling demonstration submitted by Mississippi and based on actual emissions in Lamar County. Detailed rationale, analyses, and other information supporting our intended designation for this area can be found in the preliminary technical support document for Mississippi, and this document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.[3]

[2] The modeling analysis submitted by the State of Mississippi was performed by Trinity Consultants at the request of SMEPA.

[3] EPA notes that the 2012-2014 design value from the Jackson monitoring site was incomplete. The site was relocated from a previous location in 2013 and was temporarily shut down during this relocation. As a result, the monitor did not collect complete data during 2012 and 2013. The EPA evaluated design values from other nearby monitoring sites that would potentially be suitable for characterization of background concentrations in Lamar County. The Pascagoula site (AQS ID: 28-059-0006) is located approximately 88 miles southeast of the Area, and is in a more urban/industrial area than Lamar County. The Pascagoula site recorded a complete, valid 2012-2014 design value of 27 ppb. If this design value had been used to characterize the background concentration of the area, then the AERMOD results would still show a maximum predicted 99th Percentile 1-Hour SO_2 concentration below the NAAQS.

Assessment and Conclusion

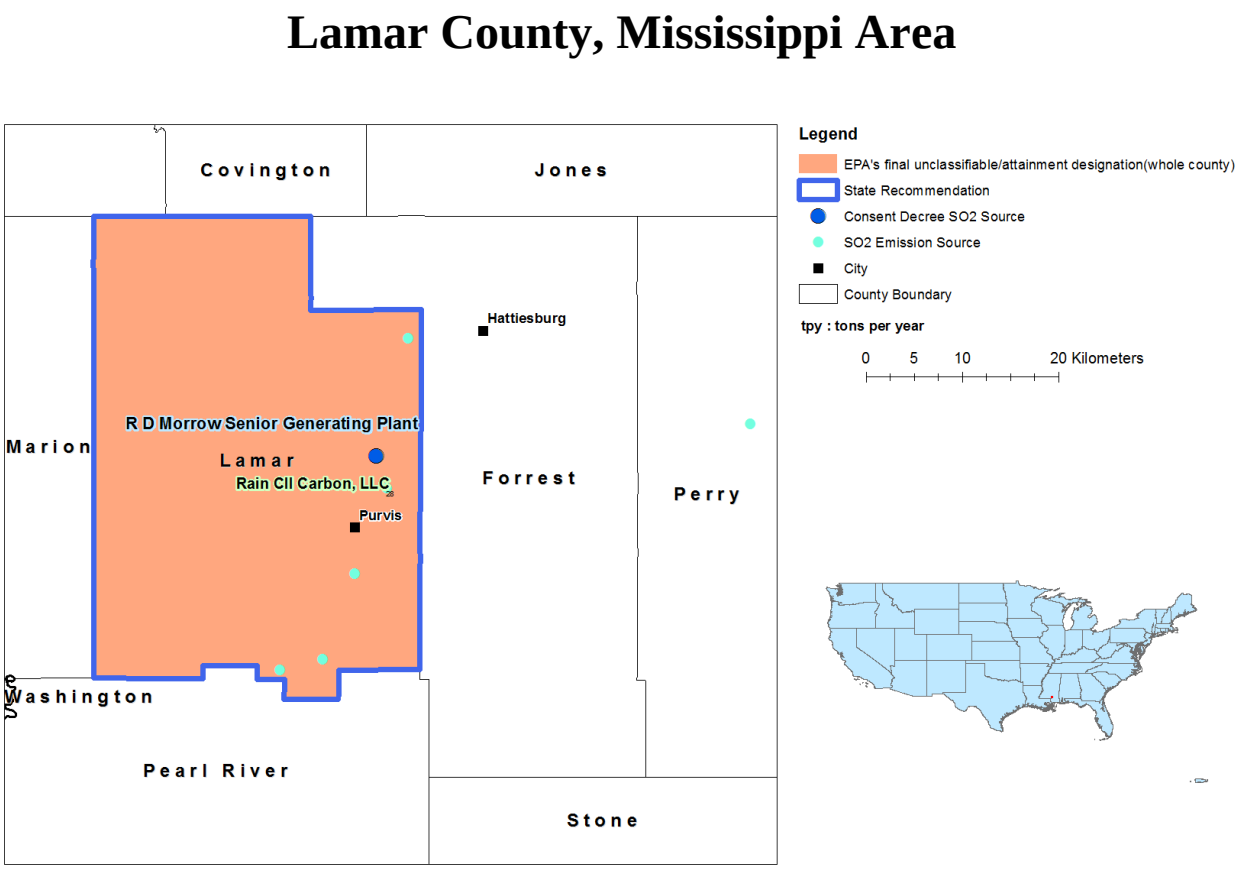
In our February 16, 2016, notification to Mississippi regarding our intended unclassifiable/attainment designation for the Lamar County Area, the EPA requested that any additional information that the Agency should consider prior to finalizing the designation should be submitted by April 19, 2016. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register,* inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563).

The EPA is explicitly incorporating and relying upon the analyses and information presented in the preliminary technical support document for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our response to comments document (RTC), available in the docket, supersede those found in the preliminary document.

The EPA did not receive any additional information from Mississippi, nor did we receive any public comments regarding our intended unclassifiable/attainment designation for the Lamar County Area.

Therefore, based on the information available to the EPA at this time, including the analyses performed for the purposes of the preliminary technical support document, and in the absence of any new information that would otherwise lead to a different conclusion regarding air quality in the area or any new information that would otherwise lead to a different conclusion regarding the area boundaries, the EPA determines that the Lamar County, Mississippi, area is meeting the 2010 SO_2 NAAQS and is designating this area as unclassifiable/attainment for the 2010 SO_2 NAAQS. The boundaries for this unclassifiable/attainment area consist of the entirety of Lamar County, and are shown in the figure below. Also included in the figure are nearby emitters of SO_2 and Mississippi's recommended area.

Figure 1: The EPA's final unclassifiable/attainment area: Lamar County, Mississippi Area



At this time, our final designation for the State only applies to this area. Consistent with the court-ordered schedule, the EPA will evaluate and designate all remaining undesignated areas in Mississippi by either December 31, 2017, or December 31, 2020.