

**Responses to Comments on EPA's Intended Designations for the  
2010 Sulfur Dioxide Primary National Ambient Air Quality  
Standard (NAAQS) – Round 4**

Docket No. EPA-HQ-OAR-2020-0037

**U.S. Environmental Protection Agency  
December 2020**

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## 1. Introduction

The public comment period for the U.S. Environmental Protection Agency's (EPA's) intended Round 4 designations ended on September 21, 2020. States had until October 16, 2020, to demonstrate why they believed an intended modification of their original (or revised) recommendations by EPA may be inappropriate. Most of the comments from individual states were sent to the respective EPA Regional office after September 21, 2020, and were added to the public docket at <http://www.regulations.gov> under Docket ID No. EPA-HQ-OAR-2020-0037.

This Responses to Comments (RTC) document, together with the *Federal Register* preamble to the final designations action and the technical support document (TSD) for the final designations, presents EPA's responses to the significant and timely public and state comments that the Agency received on our intended Round 4 designations for the 2010 sulfur dioxide (SO<sub>2</sub>) primary National Ambient Air Quality Standard (NAAQS).<sup>1</sup> Additionally, the chapters and sections of EPA's intended designations TSD, unless otherwise noted in EPA's final designations TSD, are incorporated as part of the basis for the final designations. EPA's responses in this document are intended to either augment the final action and the TSD, or to address comments not discussed in those documents. EPA's responses to comments often indicate whether a comment is also addressed in the TSD.

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<sup>1</sup> The single final TSD for this action consists of a few sections with information that applies to all affected areas or to certain groups of areas with some common features, and many sections that are specific to individual state areas. For convenience, the term "TSD" is also used generically to refer to these state-specific sections. For informational purposes, these individual state-specific sections/TSDs are available as separate documents.

## **2. Background**

Both the *Federal Register* notice for these final designations and Chapter 1 of EPA's final designations TSD provide the background information for EPA's designations.

### 3. Comments Specific to Kentucky

#### 3.1. Henderson and Webster Counties

**Comment:** On November 12, 2020, superseding an October 16, 2020, submission, the Commonwealth of Kentucky submitted an air dispersion modeling analysis to support the Commonwealth's updated nonattainment boundary recommendation, which now includes all three DRR sources in the undesignated portions of Henderson and Webster Counties. The geographic extent of the Commonwealth's modified nonattainment boundary is smaller than EPA's intended nonattainment boundary but larger than the Commonwealth's original July 7, 2020 boundary recommendation.

**EPA Response:** EPA has assessed the Commonwealth's modeling analysis in the final designations TSD for Kentucky.

**Comment:** Sierra Club states that EPA should either expand the Henderson-Webster County boundary based on the best available information including the data and information provided in the docket for the intended designations or "at the very least retain, the scope of the proposed nonattainment area." The commenter expresses concern that Kentucky's initial nonattainment boundary assessment did not properly account for the substantial emissions from coal-fired power plants—Robert Reid Station/ Henderson Municipal Power and Light (HMP&L) Station 2, and Robert D. Green Station. The commenter asserts that the nonattainment boundary should not be developed in a manner that excludes any portion of emissions from the coal fired facilities, the aluminum facility and any other sources of SO<sub>2</sub> in the vicinity.

The commenter alleges that EPA should reject any consideration that the SO<sub>2</sub> emissions from area power plants are not significant in quantity, emitted at too high an altitude to significantly affect public health, or simply not worth regulating properly based on narrow-minded and short-sighted economic arguments at the expense of public health. The commenter suggests that any such argument would be legally unsubstantiated, conflict with EPA's duty to protect public health, and, if finalized could be subject to legal challenge. The commenter urges EPA to either expand the intended designations boundary or at a minimum maintain the intended nonattainment boundary for Henderson and Webster Counties based on the law and available data and the Agency's duty to protect human health.

**EPA Response:** In response to EPA's August 13, 2020, intended designations, the Commonwealth submitted additional air dispersion modeling on November 12, 2020, superseding an October 16, 2020, submission which accounts for SO<sub>2</sub> emissions from both Robert Reid Station/HMP&L Station 2, and Robert D. Green Station power plants in addition to the Century Aluminum facility. The Commonwealth's November 2020 modeling supports the Commonwealth's updated nonattainment boundary recommendation that includes all three DRR sources in portions of Henderson and Webster Counties. EPA's August 2020 intended nonattainment boundary was based on modeling developed to site the monitor (AQS ID# 21-

101-1011) in 2016 pursuant to EPA's SO<sub>2</sub> Data Requirements Rule (DRR),<sup>2</sup> and this modeling included the SO<sub>2</sub> emissions from all three DRR sources. At the time of intended designations, EPA did not have any additional modeling analyses available to inform a nonattainment boundary. However, on November 12, 2020, the Commonwealth submitted air dispersion modeling that more accurately characterizes the geographic extent of the NAAQS violations using the most recent emissions from the three DRR facilities, the most recent meteorology data, current background concentrations from nearby monitors, and the current version of AERMOD. EPA believes that this updated modeling is more representative of the area than the modeling used to site the monitor that EPA relied on to develop the intended nonattainment boundary and that it accounts for all modeled impacts above the 2010 SO<sub>2</sub> NAAQS. As explained in the final designations TSD, EPA has concluded that the Commonwealth's November 12, 2020, modeling submission is adequate to establish a nonattainment boundary for the Henderson and Webster Counties area. Refer to EPA's final designations TSD for the complete analysis.

EPA notes that the commenter did not provide any technical evidence that supports its claims that the intended nonattainment boundary should be broader nor did the commenter expound or demonstrate how the data and documents of record that support the intended nonattainment boundary suggests a broader nonattainment boundary. Nevertheless, EPA concurs with the commenter, based in part on EPA's review of the Commonwealth's November 2020 modeling, that the major SO<sub>2</sub> sources in the area should be included in the nonattainment area.

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<sup>2</sup> See 80 FR 51052 (August 21, 2015), codified at 40 CFR part 51 subpart BB.

## 4. Comments Specific to Missouri

### 4.1. New Madrid County

**Comment:** On October 16, 2020, Missouri submitted an updated air dispersion modeling analysis and model performance evaluation in response to EPA's modification of the State's April 30, 2020, recommended nonattainment area boundary for the New Madrid County, Missouri area.

**EPA Response:** EPA has assessed Missouri's updated modeling analysis and model performance evaluation in the final designations TSD for Missouri.

**Comment:** Great Rivers Environmental Law Center (GRELC) and the Sierra Club provided information about the adverse health effects of SO<sub>2</sub> exposure in New Madrid County and the purpose of the NAAQS. The commenters also reference educational achievement standards in this area. GRELC and the Sierra Club then noted that Magnitude 7 Metals (M7M) and Associated Electric Cooperative Incorporated (AECI) have SO<sub>2</sub> emissions that are significantly above 2,000 tons per year (tpy). GRELC and the Sierra Club asserted that there are seven other sources of SO<sub>2</sub> in New Madrid County and requested that EPA revise the nonattainment boundary to include all sources of SO<sub>2</sub> in the county. GRELC and the Sierra Club reference Missouri's April 30, 2020, submission which included 2016-2018 reported emissions for all SO<sub>2</sub> sources in New Madrid County.

**EPA Response:** To the commenter's first point, EPA acknowledges the information provided by GRELC and the Sierra Club regarding health effects of SO<sub>2</sub> exposure. EPA is not evaluating or disputing this health-related information because EPA's understanding of the commenters' intent for including this information was to emphasize the importance of meeting the 2010 SO<sub>2</sub> NAAQS. EPA agrees that the 2010 SO<sub>2</sub> NAAQS is crucial for protecting public health around SO<sub>2</sub> emissions sources. As such, EPA established the 2010 SO<sub>2</sub> NAAQS based on such health effects information and will continue to implement the 2010 SO<sub>2</sub> NAAQS to protect public health based on the authority granted to EPA in the Clean Air Act (CAA). EPA's Round 4 designations action for the New Madrid County, Missouri area does not pertain to the appropriateness of the 2010 SO<sub>2</sub> NAAQS, rather the action deals with the determination of an appropriate designation and boundary in this undesignated area. References to educational achievement standards in the county are outside the scope of this action

To the commenter's second point, as explained in EPA's final designations TSD for Missouri, EPA's nonattainment boundary includes the two principal SO<sub>2</sub> emissions sources, M7M and AECI New Madrid, as referenced by the commenters, that contribute to SO<sub>2</sub> violations in New Madrid County. Each of the other sources referenced by the commenters emitted less than 0.5 tpy of SO<sub>2</sub> during the 2016-2018 period. As explained in the State's April 30, 2020, submission, the State represented these other sources in the modeling by using a fixed background value added to the final modeling results because of the relatively low emissions. These seven smaller sources were therefore not explicitly included in the State's modeling demonstration. The total combined 2018 SO<sub>2</sub> emissions from these seven sources in New Madrid County is less than 1 ton and less than 0.005 percent of total SO<sub>2</sub> emissions for the county. The other SO<sub>2</sub> sources located

in New Madrid County but outside of EPA's nonattainment area are comparatively very small SO<sub>2</sub> emitters and additional required controls or emission reductions would not be expected even if the nonattainment area were further expanded. Additionally, EPA does not have evidence that any source outside of EPA's nonattainment area is contributing to the violations in the nonattainment area or that there are other violations occurring in New Madrid County outside of EPA's nonattainment area.

**Comment:** GRELC and the Sierra Club claimed that Missouri's receptor grid did not include the more populated areas of New Madrid County. GRELC and the Sierra Club asserted that recent wind roses support extending the boundary to include the more populated areas of the county such as Howardville and Marston. Specifically, GRELC and the Sierra Club requested that EPA expand the boundary to include the townships of New Madrid, Lewis, and La Font.

**EPA Response:** Similar to EPA's response regarding expanding the nonattainment boundary to encompass all sources of SO<sub>2</sub> in New Madrid County, aside from the two principal SO<sub>2</sub> emissions sources that are included in EPA's intended nonattainment boundary, other sources in the county emit less than 1 tpy of SO<sub>2</sub>. As noted in EPA's intended designations TSD, EPA defines a nonattainment area as an area that, based on available information including (but not limited to) monitoring data and/or appropriate modeling analyses, EPA has determined either: (1) does not meet the 2010 1-hour SO<sub>2</sub> NAAQS, or (2) contributes to ambient air quality in a nearby area that does not meet the NAAQS. EPA does not have evidence that the remaining portion of New Madrid County (*i.e.*, the portion outside of EPA's final nonattainment area) is violating the NAAQS. Specifically, EPA does not have evidence that violations are occurring in the populated areas of Howardville or Marston as suggested by GRELC and Sierra Club.

Furthermore, EPA does not have evidence that any SO<sub>2</sub> sources, other than the two principal SO<sub>2</sub> sources already included in the nonattainment area, are contributing to the violations occurring within EPA's final nonattainment area. As discussed in both EPA's intended and final designations TSDs for Missouri, EPA evaluated modeling performed by the State. While there are uncertainties in the modeling and EPA is unable to solely rely on the State's modeling to inform the nonattainment boundary, the modeling still provides useful context such as the concentration gradients around the primarily low-level releases at M7M. All of Missouri's model scenarios predict violations to be contained within EPA's final nonattainment area boundary. Specifically, EPA's boundary captures, with an adequate degree of confidence, the undesignated portion of New Madrid County that is experiencing exceedances of the standard attributable to both sources, namely where the combined impacts equate to exceedances of the 2010 SO<sub>2</sub> NAAQS. Therefore, EPA is designating the remaining portion of New Madrid County, including the towns of Howardville and Marston, as attainment/unclassifiable because the area does not meet the definition of a nonattainment area.

**Comment:** GRELC and the Sierra Club asserted that the maximum impacts from AECl are not captured in EPA's intended nonattainment boundary due to the higher release points at AECl.

**EPA Response:** As stated in the intended designations TSD for Missouri, EPA acknowledges that because of its high stacks, the maximum impacts from AECl, while below the level of the 2010 SO<sub>2</sub> NAAQS when modeled with actual emissions, occur at the furthest edges or outside of



the State's recommended nonattainment boundary. This is one of the reasons that EPA's final nonattainment boundary expands on the State's recommended nonattainment boundary. EPA finds that extending the nonattainment boundary will provide a more representative area of evaluation for SO<sub>2</sub> impacts from AECI New Madrid and M7M within New Madrid County. Specifically, EPA's boundary captures, with an adequate degree of confidence, the undesignated area experiencing violations of the standard attributable to both sources, namely where the combined impacts equate to a violation of the 2010 SO<sub>2</sub> NAAQS. The nonattainment boundary must capture all areas that are violating the standard, but it is not necessary to capture all areas with impacts that are not violating the standard.

Furthermore, GRELC and the Sierra Club provided no evidence that the impacts outside EPA's intended nonattainment boundary violate the 2010 SO<sub>2</sub> NAAQS. In EPA's final designations TSD for Missouri, we conclude that EPA's nonattainment boundary includes the two principal SO<sub>2</sub> emissions sources that contribute to SO<sub>2</sub> NAAQS violations in New Madrid County. EPA's nonattainment boundary extends 2 km to 3 km to the north, west and south of the main emissions points at AECI New Madrid and M7M. Given that there is some uncertainty in the exact geographic extent of the NAAQS violations, EPA's boundary provides a high level of confidence that it encompasses the area of New Madrid County where violations of the NAAQS are likely to occur. EPA concludes that this final nonattainment boundary captures the extent of 2010 SO<sub>2</sub> NAAQS violations in the undesignated area and the sources causing them, the M7M and AECI facilities. EPA has no evidence to suggest that violations are occurring in the remainder of the County or that there are SO<sub>2</sub> sources outside the final nonattainment area that are contributing to the violations in that area.

**Comment:** GRELC and the Sierra Club claimed that EPA improperly deviated from the analytical starting point of county boundaries.

**EPA Response:** In past guidance related to initial area designations under the 2010 SO<sub>2</sub> NAAQS, most recently updated in EPA's September 5, 2019, Round 4 designations guidance memorandum ("Round 4 Guidance"), EPA states that the county boundary may be considered the analytical starting point for determining nonattainment area boundaries.<sup>3</sup> Specifically, on page 5 in EPA's Round 4 Guidance, EPA states, "Accordingly, although we expect to continue to consider county boundaries as the analytical starting point for determining SO<sub>2</sub> nonattainment areas, an evaluation of five factors for each area may be considered in determining the geographic scope of a nonattainment boundary." Later in that guidance document, EPA details the five specific factors that it recommends be evaluated to inform the proper nonattainment area boundary, and when introducing those factors, EPA states, "Considered as a whole, results may support boundaries that are either larger *or smaller* [emphasis added] than the analytical starting point." In this case, EPA has considered those factors in addition to evaluating the modeling provided by the State to inform the nonattainment area boundary. Through consideration of those factors, EPA proposed a boundary larger than the area recommended by the State but smaller than the starting point of the county boundary. Specifically, EPA's nonattainment area boundary

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<sup>3</sup> See "Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4," memorandum to Regional Air Division Directors, Regions 1-10, from Peter Tsirigotis, dated September 5, 2019, available at [https://www.epa.gov/sites/production/files/2019-09/documents/round\\_4\\_so2\\_designations\\_memo\\_09-05-2019\\_final.pdf](https://www.epa.gov/sites/production/files/2019-09/documents/round_4_so2_designations_memo_09-05-2019_final.pdf).

includes the principal SO<sub>2</sub> emissions sources contributing to violations in New Madrid County. For nonattainment designations under the 2010 SO<sub>2</sub> NAAQS, EPA has routinely designated partial county nonattainment areas, or areas smaller than the starting point of the county boundary, due to the source-oriented nature of SO<sub>2</sub>.<sup>4</sup> As explained on page 5 of EPA's Round 4 Guidance, "Ambient SO<sub>2</sub> is a pollutant that arises from direct emissions, and SO<sub>2</sub> concentrations are generally expected to be highest relatively close to the source(s) and lower at farther distances due to dispersion."

**Comment:** GRELC and the Sierra Club asserted that EPA provides no technical basis for EPA's intended nonattainment area boundary and, therefore, EPA must have relied in part on the "admittedly faulty model" provided by the Missouri. Additionally, the commenters asserted that despite identifying the flaws in the State's modeling, EPA does not correct them.

**EPA Response:** While the modeling provided by Missouri may have some uncertainties and therefore would not be suitable for an attainment demonstration, it is still useful as one piece of evidence in an overall multifactor analysis to determine the proper nonattainment boundary for the New Madrid County area. For example, while the modeling may not suitably represent all monitored conditions, such as the modeled under-prediction of lower monitored concentrations that are still exceeding the standard, it provides evidence of the likely concentration gradients around the facility. Thus, the State's modeling, when considered alongside the other five factors, helps to inform the geographic scope of the nonattainment area boundary. On page 28 of the intended designations TSD for Missouri, EPA stated that "Because of these uncertainties at M7M, EPA is not able to rely *solely* [emphasis added] on the overall final MoDNR modeling demonstration to inform the extent of the nonattainment boundary around the AECI and M7M facilities." Therefore, while EPA may not rely solely on the modeling, it may be used in conjunction with other information in a larger weight of evidence evaluation to inform the boundary. With the majority of emissions releases being from relatively low release heights at the M7M facility, EPA has high confidence in the relatively tight concentration gradient around the plant. Therefore, as initially explained in the intended designations TSD and reexamined in the final designations TSD for Missouri, when considering the modeling provided by Missouri along with other available information, EPA's final nonattainment boundary provides for an adequate degree of confidence around the known violations in the area, such that a larger boundary as suggested by GRELC and the Sierra Club is not warranted.

To GRELC and the Sierra Club's second point, EPA routinely bases area designations on the best available information in front of the Agency at the time of designation. Similarly, when developing the intended designation for New Madrid County, EPA evaluated the modeling provided by Missouri along with all other available information, including available monitoring data, emissions and meteorological information, and geographic and jurisdictional information. As the commenters did not provide additional technical evidence, EPA must base its designation decision on the data available at the time of designation, which includes the aforementioned information. The CAA does not require EPA to create or supplement information where it is not available. Despite the uncertainties in the modeling, the monitoring data clearly supports a nonattainment designation. The monitoring data in this area is the primary evidence to support

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<sup>4</sup> See 40 CFR part 81, Subpart C for the various attainment status designations for the 2010 primary SO<sub>2</sub> NAAQS.

the nonattainment designation with the other available information providing supplementary evidence to inform the extent of the nonattainment area boundary.

**Comment:** GRELC and the Sierra Club asserted that M7M's limited operations during the modeled time period reduces the accuracy of the Missouri's modeling.

**EPA Response:** GRELC and the Sierra Club are correct that M7M did not operate at full capacity for the entire modeled or monitored period. However, the State employed a conservative approach by selecting the highest 12-month rolling aggregate emissions levels (September 2018-August 2019) and applied those emissions levels continuously across the 3-year period to simulate M7M operating throughout the modeled period, even though M7M produced no actual emissions for all of 2017 and portions of 2018. Also, as mentioned in prior responses, the modeling performed by the State is meant to inform the nonattainment boundary, therefore approximation of actual conditions over the design value period is appropriate instead of modeling of allowable emissions as is done in attainment demonstrations. Additionally, EPA reviewed the latest available monitoring data from EPA's Air Quality System for the three monitors in New Madrid County and has found that the preliminary data, through quarter 2 (Q2) of 2020, show the 2020 4<sup>th</sup> highest 1-hour SO<sub>2</sub> concentrations for each monitor to be 299.2, 322.6, and 62.2 parts per billion (ppb). These data indicate that through Q2 of 2020, the smallest possible 2018-2020 design values are preliminarily estimated to be 297, 373, and 65 ppb, respectively, assuming the 2020 monitoring year meets completeness requirements. The increase in monitored values aligns with the continued operations and emissions increases when compared to the monitored values recorded before M7M restarted operations in mid-2018. As indicated in the intended designations TSD, this source is difficult to characterize. Despite the continued uncertainties associated with emissions estimation and source characterization, the State's modeling provides one piece of evidence that, when considered along with other available information, helps inform EPA's nonattainment boundary.

**Comment:** GRELC and the Sierra Club stated that EPA should redo Missouri's modeling using allowable emissions for M7M, which would be in line with EPA guidance.

**EPA Response:** EPA disagrees with GRELC and the Sierra Club that modeling for the purpose of informing a nonattainment area boundary should in all cases be performed using allowable emissions. While past EPA guidance explains that allowable emissions may be used in certain cases (*e.g.*, attainment demonstration modeling), it is not necessary to use allowable emissions in this instance. Modeling of actual emissions, or as close an approximation to actual emissions as possible, is generally representative of the monitored design value period used as the basis of a nonattainment designation and, therefore, often provides the most representative approximation of the extent of violations to inform the proper nonattainment area boundary. Modeling of allowable emissions, however, would be representative of worst-case conditions that would be consistent with attainment demonstration modeling. Attainment demonstration modeling would also need to be consistent with Appendix W to 40 CFR part 51. However, EPA believes modeling used to inform the nonattainment boundary need not be consistent with Appendix W with respect to modeled emissions. In this case, Missouri modeled approximations of actual emissions for M7M and assumed the facility was operating for the full 2017-2019 design value period. This represents a conservative approximation of actual emissions because the facility was

only operating for a portion of the monitored period. As previously mentioned, the State's modeling is not suitable for an attainment demonstration, but it provides additional information for EPA's multifactor analysis to inform the nonattainment area boundary in New Madrid County.

**Comment:** GRELC and the Sierra Club claim that M7M could build taller stacks to disperse pollutants at a greater distance in the future and the modeling supplied by the State did not account for this possibility.

**EPA Response:** GRELC and the Sierra Club are correct that EPA noted in the intended designations TSD that the "viable strategy to mitigate the current low-level emissions impacts from the carbon bakes is to potentially build a new, taller stack(s) to enhance atmospheric dispersion of pollutants. EPA finds the state recommended boundary is too small to fully incorporate the impacts from elevated stack emissions (current and any future new stack configurations) that need to be *evaluated in a future attainment demonstration* [emphasis added] for the New Madrid County, Missouri area." As noted here, the evaluation of future control strategies or operational changes would be part of a future attainment demonstration rather than modeling to inform the nonattainment boundary.

**Comment:** GRELC and the Sierra Club asserted that Missouri's modeling does not properly address the release points and heights at M7M. Specifically, the State only modeled 32 of the 64 carbon bake stacks.

**EPA Response:** As noted in the intended designations TSD, the State ultimately modeled the 64 stacks of carbon bake #2 emissions as 32 individual capped stacks, concluding that this modeled scenario was able to best match the maximum hourly monitored SO<sub>2</sub> concentrations at monitoring Site #1. The State further justified modeling carbon bake #2 as 32 individual stacks, based on information provided by the M7M facility, that typically only two of the four carbon bake #2 scrubbers are in operation at the same time. EPA noted this as one uncertainty in the modeling that led EPA to proposing a slightly expanded boundary. In Missouri's supplemental modeling analysis submitted on October 16, 2020, and evaluated in the final designations TSD for Missouri, the State attempted to further refine the characterization of M7M emissions including additional low release and fugitive emissions sources. As discussed in the final designations TSD, this refinement is an improvement on the previous modeling, but some uncertainty still exists in the emissions estimates and source characterization. For these reasons, EPA is finalizing a slightly expanded nonattainment boundary when compared to the boundary recommended by the State. However, a boundary even larger than EPA's final nonattainment boundary is not warranted because of the uncertainties in the characterization of low release/fugitive emissions sources, which would be very unlikely to cause violations in the undesignated area beyond the nonattainment boundary proposed by EPA.

**Comment:** GRELC and the Sierra Club asserted that Missouri's receptor grid is inadequate as it does not include receptors over the Mississippi River or in other states directly across the river. The commenters highlighted that air pollution does not respect jurisdictional boundaries, and they request that EPA extend the final nonattainment boundary to include potentially impacted

sections of Kentucky and Tennessee. The commenters also claim that the State's receptor grid did not extend far enough to cover the more populated areas of New Madrid County.

**EPA Response:** GRELC and the Sierra Club are correct that Missouri's receptor grid did not include receptors over the Mississippi River or in other states. In the intended designations TSD, EPA notes that the State indeed should have included receptors over the river. As a result, EPA includes the Missouri portion of the Mississippi River, which had not yet been designated, in both the intended and final nonattainment boundary. EPA notes that the commenters did not provide technical evidence demonstrating that there are 2010 SO<sub>2</sub> NAAQS violations in the neighboring states of Kentucky and Tennessee. For the Round 4 designations process, the State's receptor grid need only extend far enough to determine the geographic extent of violations in the remaining undesignated area, which includes New Madrid County and not previously designated areas in the adjacent states. EPA confirmed by evaluating the modeling files provided by the Missouri that the receptor grid extended past the area of predicted violations in New Madrid County. Therefore, there is no evidence showing 2010 SO<sub>2</sub> NAAQS violations in the more populated areas of New Madrid County as asserted by the commenters. Additionally, the nonattainment boundary must contain the sources determined to contribute to violations of the NAAQS. EPA has determined based on the available evidence that the two principal SO<sub>2</sub> emissions sources that contribute to violations in the undesignated area of New Madrid County, namely M7M and AECl, are indeed captured in the final nonattainment boundary.

**Comment:** GRELC and the Sierra Club asserted that Missouri's modeling incorrectly used meteorological data from sites that are hundreds of miles away. The commenters stated that EPA guidance recommends the use of site-specific data when available over the use of data from National Weather Service (NWS) stations.<sup>5</sup> The commenters also claimed that the meteorological data indicate the winds blow predominantly to the North-Northeast toward the city of New Madrid and neighboring states.

**EPA Response:** GRELC and the Sierra Club are correct that EPA recommends the use of site-specific meteorological data when available. An on-site surface meteorological station is operated at Monitoring Site #3 (West Entrance) near M7M, collecting surface temperature and wind speed and wind direction measurements. The State evaluated the quality of the meteorological data using a June 13, 2019, audit report and found that the anemometer did not meet EPA's criteria for regulatory dispersion modeling when recording low wind speeds (< 1.5 m/s).<sup>6</sup> Because of this data quality issue, the State chose not to incorporate the on-site meteorology into its modeling analysis and instead evaluated NWS stations near the New Madrid area. Specifically, the State performed an evaluation, consistent with the recommendations of EPA's Modeling TAD,<sup>7</sup> to determine which NWS station is most representative of the surface characteristics and terrain patterns in the New Madrid County area. The State selected the Cape Girardeau and Springfield sites for surface and upper air data, respectively. The State used 3 years of data from these stations in accordance with the Modeling TAD. EPA agrees that in the

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<sup>5</sup> 40 CFR Part 51, App. W, § 8.4.2(e).

<sup>6</sup> See Docket No. EPA-HQ-OAR-2020-0037 for the results of the June 2019 technical audit of the M7M monitoring stations.

<sup>7</sup> See SO<sub>2</sub> NAAQS Designations Modeling Technical Assistance Document (August 2016), available at <https://www.epa.gov/sites/production/files/2016-06/documents/so2modelingtad.pdf>.

absence of complete site-specific data, the selection of these NWS sites proves to be the most representative data available for the New Madrid area.

The commenters correctly cited the wind rose results contained in the intended designations TSD; however, looking at wind direction alone does not necessarily equate to where violations are predicted to occur or the distance the pollutants would travel in that direction. Dispersion modeling necessarily takes all related meteorological parameters into account, not just predominant wind direction, when predicting where and how often violations will occur. For additional reference, although the data did not meet quality assurance requirements, EPA plotted a 3-year surface wind rose using wind data from the on-site meteorological station (Figure 8 in the final designations TSD for Missouri). While there are some directional component deviations between the on-site and Cape Girardeau, Missouri NWS data, overall, the on-site data shows winds blowing from the south (toward the north) to be predominant, similar to the NWS data.

## 5. Comments Specific to North Carolina

### 5.1. Buncombe County (Limestone Township)

**Comment:** The North Carolina Department of Environmental Quality acknowledged EPA's concurrence with the State's April 29, 2020, attainment/unclassifiable recommendation for the remaining portion of Buncombe County (Limestone Township) area in North Carolina based on the attaining ambient air quality monitoring data for each respective area as part of the August 2020 intended designations. The commenter goes on to clarify that the shut-down of coal-fired boilers at the Duke Asheville Steam Plant in January 2020 has resulted in lower ambient SO<sub>2</sub> measured concentrations, which resulted in the shutdown of the DRR monitor in Limestone Township.

**EPA Response:** EPA acknowledges the State's remarks and appreciates the State's analysis regarding the additional SO<sub>2</sub> emissions reductions in the Limestone Township area. EPA notes, however, that any action related to the discontinuing of the ambient air DRR monitor (AQS ID# 37-021-0037) in the area is separate from EPA's obligation to finalize Round 4 designations in the Buncombe County Area and is outside the scope of the Round 4 final designations.

### 5.2. Haywood County (Beaverdam Township)

**Comment:** Sierra Club supports a nonattainment designation for the Haywood County, Beaverdam Township area based on its assertion that there are multiple issues with the Blue Ridge Paper Products (BRPP) modeling of federally enforceable SO<sub>2</sub> emissions limits and that these emissions limits cannot replace nonattainment planning requirements. The commenter claims that while new emissions limits for a single source is an important way to protect air quality, such limits are not sufficient to comply with nonattainment state implementation plans requirements such as reasonably available control technology, reasonable further progress, and contingency measures for an area designated nonattainment, and are therefore inadequate to replace a nonattainment designation. The commenter goes on to express its concerns that EPA is considering a designation other than nonattainment for this area based on federally enforceable and permanent emissions limits for BRPP. The commenter also alleges numerous issues with North Carolina's modeling analysis for BRPP including an assessment of forward going emissions rather than relying on actual historical emissions and that the model excludes significant SO<sub>2</sub> emissions from other nearby sources. The commenter states the modeling uses a very small background concentration of 3 ppb, despite the fact that a monitor 24 kilometers (km) away in Limestone Township has a design value of 11.9 ppb. The commenter suggests that if background concentrations are actually as little as 4 ppb, instead of the 3 ppb modeled or the 11.9 ppb monitored concentrations, then the BRPP emissions limits will fail to protect the 2010 SO<sub>2</sub> NAAQS. The commenter also claims the modeling uses a relatively sparse receptor grid likely to undercount peak impacts and suggests if any other SO<sub>2</sub> sources contribute as little as 1 ppb towards peak impacts, or if the receptor grid missed a peak impact just slightly higher than the BRPP modeling, the emissions limits will prove to be inadequate. Finally, the commenter suggests the modeling is too close to the 2010 SO<sub>2</sub> NAAQS to ensure attainment and cautions EPA against finalizing a designation other than nonattainment based on modeling of forward

going emissions for BRPP at just one of the sources contributing to nonattainment in Haywood County.

**EPA Response:** EPA believes the commenter is conflating the factors used to inform designations and the nonattainment planning requirements and disagrees that the only potential designation for the Haywood area is nonattainment. The CAA section 172(c) elements that the commenter mentions (*e.g.*, reasonably available control technology, reasonable further progress, and contingency measures) legally apply only if EPA first designates the area as nonattainment.

The commenter expressed concern that EPA was considering a designation other than nonattainment for the Haywood County area. EPA notes, in cases where recent facility changes have resulted in current air quality being different from air quality over the most recent full 3-year period, such as is the case here, EPA interprets modeling based on the newer conditions to be consistent with current EPA guidance to the extent that the modeled reduced allowable emissions resulting from facility changes are mandated by permanent, federally enforceable and effective limits. A final rule approving a SIP revision to adopt the BRPP SO<sub>2</sub> emissions limits and compliance parameters into the North Carolina SIP was published in the *Federal Register* and became effective on November 24, 2020 (85 FR 74884). Therefore, at the time of EPA's final designation, the new SO<sub>2</sub> emissions limits at BRPP are effective, permanent, and federally enforceable. As outlined in EPA's Round 4 Guidance, a designation other than nonattainment is possible for areas where a source-oriented monitor is measuring violations of the standard but additional information suggests the air quality in the area is meeting the 2010 SO<sub>2</sub> NAAQS. EPA believes the modeling of the new allowable emissions for BRPP provides for a more reliable and current characterization of air quality in the area than does monitoring of past concentrations.

Regarding the comments related to the modeling analysis, EPA disagrees that the modeling issues raised by the commenter prevent the Agency from finalizing an attainment/unclassifiable designation for the area. The commenter states that the modeling is based upon "forward-going emissions limits" for the BRPP facility and not actual historical emissions. EPA believes that use of federally enforceable and permanent limits (*i.e.*, allowable emissions) for the BRPP facility is appropriate for the modeling to characterize whether areas meet or do not meet the standard, because the BRPP source is now legally bound to meet these limits and avoid SO<sub>2</sub> emissions that would cause violations of the 2010 SO<sub>2</sub> NAAQS. Modeling based on mere actual emissions, in this case, would instead not ensure that attaining SO<sub>2</sub> levels would continue, and therefore could not overcome a violating monitor as better representing current air quality status. The modeling based upon allowable emissions demonstrates that the 2010 SO<sub>2</sub> NAAQS will be attained as long as the emissions from the BRPP facility are below their permitted allowable emissions limits. BRPP emitted a total of 405 tons of SO<sub>2</sub> in 2019, which is well below the facility's permitted maximum allowable SO<sub>2</sub> emissions of 1,266 tons.<sup>8</sup> Therefore, the modeling demonstrates that the area is currently attaining the 2010 SO<sub>2</sub> NAAQS and will continue to do so in the future.

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<sup>8</sup> See Table 1 - *Trends in Actual Annual SO<sub>2</sub> Emissions (2017 – 2019) and Comparison of 2019 Actual Annual SO<sub>2</sub> Emissions to Permitted Maximum Allowable Emissions for BRPP Canton Mill* in North Carolina's September 3, 2020 final source specific SIP revision for Blue Ride Paper Products, available in the docket associated with this action. This Table provides a source unit 2019 SO<sub>2</sub> actual emissions trends analysis.



Additionally, EPA's Modeling TAD offers two options for modeling air quality in situations where modeling is the primary method of assessing air quality, including one option that considers actual air quality over the most recent 3-year period and one option that considers air quality from modeling more recent allowable emissions. EPA interprets its Modeling TAD to provide that if a source is complying with emissions limits that have been shown to assure that the area is attaining the standard, the area may be designated accordingly, even if the source has reduced emissions too recently to make possible the modeling of actual emissions over 3 years reflecting the reduced emissions conditions. This approach also requires that the State provide evidence that enforceable changes in circumstances have changed air quality sufficiently now to reflect the air quality modeled to occur with allowable emissions. As EPA mentioned in the intended designations TSD, BRPP has reduced its SO<sub>2</sub> emissions significantly since 2017 due to enforceable control measures, including new SO<sub>2</sub> emissions limits and compliance parameters. At the time of EPA's final designations, these emissions limits are permanent and federally enforceable. These emissions reductions are consistent with the air quality improvement that the modeling shows relative to the historic monitored air quality.

The commenter alleges that the modeling excludes significant SO<sub>2</sub> emissions from other nearby sources and refers to the sources included in Table 4 of EPA's intended designation TSD. EPA disagrees with the commenter's assertion that the emissions from the sources included in Table 4 of the TSD should have been included in the modeling. As stated in the intended designation TSD, EPA evaluated the emissions from these sources and determined that none had emissions levels large enough or are located close enough to BRPP (or a combination of the two) to require that they be included expressly in the modeling analysis. Moreover, the commenter did not provide any additional emissions information that would cause EPA to reach a different conclusion about the need to include the sources listed in Table 4 of the intended designations TSD. The largest of the sources listed in Table 4 is the Duke Energy Progress (DEP) Asheville facility, which has recently permanently shut down its coal-fired emissions units, on January 29, 2020. The details of the shutdown of these units were described in the intended designation TSD. The current SO<sub>2</sub> emissions from the DEP facility are much lower than the emissions in 2019. Since February 2020, the SO<sub>2</sub> emissions have averaged 0.5 tons per month, whereas in 2019 the emissions averaged 59 tons per month, meaning that the 2020 emissions are approximately one percent of the 2019 emissions (100 times lower). Additionally, the DEP facility is located approximately 28 km from the BRPP facility. EPA believes that the small amount of actual SO<sub>2</sub> emissions and large distance from the BRPP facility supports our previous decision that emissions from the DEP facility did not need to be included expressly in the modeling.

The commenter also expressed concern with the background concentration used in the modeling and mentions a monitor in Limestone Township (Buncombe County) that is approximately 24 km from the Haywood County, Beaverdam Township area, with a 2017-2019 design value of 12 ppb. The commenter is referring to the Skyland SO<sub>2</sub> monitor in Asheville, North Carolina (AQS ID# 37-021-0037), which is a source-oriented SO<sub>2</sub> monitor installed by the North Carolina Department of Environmental Quality, Division of Air Quality in January 2017, to characterize the maximum concentration from the DEP Asheville facility pursuant to the DRR. The Skyland DRR monitor is approximately 3 km from the DEP Asheville facility. Due to the close proximity of the Skyland DRR monitor to the DEP Asheville facility, EPA believes it would not be appropriate to use it as a background monitor for the Haywood County area, because it would

overestimate the background concentrations. There are no large SO<sub>2</sub> emissions sources in the Haywood County, Beaverdam Township area that were not included in the modeling that would indicate the need to use a higher background concentration, like the Skyland monitor's 12 ppb design value. Section 3.3.1.8 of EPA's intended designation TSD indicates that North Carolina considered the three active SO<sub>2</sub> monitors that were within 100 km of BRPP, with valid data for the 2014-2016 period, which was the most recent available 3-year design value period at the time the original modeling was performed. Of the two monitors with valid data for 2014-2016, North Carolina chose the Greenville ESC monitor (AQS ID# 45-045-0015), which had more SO<sub>2</sub> emissions sources in close proximity to the monitor than the other monitor that was considered. The 2014-2016 design value for the Greenville ESC monitor was 3 ppb. The 2019 design value data is now available for these monitors and all three monitors considered by North Carolina have valid 2017-2019 design values of 1 ppb. EPA believes that North Carolina's chosen background concentration of 3 ppb is appropriate for the modeling analysis.

EPA disagrees with the commenter's assertion that the modeling receptor grid spacing is not adequate to determine the maximum SO<sub>2</sub> concentrations in the area. Section 3.3.1.3 of EPA's intended designations TSD discusses the receptor grid used in the modeling demonstration. Preliminary modeling performed by North Carolina indicated that the maximum modeled concentration occurred within its 250 m spacing receptor grid. Therefore, an additional grid of receptors was added and spaced at 100 m intervals centered on the location of the preliminary modeled maximum concentration and extending out 500 m in each direction, to ensure that the maximum concentration was resolved in a grid with resolution of 100 m spacing. The maximum modeled concentration was resolved to 100 m spacing and occurs 7 km inside the outer boundaries of the full receptor grid. EPA believes that North Carolina's receptor grid meets the criteria in Section 9.2.2.d., of EPA's Guideline on Air Quality Models in 40 CFR Part 51, Appendix W, and adequately captures the maximum modeled concentration in the area, which demonstrates attainment with the 2010 SO<sub>2</sub> NAAQS.

Lastly, the commenter states that the maximum modeled concentration in the BRPP analysis is 194.4 µg/m<sup>3</sup> (74.2 ppb), and states that this is too close to the 75 ppb 2010 SO<sub>2</sub> NAAQS to ensure attainment. EPA disagrees with the commenter. North Carolina's modeling used the maximum federally enforceable and permanent allowable SO<sub>2</sub> emissions limits for the BRPP facility, an appropriate background concentration and an appropriate receptor grid that meets the criteria in EPA's Guideline on Air Quality Models in 40 CFR Part 51, Appendix W. EPA believes that North Carolina's modeling analysis demonstrates that the area is attaining the 2010 SO<sub>2</sub> NAAQS currently and will continue to attain the NAAQS in the future.

**Comment:** Evergreen Packaging commented that the 3-year design value at the Canton DRR SO<sub>2</sub> monitoring site (AQS ID# 37-087-0013) is not representative of current air quality in Beaverdam Township in Haywood County and considers the SO<sub>2</sub> emissions for 2019 and 2020 significantly lower than the 2017-2018 monitored SO<sub>2</sub> concentrations. The commenter confirms its support of North Carolina's July 24, 2020 attainment/unclassifiable recommendation for the undesignated portions of the area and acknowledges the collaborative efforts between EPA and the state air agency to determine the Round 4 designations for the area.

**EPA Response:** EPA appreciates the commenter's remarks regarding the current air quality in the Haywood County, Beaverdam Township and noting the coordination between the state and federal air agencies during the Round 4 designations process. EPA's final attainment/unclassifiable designations determination for the remaining undesignated portion of Haywood County is based on the adequacy of the modeled attainment analysis of certain permanent and enforceable SO<sub>2</sub> emissions limits for BRPP. A final rule approving a SIP to adopt the BRPP SO<sub>2</sub> emissions limits and compliance parameters into the North Carolina SIP was published in the *Federal Register* and became effective on November 24, 2020 (85 FR 74884).

As outlined in EPA's intended designations TSD, EPA believes the modeled attainment of these SO<sub>2</sub> emissions limits is more representative of current air quality in the area due to emissions reduction control measures implemented in 2017 through 2019. In accordance with EPA's Round 4 Guidance, EPA's final action modifies the intended nonattainment designation to attainment/unclassifiable for the remaining portion of Haywood County, North Carolina in the Beaverdam Township in concurrence with the State's July 24, 2020, designation recommendation.

**Comment:** The North Carolina Department of Environmental Quality states that EPA should designate the remaining portion of Haywood County, North Carolina (Beaverdam Township) as attainment/unclassifiable in accordance with the State's July 24, 2020, recommendation based on the modeling of SO<sub>2</sub> emissions limits for the BRPP facility that provide for attainment of the 2010 SO<sub>2</sub> NAAQS pursuant to EPA's Round 4 Guidance. The commenter states that the July 24, 2020, attainment/unclassifiable recommendation is based on BRPP's compliance with the State's requirements to reduce SO<sub>2</sub> emissions limits below the 2010 SO<sub>2</sub> NAAQS, which has resulted in reduced measured SO<sub>2</sub> concentrations at the Canton DRR monitor and provide for modeled attainment. The commenter affirmed that these SO<sub>2</sub> allowable emissions limits provide for a more reliable assessment of current air quality than the monitored 2017-2019 SO<sub>2</sub> design value. The commenter also asserted that the monitoring data supports the modeling analysis demonstrating that the SO<sub>2</sub> emissions limits are protective of the 2010 SO<sub>2</sub> NAAQS and that EPA's approval of the SO<sub>2</sub> emissions limits and compliance parameters into the North Carolina SIP for purposes of permanent enforceability aligns with the Agency's September 5, 2019 guidance. Finally, the commenter expresses its desire for EPA to approve the BRPP SIP as "expeditiously as possible" well before EPA completes final designations for Beaverdam Township by December 31, 2020.

**EPA Response:** EPA acknowledges North Carolina's comment in support of an attainment/unclassifiable final designation for the remaining portion of Haywood County (Beaverdam Township) in North Carolina as well as the state's collaborative efforts. EPA's August 13, 2020, intended designations TSD stated that if EPA finalized approval of certain SO<sub>2</sub> emissions limits and associated monitoring, reporting and recordkeeping compliance parameters for BRPP established in the source's title V operating permit, prior to finalizing Round 4 designations, EPA would consider an attainment/unclassifiable designation for the area. A final rule was published in the *Federal Register* on November 24, 2020 (85 FR 74884) approving North Carolina's September 3, 2020, final source-specific SIP for BRPP, which adopted into the North Carolina SIP certain SO<sub>2</sub> emissions limits and compliance provisions making the emissions limits permanent in addition to federally enforceable. This final rule became effective

on November 24, 2020. The modeling analysis described in EPA's intended designations TSD demonstrates attainment of the 2010 SO<sub>2</sub> NAAQS based on the federally enforceable and now permanent SO<sub>2</sub> emissions limits. Considering the modeled attainment analysis, EPA agrees with the commenter that the air dispersion modeling is a more reliable characterization of current air quality for the Haywood County Area rather than the Canton DRR monitor 2017-2019 ambient air quality data, due to SO<sub>2</sub> emissions reduction control measures. In accordance with EPA's Round 4 Guidance, EPA's final designations action modifies the intended nonattainment designation to attainment/unclassifiable for the remaining portion of Haywood County, North Carolina in the Beaverdam Township.

### 5.3. Person County (Cunningham Township)

**Comment:** The North Carolina Department of Environmental Quality commented on EPA's concurrence with the State's April 29, 2020, attainment/unclassifiable recommendation, for the remaining portions of Person County (Cunningham Township) area in North Carolina based on the attaining ambient air quality monitoring data for each respective area as part of the August 2020 intended designations.

**EPA Response:** EPA acknowledges the State's concurrence with EPA's intended designation.

## 6. Comments Specific to New York

### 6.1. St. Lawrence County

**Comment:** The New York State Department of Environmental Conservation (NYSDEC) submitted a new five-factor analysis for Cayuga, Seneca and Tompkins Counties, including the most recent 2017-2019 design values for the Cayuga West and Cayuga East monitors in Seneca and Tompkins counties, respectively, and 2019 emissions data for Cayuga Generating Station and other SO<sub>2</sub> emissions sources in the three counties.

**EPA Response:** EPA acknowledges NYSDEC's additional emissions information. This additional information continues to support EPA's intended attainment/unclassifiable designation for Cayuga, Seneca and Tompkins Counties based on the attaining 2017-2019 design values.

**Comment:** On September 25, 2020, NYSDEC submitted an updated air dispersion modeling analysis and a revised designation recommendation for the new St. Lawrence County, NY area.

**EPA Response:** EPA has assessed NYDEC's September 25, 2020, modeling submission for the St. Lawrence County area in EPA's final designations TSD for New York.

**Comment:** On September 21, 2020, Alcoa submitted a modeling analysis for the St. Lawrence County, NY area claiming to support a nonattainment boundary that is smaller than both EPA's intended nonattainment boundary and NYDEC's recommended nonattainment boundary.

**EPA Response:** EPA has assessed Alcoa's modeling analysis for the St. Lawrence County area in EPA's final designations TSD for New York.

**Comment:** A letter was received from several members of the New York State Legislature expressing their concerns about the economic impact on Alcoa Massena and the surrounding community following a nonattainment designation. They asked EPA to consider working with New York State and Alcoa as partners to incentivize Alcoa to invest in this area of the State. The letter also asked EPA to allow leniency to the plant or grant additional time for attainment of the SO<sub>2</sub> NAAQS.

**EPA Response:** CAA section 107(d)(1)(B) requires EPA to designate areas upon the promulgation or revision of a NAAQS. EPA is finalizing a nonattainment designation for a portion of St. Lawrence County bordering the Alcoa Massena facility based on the most recent 3 consecutive years (*i.e.*, 2017-2019) of quality-assured, certified ambient air quality monitoring data, as well as boundary modeling submitted by New York State. CAA section 192(a) provides that following a nonattainment designation under the SO<sub>2</sub> NAAQS, attainment must be achieved as expeditiously as practicable, but no later than 5 years from the date of the nonattainment designation. EPA does not have authority to change this statutory requirement. Although the commenter's request for EPA flexibility regarding the implementation process is outside the scope of the designations process, EPA intends to work closely with the State and Alcoa to achieve expeditious attainment of the 2010 SO<sub>2</sub> NAAQS.

**Comment:** A letter was received from Timmy J. Currier, Mayor of the Village of Massena, NY expressing his concerns about the economic impact on Alcoa Massena and the surrounding community. Mayor Currier asked EPA to consider working with New York State and Alcoa as partners to incentivize Alcoa to invest in this area of New York. The letter also asked EPA to allow leniency to the plant or grant additional time for attainment of the standards.

**EPA Response:** CAA section 107(d)(1)(B) requires EPA to designate areas upon the promulgation or revision of a NAAQS. EPA is finalizing a nonattainment designation for a portion of St. Lawrence County bordering the Alcoa Massena facility based on the most recent 3 consecutive years (*i.e.*, 2017-2019) of quality-assured, certified ambient air quality monitoring data, as well as boundary modeling submitted by New York State. CAA section 192(a) provides that following a nonattainment designation under the SO<sub>2</sub> NAAQS, attainment must be achieved as expeditiously as practicable, but no later than 5 years from the date of the nonattainment designation. EPA does not have authority to change this statutory requirement. Although the commenter's request for EPA flexibility regarding the implementation process is outside the scope of the designations process, EPA intends to work closely with the State and Alcoa to achieve expeditious attainment of the 2010 SO<sub>2</sub> NAAQS.

## 7. Comments Specific to Texas

### 7.1. Multiple Areas in Texas

**Comment:** Texas commented that it agrees with EPA’s decision not to modify the State’s attainment/unclassifiable recommendations for Bexar, Harrison, Jefferson, and Robertson Counties and the remaining portion of Titus County. Additionally, Texas “accepts” EPA’s designation modification to unclassifiable for Orange County.

**EPA Response:** EPA acknowledges the State’s concurrence with EPA’s intended designations.

**Comment:** Texas disagrees with EPA’s intended nonattainment designations for Howard, Hutchinson, and Navarro Counties. The State claims that Hutchinson and Howard Counties should be designated as unclassifiable because the 2017-2019 air monitoring data is not representative of the current and near-future conditions in these areas. In the event that EPA finalized a designation of nonattainment for these three areas, Texas provided air dispersion modeling analyses to support nonattainment boundaries that are smaller than EPA’s intended county-wide nonattainment boundaries.

**EPA Response:** EPA, at the time it issued its intended designations, had mainly monitoring data to inform the designations and intended boundaries. Texas supplied its dispersion modeling in response to EPA’s request to further refine the boundaries and more clearly identify the geographic extent of NAAQS violations in the Howard, Hutchinson and Navarro areas. EPA has assessed Texas’s modeling for Howard, Hutchinson, and Navarro Counties in EPA’s final designations TSD for Texas. In response to Texas’s comments and submitted modeling, EPA disagrees that the State has demonstrated that the air monitoring data are not representative of current air quality in these areas; Texas has not shown the certified monitoring data to be inaccurate or unreliable, and has not provided modeling of permanent federally enforceable emissions limitations showing currently attaining air quality for these areas that could overcome the violating monitors. In further response to Texas’ comments and modeling, EPA has formulated an alternative methodology that better supports final nonattainment boundaries, which are significantly smaller than those of the intended designations. EPA’s final nonattainment boundaries capture the expected geographic extent of the NAAQS violations in these counties and contributing sources, where applicable.

### 7.2. Harrison County

**Comment:** Sierra Club submitted an air dispersion modeling analysis claiming to demonstrate that the Pirkey Power Plant in Harrison County contributes to NAAQS violations in the existing nonattainment area in Rusk and Panola Counties around the Martin Lake Steam Electric Station. Sierra Club asserted that EPA should designate the Harrison County as nonattainment.

**EPA Response:** EPA has assessed Sierra Club’s modeling for the Harrison County area in EPA’s final designations TSD for Texas.

### 7.3.Howard County

**Comment:** Tokai Carbon CB and Delek US Holdings, Inc. each submitted the same air dispersion modeling analysis claiming to support a designation other than nonattainment for the Howard County area.

**EPA Response:** EPA has assessed Tokai and Delek’s modeling for the Howard County area in EPA’s final designations TSD for Texas.

**Comment:** The International Union of Operating Engineers Local 351 commented that EPA should designate Howard County as unclassifiable instead of attainment/unclassifiable. The commenter cited recent investments in the Tokai Big Spring Carbon Black Plant and the Delek Big Springs Refinery to eliminate plant malfunctions that were purportedly causing the monitored exceedances. The commenter also claims that there have not been any monitored exceedances since the facilities completed upgrades in April 2020.

**EPA Response:** EPA has assessed all of the available technical information from Tokai Carbon CB, Delek US Holdings, and the State of Texas in EPA’s final designations TSD for Texas, which includes EPA’s analysis of the non-routine emissions events and continued monitored exceedances of the 2010 SO<sub>2</sub> NAAQS.

**Comment:** Tokai Carbon CB, Delek US Holdings, and the International Union of Operating Engineers claimed that EPA should consider Executive Order 12924, titled “Regulatory Relief to Support Economic Recovery,” when designating areas as nonattainment, specifically the Howard County, Texas area.

**EPA Response:** Section 9(b) of Executive Order 12924 states, “*This order shall be implemented consistent with applicable law* and subject to the availability of appropriations” (emphasis added). Therefore, Executive Order 12924 does not exempt EPA from its CAA section 107(d)(1)(B) requirement to designate areas upon the promulgation or revision of a NAAQS, or overcome the requirement to designate areas as nonattainment if they are violating the NAAQS. EPA believes that these comments regarding Executive Order 12924 are outside the scope of the NAAQS designations process.

### 7.4.Hutchinson County

**Comment:** IACX Rock Creek and Phillips 66 Company each submitted the same air dispersion modeling analysis claiming to support a nonattainment boundary smaller than EPA’s intended county-wide nonattainment boundary for the Hutchinson County nonattainment area.

**EPA Response:** EPA has assessed IACX Rock Creek and Phillips 66 Company’s modeling for the Hutchinson County area in EPA’s final designations TSD for Texas.

**Comment:** Tokai Carbon CB claimed that the Hutchinson County area should be designated unclassifiable instead of nonattainment because of reductions in current permitted SO<sub>2</sub> emissions



and commitments made pursuant to federally enforceable consent decrees which are currently in place but have control compliance dates in 2021 and 2022.

***EPA Response:*** CAA section 107(d), by using the present tense to describe the air quality in an area in determining whether it is to be designated nonattainment, attainment, or unclassifiable, specifies that EPA make designations based on the air quality at the time of final designations (*i.e.*, determining at the time of signature whether the area meets the NAAQS), meaning EPA must designate the Hutchinson County area based on the air quality at the time of signature of the final designations action in December 2020.<sup>9</sup> Tokai Carbon CB states in their comment that “...not all of the commitments to reduce SO<sub>2</sub> will be in place by 2020.” Therefore, EPA cannot consider these future SO<sub>2</sub> emissions reductions when making a designation determination in 2020 for the Howard County area.

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<sup>9</sup> The D.C. Circuit has upheld this interpretation as reasonable (*Miss. Comm’n on Env’tl. Quality v. EPA*, 790 F.3d 138, 156 (D.C. Cir. 2015), upholding 2008 ozone designations issued just days before new certified air quality data became available showing more areas in nonattainment). EPA maintained this interpretation in a brief filed in the Fifth Circuit Court of Appeals in March 2019 defending the nonattainment designation for Bexar County, Texas for the 2015 ozone NAAQS.

## **8. Comments Specific to Washington**

### **8.1. Whatcom County**

***Comment:*** Phillips 66 Company supports EPA's intended nonattainment designation for the partial area in Whatcom County, Washington surrounding the Alcoa Intalco facility. It also supports EPA's intended attainment/unclassifiable designation for the remaining portion of Whatcom County.

***EPA Response:*** EPA acknowledges the commenter's concurrence with EPA's intended designation.

***Comment:*** The Western States Petroleum Association (WSPA) supports EPA's intended nonattainment designation for the area surrounding the Alcoa Intalco facility and the attainment/unclassifiable designation for the remaining portion of Whatcom County, Washington.

***EPA Response:*** EPA acknowledges the commenter's concurrence with EPA's intended designation.

## 9. Comments Specific to Wisconsin

### 9.1. Outagamie County

**Comment:** The State of Wisconsin's Department of Natural Resources (WDNR) supports EPA's intended nonattainment designation for Outagamie County and finds it to be consistent with its designation recommendation.

**EPA Response:** EPA acknowledges the State's concurrence with EPA's intended designation.

**Comment:** WDNR commented that EPA's intended designations for Outagamie County, Wisconsin is consistent with Wisconsin's recommendations and information submitted to EPA on May 26, 2011, May 2, 2020, and July 17, 2020. The intended nonattainment designation was based on data for 2017-2019 from the Kaukauna ambient air quality monitor (AQS ID# 55-087-0015), which indicated a 3-year design value of 77 ppb, exceeding the 2010 1-hour SO<sub>2</sub> NAAQS of 75 ppb.

In its comment, WDNR observed that SO<sub>2</sub> concentrations at the Kaukauna monitor have decreased since 2018. WDNR predicted that the 2018-2020 design value would be approximately 63 ppb based on more recent data through September 2020. If final quality-assured data from the Kaukauna monitor at the end of 2020 show a 2018-2020 design value that meets the 2010 1-hour SO<sub>2</sub> NAAQS, WDNR plans to early certify the 2020 data and request EPA make a clean data determination for Outagamie County. WDNR would not be providing accompanying modeling since the ambient air monitoring data is from a SO<sub>2</sub> DRR source-oriented monitor located in the area of highest concentration. WDNR suggested that this would potentially make finalization of a nonattainment designation unnecessary.

**EPA Response:** CAA section 107(d) specifies that EPA make designations based on the air quality at the time of final designations (*i.e.*, determining at the time of signature whether the area meets the NAAQS), meaning EPA must designate the Outagamie County area based on the air quality at the time of signature of the final designations action in December 2020.<sup>10</sup> These data indicate a violation of the 2010 SO<sub>2</sub> NAAQS based on the 2017-2019 design value, and so EPA must designate this area as nonattainment.

However, as explained in Section VI of EPA's final Round 4 designations action, if any state submits complete, quality-assured, certified 2020 data (*i.e.*, monitoring data from EPA's Air Quality System) to the appropriate EPA Regional office by February 15, 2021, supporting a change of the designation status for any Round 4 area within that state, and EPA agrees that a change of designation status is appropriate, we will withdraw the designation announced in the action for such area and issue another designation that reflects the inclusion and analysis of such information. Any designation modification will occur in a separate *Federal Register* action prior to the April 30, 2021, effective date of today's final action. EPA will conduct this process only for those states that submit the necessary and adequate information by the deadline of February 15, 2021, and in those instances where we can complete our analysis of the information and

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<sup>10</sup> *Id.*

effect the change of designation status before the original effective date established by today's final action.

If the Kaukauna monitor produces a valid attaining design value for the 2018-2020 period, and Wisconsin submits the certified data to EPA prior to the February 15, 2021, deadline, then EPA intends to withdraw the nonattainment designation announced in the December 2020 action for the Outagamie County area and change the initial designation to attainment/unclassifiable. Consequently, Wisconsin would need to early-certify its data and submit it to EPA significantly earlier than EPA's standard May 1, 2021, certification deadline. EPA notes that this process would not be a Clean Data Determination but a modification of the designation before it takes effect.

## **10. Comments Specific to Wyoming**

### 10.1. Sweetwater County

***Comment:*** Genesis Alkali Wyoming, LP supports EPA's intended attainment designation for the defined portions of Sweetwater County, Wyoming addressed in Round 4 of the 2010 one-hour Sulfur Dioxide NAAQS.

***EPA Response:*** EPA acknowledges the commenter's concurrence with EPA's intended designation.

## 11. Comments Outside the Scope of This Action

**Comment:** Sierra Club commented that as part of the Round 4 designations of remaining undesignated areas EPA must revisit and redesignate the currently designated unclassifiable area in Potter County, Texas as nonattainment based on the recent monitored 2017-2019 design value of 114 ppb. The commenter asserts that EPA’s 2016 unclassifiable designation of Potter County “does not relieve the agency of its obligation under the Clean Air Act, the DRR, and its own guidance to revisit the designation in light of available information.” Additionally, Sierra Club claims that EPA must redesignate the area as nonattainment because the State of Texas selected the monitoring pathway to characterize the air quality around Harrington Generating Station, located in Potter County, pursuant to the DRR, and that monitor now violates the 2010 SO<sub>2</sub> NAAQS.

**EPA Response:** In Round 2, EPA designated then-undesignated Potter County, Texas as unclassifiable (81 FR 45039; July 12, 2016) because at that time neither the State nor third parties had provided any technical analyses of the Harrington Generating Station area. During the same week that EPA finalized the unclassifiable designation, Texas selected the monitoring pathway pursuant to the DRR to characterize air quality around Harrington Generating Station in Potter County, and after the Round 2 designation was final and effective the State began operating a new SO<sub>2</sub> monitor for the area.<sup>11</sup>

EPA is required under this Round 4 deadline to designate the remaining undesignated areas in the United States, pursuant to the court order issued by the U.S. District Court in the Northern District of California.<sup>12</sup> That order does not direct EPA to redesignate any already designated areas in Round 4. Any EPA modification of the designation of Potter County based on the new monitoring information would be a redesignation and not a “revisit” as Sierra Club claims. EPA’s initiation of a redesignation action is a discretionary action under CAA section 107(d)(3)(A), and the CAA does not otherwise impose a duty on EPA to initiate redesignation of a previously designated area. Moreover, the DRR also does not impose a regulatory duty on EPA to redesignate a previously designated area. Thus, EPA is not now required to take, and is not taking, a discretionary action under CAA section 107(d)(3)(A) to initiate a redesignation of Potter County.

Finally, in support of its claim that EPA is required to redesignate Potter County as part of this Round 4 action to complete designations of remaining undesignated areas, the case law that Sierra Club cites addressed the contexts of designating areas that had not been previously designated, and it did not address or rule on EPA’s subsequent discretionary authority to redesignate an already designated area. Therefore, those cases cannot be read as converting EPA’s discretionary authority to initiate a redesignation under CAA section 107(d)(3)(A) to a mandatory duty that EPA must undertake as part of this Round 4 action to complete designations of undesignated areas under the schedule set forth in the March 2015 court order. EPA met the court-ordered deadline to initially designate the Potter County area in Round 2 and is under no

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<sup>11</sup> See [https://www.epa.gov/sites/production/files/2016-07/documents/texas\\_source\\_characterization.pdf](https://www.epa.gov/sites/production/files/2016-07/documents/texas_source_characterization.pdf).

<sup>12</sup> *Sierra Club v. McCarthy*, No. 3-13-cv-3953 (SI) (N.D. Cal. Mar. 2, 2015).

obligation to redesignate the area as part of the Round 4 designations process. Sierra Club's comment is therefore outside the scope of the Round 4 designations action.

**Comment:** Alcoa Corporation commented that there were “almost no 5-minute periods where ambient air concentrations were measured >200 ppb” at the Alcoa Intalco (Whatcom County, WA) or Alcoa Massena (St. Lawrence County, NY) facilities. Alcoa claimed that the “2010 standard should have been set with the consideration of 5-minute concentrations, since the health studies upon which the standard is based indicate that short term peaks >200 ppb are the concentrations of potential concerns.” Alcoa stated that there was only 1 hour that had a 5-minute period >200 ppb at the Intalco facility during the 2017-2019 monitoring period. Similarly, Alcoa stated that there was never a 5-minute SO<sub>2</sub> concentration >200 ppb at the Massena facility during the 2017-2019 monitoring period.

**EPA Response:** Alcoa submitted a similar comment regarding the form of the 2010 SO<sub>2</sub> NAAQS to EPA on February 11, 2020, prior to the Agency issuing its intended designations for the Whatcom County, WA and St. Lawrence County, NY areas. EPA sent a response letter to Alcoa on May 5, 2020, reiterating that the 2010 1-hour SO<sub>2</sub> primary NAAQS was a 1-hour standard based on the 3-year average of the annual 99<sup>th</sup> percentile of the daily maximum 1-hour average concentrations of SO<sub>2</sub>. EPA also addressed Alcoa's claims in its intended designations TSD for Washington and concluded that any objections to the level or the form of the 2010 1-hour SO<sub>2</sub> NAAQS are outside the scope of the Round 4 designations action.