ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R06-OAR-2017-0558; FRL-9308-02-R6]

Finding of Failure to Attain the Primary 2010 One-Hour Sulfur Dioxide Standard for the St. Bernard Parish, Louisiana Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is making a determination that the St. Bernard Parish sulfur dioxide (SO_2) nonattainment area ("St. Bernard area" or "area") failed to attain the primary 2010 one-hour SO_2 national ambient air quality standard (NAAQS) under the Clean Air Act (CAA or the Act) by the applicable attainment date of October 4, 2018. This determination is based upon consideration of and review of all relevant and available information for the St. Bernard area leading up to the area's attainment date of October 4, 2018, including emissions and monitoring data, compliance records for the area's primary SO_2 source, the Rain CII Carbon, LLC (Rain) facility, and air quality dispersion modeling based on the allowable limits.

DATES: This rule is effective on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].**

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R06-OAR-2017-0558. All documents in the docket are listed on the *https://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet. Publicly available docket materials are available electronically through *https://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Karolina Ruan Lei, EPA Region 6 Office, SO_2 and Regional Haze Section (R6-ARSH), 214-665-7346, *ruan-lei.karolina@epa.gov*. Out of an abundance of caution for members of the public and our staff, the EPA Region 6 office may be closed to the public to reduce the risk of transmitting COVID-19. Please call or e-mail the contact listed here if you need alternative access to material indexed but not provided in the docket.

SUPPLEMENTARY INFORMATION: Throughout this document "we," "us," and "our" means the EPA.

I. Background

The background for this action is discussed in detail in our December 7, 2021 proposal (86 FR 69210). In that document, we proposed to determine that the St. Bernard Parish SO_2 nonattainment area failed to attain the primary 2010 one-hour SO_2 NAAQS under the CAA by the applicable attainment date of October 4, 2018. This proposed determination was based upon consideration of and review of all relevant and available information for the St. Bernard area leading up to the area's attainment date of October 4, 2018, including (1) emissions and monitoring data, (2) the state's air quality modeling demonstration, which showed the emission limits and stack parameters required at Rain, the primary source of SO_2 emission in the area, that were necessary to provide for the area's attainment, and (3) Rain's available compliance records between the period when the Agreed Order on Consent (AOC) limits became effective (August 2, 2018) and the area's attainment date. The state's dispersion modeling is based on the allowable limits in the August 2, 2018 AOC between Rain and the Louisiana Department of Environmental Quality (LDEQ). Compliance with those limits showed modeled design values in attainment of the SO_2 NAAQS, but close to the level of the NAAQS (i.e., with little margin of safety). Rain, however, has demonstrated a pattern of difficulty meeting these federally enforceable applicable SO_2 emission limits and stack parameters (memorialized

in its Title V permit and the AOC). Review of Rain's compliance record provides evidence that emissions have exceeded those prescribed limits, and that stack temperatures and flowrates have not met the parameters present in the modeling, such as (1) reported deviations during the period between the effective date of the limits and the attainment date and (2) reported underestimation of emissions from the hot stack. As a result of these difficulties in meeting the limits in the AOC, we cannot determine that the area attained the standard by the attainment date. EPA's final determination, described further in this action and explained in our response to comments, relies on the same basis and rationale that was used in our proposed determination.

We received comments on the December 7, 2021 proposal from several commenters including the state, community members and community groups, and industry groups. In the following section, we are providing a summary of responses to certain significant comments received on the proposal. In subsections II.B through II.E of this action, we provide a response to several community comments that while not germane to our final decision here, serve to better aid and inform the public of matters raised by such commenters. The response to comments (RTC) document accompanying this action and found in the public docket for this rulemaking contains these summaries and the full text of all of the comments that the EPA received during the public comment period from December 7, 2021, to January 13, 2022, our full responses to all comments, and additional details on our responses that are not found in this notice. After careful consideration of the public comments, EPA is finalizing the December 7, 2021, proposed finding that the St. Bernard Parish SO2 nonattainment area has failed to attain the 2010 one-hour SO2 NAAQS by the applicable attainment date of October 4, 2018

II. Response to Comments

A. Comments Opposed to EPA's Proposed Determination that the St. Bernard Area Failed to Attain the SO_2 NAAQS

Several commenters opposed EPA's proposed determination that the St. Bernard area failed to attain the one-hour SO_2 NAAQS by the applicable attainment date. These commenters, including LDEQ and Rain CII Carbon (Rain), asserted that EPA should not determine the area failed to attain but should instead find that St. Bernard Parish is in attainment with the 1-hour SO_2 NAAQS. These commenters identified several categories of factors that they claim support finding that the area did attain by the October 2018 attainment date. These factors include: (1) the large reductions in emissions at Rain and nearby sources, (2) the two monitors in the area have monitoring levels below the NAAQS level, (3) the AERMOD modeling included in the State Implementation Plan (SIP) demonstration was conservative and demonstrated attainment, and (4) the facility has achieved a high level of compliance with the limits in the attainment demonstration SIP.

In the following parts of this subsection II.A, EPA summarizes each of these factors as a separate group of comments and provides a response, and then EPA summarizes and provides a response to the commenters' general assessment that the combination of these factors supports their claim that the area attained the 2010 SO_2 NAAQS.

1. Emissions Reductions at Rain and Other Sources

Comment: The commenters state that EPA's proposed rule fails to consider the major improvements to air quality in St. Bernard Parish that have occurred since 2013, which include (1) permitted and actual emissions reductions from the Rain facility and (2) emissions reductions from other SO_2 sources (e.g., industrial, mobile, and non-road) in and around St. Bernard Parish. For other SO_2 industrial sources, commenters specify that both Chalmette Refining LLC (Chalmette Refining) and Valero Refining Meraux, LLC (Valero Refining) had consent decrees with both EPA and LDEQ in 2006 and 2011, respectively, that have resulted in reducing actual SO_2 emissions from these two facilities

by over 90% in the last decade. Commenters also assert that EPA has promulgated regulations to control fuel and engine standards to reduce SO_2 emissions from on-road and non-road engines for the last 15 years which caused mobile source SO_2 emissions to decrease significantly in the last decade. Commenters pointed to LDEQ's November 9, 2017 proposed SIP as evidence that mobile and nonpoint source emissions accounted for hundreds of tons of SO_2 emissions in 2011 and have significantly decreased from that level in the last decade. Additionally, the commenters state that the downward SO_2 emission trends show significant SO_2 emissions reductions that have been sustained. As an example of this downward SO_2 emission trend, the commenters state that a petroleum refinery (Phillips 66) in a nearby parish with past SO_2 emissions averaging 400 tons per year (tpy) of SO_2 in the past five years recently announced that it will permanently shut down, which will provide additional air quality improvements to the St. Bernard area. The commenters argue that EPA should consider the downward SO_2 emissions trends and the significant reductions of actual SO_2 emissions at these sources in and around St. Bernard Parish as evidence that St. Bernard area has attained the SO_2 NAAQS, and that EPA failed to discuss these reductions in any meaningful way in a weight-of-evidence approach.

Response: EPA disagrees with the commenter's assertion that it failed to consider permitted, actual, and consent decree-based emissions reductions. EPA recognizes that significant reductions in SO_2 emissions have occurred and that these reductions have improved air quality. EPA, however, must consider all available information in determining whether sufficient emission reductions occurred to provide for attainment by the applicable attainment date of October 4, 2018. In this case, and as detailed more in this section, Rain had difficulty complying with its enforceable emissions limits and stack parameters for certain operating scenarios. The modeled attainment demonstration must

be based on short term emissions limits or potential to emit and compliance with these limits is necessary to ensure attainment of the standard throughout the area.

EPA considered all the available information during our review of whether the St. Bernard area attained or failed to attain the SO_2 NAAQS by the attainment date, including information on emissions reductions from SO_2 sources in the area. In this instance, the consent decrees and the LDEQ's attainment demonstration modeling relied upon federally enforceable reductions in short-term allowable emission rates. EPA acknowledges that there have been large reductions in actual SO_2 emissions from the Rain facility and the two refineries in St. Bernard Parish. We note that Chalmette Refinery and Valero Refinery both had previously entered into consent decrees with the LDEQ and EPA that implemented new SO_2 emissions limits, including reduction of the facilities' allowable emission rates or Potential to Emit (PTE). As explained in more detail in the TSDs that accompany EPA's separate, prior approval of the attainment demonstration SIP for St. Bernard[1], EPA and LDEQ worked together to identify the current emission limits that reflect the reductions in short-term PTE/allowable emission rates for these two refineries (Chalmette Refinery and Valero Refinery) which LDEQ relied upon in its attainment demonstration modeling.[2]

As discussed in more detail in response to a comment concerning the modeling in the attainment demonstration (subsection II.A.3 of this notice), EPA's 40 CFR Part 51 Appendix W, Guideline on Air Quality Models, requires the use of short-term PTE/allowable emissions when modeling the major sources in the nonattainment area. Since the 1-hour SO_2 NAAQS is an hourly standard that is based on the three-year average of the 99th percentile of the annual distribution of daily maximum one-hour average concentrations, the potential exists to violate the standard with relatively few

[1] In a May 29, 2019 final action, EPA approved the nonattainment area SIP for the St. Bernard area, which also included the area's attainment demonstration (84 FR 24712).
[2] EPA's Attainment Demonstration Supplemental TSD pages 14-18.

modeled or monitored exceedances. For this reason, EPA's guidance is to model the short-term PTE/allowable limits for sources such as Rain, Chalmette Refinery and Valero Refinery. LDEQ included revised short-term PTE/allowable limits at Rain, Chalmette Refinery and Valero Refinery in its modeling for the attainment demonstration. These revised limits properly account for the allowable emission reductions by using the enforceable short-term PTE/allowable emission rates based on the latest permit and consent decree data in 2018 when the modeling was conducted.

The commenters did not identify any additional significant changes in enforceable short-term emission rates for the Rain, Chalmette, and Valero facilities that were required in 2018 that should have been included in the 2018 modeling. EPA acknowledges that there have been actual and allowable emission reductions in the last decade and since 2016 and that the area's air quality has improved. However, these reductions in allowable emissions for all three facilities were factored into the attainment demonstration modeling. Specifically, the modeling incorporated the most recent permit limits that existed in 2018 and included reductions that had already occurred from consent decrees for Chalmette and Valero refineries. These reductions at the refineries were already in the modeling that was used to analyze potential changes to Rain's February 2018 AOC and identify the new short-term emission limits and stack parameters for Rain with which compliance was necessary to bring the area into modeled attainment. Therefore, the final modeling scenarios included the reductions necessary at Rain, including the emission limits and stack parameter limits for Rain's 11 operational scenarios. These emission limits and stack parameters were included in the August 2, 2018 AOC between LDEQ and Rain. LDEQ's attainment demonstration modeling and SIP relied on these emissions limits as necessary for the area to attain the NAAQS. EPA's finding of failure to attain is based on all of the evidence before it, notably that the Rain facility has been unable to

comply with those AOC limits that were necessary to demonstrate attainment of the NAAQS.

EPA disagrees with the commenters' claim that EPA failed to consider downward annual emissions trends and that these annual reductions are evidence that the area has attained the NAAQS. Reductions in longer term actual annual emissions are helpful, but changes in short-term PTE/allowable emission limits and short-term actual emissions are what is important for demonstrating and reaching attainment of the 1-hour SO_2 NAAQS. As explained earlier, the reductions in allowable short-term emissions for all three facilities were factored into the attainment demonstration modeling. These short-term emission limits have the most influence on the 1-hour SO_2 NAAQS, as this standard is set to protect against acute short-term exposure of SO_2; this is the reason EPA's modeling guidance[3] specifies the use of short-term PTE/allowable SO_2 emission limits in determining maximum modeled design values. We also note that any emission reductions that may have occurred after the October 4, 2018 attainment date cannot be used to support a determination of whether or not the area attained by October 4, 2018.

Commenter mentioned that EPA had not directly factored in further reductions from federal measures for mobile and non-road emission sources as part of EPA's determination. First, EPA would like to clarify that the commenter misconstrued the potential degree of mobile (on-road and non-road) emission reductions. The commenter asserted that mobile and nonpoint source emissions accounted for hundreds of tons of SO_2 emissions in 2011 (specifically, nonpoint emissions of 702.22 tpy as provided in LDEQ's November 9, 2017 SIP); while this is correct, EPA notes that mobile (on-road and non-road) emissions are only a small portion of the emissions accounted for in nonpoint source emissions as part of the National Emission Inventory (NEI), and the

[3] *See* 40 CFR Part 51 Appendix W – Guideline for Air Quality Models and *Appendix A, Modeling Guidance for Nonattainment Areas* of the April 23, 2014 *Guidance for 1-Hour SO2 Nonattainment Area SIP Submissions*, available in the docket for this action.

nonpoint category includes other emission sources that did not have reductions due to the federal measures cited by the commenter. EPA notes that in that same SIP, the non-road and on-road SO_2 emissions for the 2011 NEI emissions for St. Bernard Parish were only 1.31 and 2.35 tpy, respectively. Therefore, any reductions to these relatively small emissions from mobile sources due to federal rules would have a minimal impact on the overall inventory.

Second, mobile source emissions are not explicitly modeled but are included as part of the background concentration which is then added to the modeled concentrations to result in modeled design values. The background concentration added to the modeling is already low[4] and represents the impacts of all emission sources not explicitly modeled, including some mobile source emissions, and these mobile source emissions are only a small fraction of the SO_2 sources that make up the total background concentration added to the modeled values. Therefore, any reductions of mobile source emissions due to federal measures from 2012-2014 up until the attainment date in 2018 that were represented in the background concentration would be expected to only potentially result in a very small change in the background concentration and would not be expected to significantly change the maximum modeled concentration. See the RTC document for more detailed discussion of mobile sources in the area and how the background concentration was estimated.

Commenters argue that the Phillips 66 refinery plans to shut down and that EPA should consider the future potential reductions in emissions when determining whether the area has failed to timely attain the NAAQS. LDEQ included Phillips 66 refinery, located approximately 27 km south of Rain, in the modeling provided as part of the 2018 attainment demonstration SIP.[5] It was operating at the time and Phillips' actual emissions

[4] On average a relatively low background value of 6.27 ppb.
[5] EPA's Attainment Demonstration Supplemental TSD pages 7-8, 14-16.

were included in the attainment demonstration modeling as a background source in 2018. The EPA disagrees with the commenters, any emissions reductions that occurred after Oct. 4, 2018 at Phillips or any planned future emission reductions, including facility shutdowns, cannot be considered in determining if the area failed to attain by the October 4, 2018 attainment date.

2. Monitoring Data

Comment: The commenters state that the St. Bernard area monitors Meraux and Chalmette Vista show significant and continuous air quality improvements in both the monitored design value (DV) for SO_2 (which according to commenters now shows attainment) and the number of exceedances of the one-hour SO_2 NAAQS. Commenters indicated that compared to data from the same monitors during the 2009-2015 period, there has been dramatic improvement to the air quality in St. Bernard Parish due to the reductions in SO_2 from multiple sources, including the Rain CII Carbon's Chalmette facility. Specifically, commenters indicate the Meraux monitor one-hour design value for 2018-2020 is about 10 percent of the SO_2 NAAQS and the design value for the Chalmette Vista monitor for the same period is close to half the 75-ppb standard. Commenters included DVs for both monitors in St. Bernard Parish up to the 2018-2020 DVs to support their statements. Commenters argue that EPA should consider these improvements and downward trend of concentrations at the monitors, including the number of exceedances and the overall design values, in its determination as evidence that the St. Bernard area attained the SO_2 NAAQS, as this data must be considered as probative and significant in any weight-of-evidence approach.

In addition, EPA received several comments discussing the location of the monitors and arguing against EPA's position in its proposed determination that the monitors are

not located in the area of maximum concentration for SO_2. These comments are summarized in the following three paragraphs.

One commenter argues that it is unlikely that air quality is significantly different within St. Bernard Parish at other locations due to the proximity of the monitors to the major industrial sources—for example, the Chalmette Vista monitor is located close to Rain CII Carbon and Chalmette Refining. Commenters state that if EPA cannot consider monitoring on its own to determine that the St. Bernard Parish area attained by the attainment date, it can use monitors in close proximity to major sources as strong evidence that the area is in attainment.

EPA received comments that used the basis for the original siting of the monitors in St. Bernard as a reason for why these monitors are representative of air quality in the area and therefore indicative of the area's attainment. These comments indicated that EPA did not explain why the Chalmette Vista or Meraux monitors are not located in the area of maximum concentration as EPA considered close proximity to sources as a major factor when the agency approved the locations of five new SO_2 monitors in other parishes in Louisiana in 2016. In addition, based on prior SIP documents, commenters argue EPA used the Chalmette Vista and Meraux monitors to designate St. Bernard Parish as nonattainment with the 1-hour SO_2 NAAQS.

Another commenter criticized EPA's basis for its proposed determination, stating that EPA "relies heavily" upon the argument that the Chalmette Vista monitor is not located in the area of maximum concentration. The commenter countered EPA's position by indicating that the area of maximum concentration is located in the Jean Lafitte National Historical Park and Preserve, Chalmette Battlefield, which is a wide expanse of uninhabited land. Commenter continued that LDEQ has argued in discussions with EPA that the Chalmette Vista monitor is located in a neighborhood directly across from the Rain CII facility, making it better suited toward the protection of the residents.

Response: EPA considered and reviewed the Chalmette Vista and Meraux monitoring data as part of our determination. While we take note of the downward trends raised in the comments, we disagree with the commenters' statements that the monitoring data is sufficient evidence the area attained by the attainment date. As we stated in our proposed action, although the one-hour SO_2 design values at the Chalmette Vista monitoring site located within the St. Bernard area show a downward trend of SO_2 concentrations less than 75 ppb for the one-hour standard beginning with the 2015-2017 design value, this monitor is not located in the area of maximum predicted concentration, and therefore cannot be used, on its own, to determine that the St. Bernard Parish area attained by the attainment date. Monitors can only provide a measurement of the air quality at a specific location and do not necessarily indicate whether the SO_2 standard has been attained throughout the area. The commenters did not provide sufficient details but rather provided an unsupported claim that monitoring or monitoring along with other pertinent information should be enough to base a decision that the area reached attainment.

As included in our TSDs for approval of the attainment demonstration SIP, we did note that monitored DVs had decreased at the Chalmette Vista and Meraux monitors.[6] We also note, however, in Figure 6 of EPA's Supplemental TSD that the maximum modeled DV was to the west of Rain with a value of 190.8 $\mu g/m^3$ (97% of the NAAQS); Figure 6 also includes concentration isopleths in the area of the Chalmette Vista monitor, indicating the modeled DV near the monitor location was approximately 110 $\mu g/m^3$ which shows that the Chalmette Vista monitor is not sited to pick up the maximum DV in the area and is instead located in an area modeled to be approximately 58% of the maximum modeled DV.[7] From the modeling, it is clear that the Chalmette Vista monitor and the Meraux monitor are not in the anticipated areas of maximum modeled design

[6] EPA's Attainment Demonstration Supplemental TSD pages 5-6.
[7] EPA's Attainment Demonstration Supplemental TSD pages 24-25; EPA's Attainment Demonstration TSD including pages 35-36.

concentrations, and that contrary to the commenter's assertion, there are significant concentration gradients near the Rain facility. This is a logical result; when winds are blowing from the east, the emissions of the Valero refinery and Chalmette refinery are in line with Rain, and therefore, the emissions from all three sources combine to result in the maximum concentrations being located to the West, downwind of Rain (the largest emitter of the three sources). When the wind is blowing Rain's emissions to the North towards the Chalmette Vista monitor, emissions from Chalmette refinery or Valero refinery are not in alignment such that emissions from these two facilities could combine with Rain's emissions to result in a maximum monitored or modeled value in the area around the monitor. For situations where winds are blowing from the West and emissions from the three facilities overlap to the east of the facilities, the emissions from the largest SO_2 source (Rain) have already been transported several miles and will have experienced dispersion; this causes (1) the concentrations to the east of Valero refinery near the Meraux monitor location to not be as large as when winds are blowing from the east and (2) the maximum area concentrations modeled to be located to the west of Rain. Therefore, the Chalmette Vista and Meraux monitors are not located in the area of the expected maximum DV in the modeling domain and EPA cannot rely upon the monitoring data alone to determine the area has attained; this is the case even considering the proximity of the monitors to major stationary sources of SO_2 and other relevant information in the St. Bernard area.

With regard to comments concerning LDEQ's siting of new SO_2 monitors in other parishes in Louisiana in 2016 based on close proximity to sources, these monitors were sited for the purpose of characterizing 1-hr SO_2 air quality for designation purposes under

the Data Requirements Rule (DRR)[8] and EPA provided guidance[9] to use modeling to identify the location or locations of ambient SO_2 concentration maxima to inform monitor siting. LDEQ did site SO_2 monitors in 2016 based on proximity and modeling to try and identify the area where maximum DVs might be monitored. However, monitor siting can be complicated, and siting of monitors can be restricted by availability or accessibility of a suitable location, including obtaining permissions from landowners and finding necessary support services, such as power. These real-world logistical constraints can sometimes make it impossible to site monitors at specific locations that may be predicted by modeling to be locations of expected maximum concentrations.

The commenter specifically referred to LDEQ locating 5 monitors in 2016 around other facilities in Louisiana outside of St. Bernard Parish as part of the DRR monitoring. The commenter believes that because these monitors were located near the sources in those areas, and 4 of these 5 monitors had measured 2017-2019 DVs less than half of the NAAQS such that they were eventually removed, that this information provides support that the Chalmette Vista and Meraux monitors DVs are representative of the maximum DV in the St. Bernard area since they were also located near the source. As discussed elsewhere, the Chalmette Vista and Meraux monitors were installed prior to the promulgation of the 1-hr SO_2 NAAQS, and no modeling was done at the time to confirm if these monitors were near the location of the expected modeled maximum design values whereas, as discussed, the goal of the DRR was to locate monitors close to the point of maximum expected concentration. The fact that DRR monitors in other areas were sited near a source(s) based on modeling and other considerations and had low 2017-2019 monitored DVs does not support the comment that the Chalmette Vista monitor and

[8] August 21, 2015, Final Rule, "Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS)," 80 FR 51051.
[9] SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document, February 2016. Available in the docket for this action.

Meraux monitor are representative of the maximum DV in the St. Bernard Parish and does not provide sufficient evidence that all portions of the area meet the standard. Instead, available modeling shows that the Chalmette Vista monitor and Meraux monitor are not in the area of maximum projected concentrations and thus cannot provide sufficient evidence that the entire area attained. We also note that for all of these DRR monitored areas, there are differences that exist between modeling of a historical period (2012-2014 in this case) and the monitor data that was gathered from 2017-2019 including differences in meteorology and emissions of the primary and nearby sources that can result in large differences between modeled values[10] and monitored values, including the magnitude and location of the maximum concentration in the area.

As mentioned by the commenter, the Chalmette monitor was sited prior to issuance of the DRR based on consideration towards characterizing air quality in the Chalmette neighborhood near the source, providing relevant data on population exposures, but was not based on an evaluation of the location of the maximum ambient concentrations in the area.[11] Furthermore, the additional controls installed, lower emission limits, and stack parameter conditions (temperature and flow rate) captured in the August 2018 AOC for Rain sources combined with the other enforceable reductions at other facilities resulted in significant changes that impacted the dispersion of emissions from Rain and the modeling results and where the maximum modeled concentrations occur in the area. We also note that while the Chalmette monitor data was the basis of the nonattainment designation in 2013[12], that data showed that there were measured hourly concentrations above the level of the standard at the monitor during that time period (2009-2011) but did not provide

[10] With the exception of the monitor sited in Calcasieu Parish, the modeling performed in 2016 to site these monitors was done in a normalized mode, such that absolute values were not generated so it is unclear from the modeling results, whether the absolute values were modeled above, near, or significantly below the 1-hr SO2 NAAQS.

[11] Chalmette Vista and Meraux monitors began operations in 2006 and 2007 respectively and were not sited based on modeling for the 2010 1-hour SO_2 NAAQS, so neither monitor would be expected to be representative of maximum 1-hour SO_2 NAAQS.

[12] *See* 78 FR 47191 (August 5, 2013).

any information as to the location or magnitude of the maximum concentration in the Parish and whether the monitor was located in the Parish's area of maximum concentration. Even though a monitor may measure hourly concentrations above the standard, it does not demonstrate that the monitor is sited in an area of maximum concentration. In other words, it only demonstrates that the concentration it measures is above the level of the standard, and, absent other information, leaves open the possibility that other locations in the area may be experiencing even higher concentrations. Furthermore, since the area was designated nonattainment in 2013, there have been changes such as (1) changed stack parameters, (2) installation of controls, and (3) reductions in emissions limits at Rain and other facilities which have resulted in changes to the air shed and where maximum concentrations will occur as of the October 4, 2018 attainment, thus further highlighting the need to rely on modeling to identify the location of the maximum design value in the St. Bernard Parish area.

Commenter argues that the maximum modeled DV is located in the Jean Lafitte National Historical Park and Preserve, Chalmette Battlefield, that it is an uninhabited area, and that the Chalmette Vista monitor is located in a neighborhood directly across from the Rain CII facility, making it better suited toward the protection of the residents. Depending on the model run for the different Rain operating scenarios, the location of the modeled maximum concentration is in slightly different locations, and in the Supplemental TSD, the maximum modeled value was not located within the Chalmette Battlefield but further to the West.[13] Regardless of the exact location of the maximum modeled DV, EPA's ambient air standards apply to the entire nonattainment area, in all areas that are considered ambient air. Ambient air is defined in 40 CFR 50.1(e) as "that portion of the atmosphere, external to buildings, to which the general public has access."

[13] See Supplemental TSD page 25 including Figure 6. Figure 6 provides modeled results for the Rain Cold Stack standalone high operations scenario, and the maximum DV was located across the river in Jefferson Parish near a neighborhood with permanent residents.

Presence of permanent residences is not a condition of whether the NAAQS applies in an area, and EPA's attainment demonstration and determination of attainment is based on the NAAQS being met at all potential ambient air locations in the nonattainment area regardless of population level. While EPA acknowledges that the Chalmette Vista monitor may be better suited towards determining exposure of some nearby residents, it is not representative of concentrations of other neighborhoods in other nearby areas, as we found modeled concentrations located at other populated areas that were higher than values modeled at the Chalmette Vista monitor. In conclusion, the Chalmette Vista monitor data is not representative or determinative of whether the entire nonattainment area has attained the NAAQS.

3. Attainment Demonstration Model Performance

Comment: EPA received a number of comments on the attainment demonstration's modeling for the St. Bernard area. Commenters argued that the conservative nature of the modeling submitted by LDEQ is evidence that EPA should consider as a factor when determining whether the St. Bernard area attained the SO_2 NAAQS. Specifically, commenters indicated AERMOD modeling is conservative by nature because it was based on conservative inputs, representative of reasonable worst-case conditions. Commenters also stated AERMOD modeling typically predicts impacts higher than air quality monitoring, often significantly higher than nearby monitoring sites, and that prior comments to LDEQ's proposed SIP reference studies that illustrate that AERMOD overpredicts SO_2 concentrations (*see* LDEQ EDMS DocID 10860978, pp. 47-171). Commenter summarized that AERMOD includes use of allowable peak emissions instead of actual emissions and worst-case meteorological data and is conservative because of these factors, and EPA should weigh this conservativeness with other factors in making its determination. Multiple commenters indicated that despite the use of an overly

conservative model, LDEQ's modeling demonstrated that the proposed controls resulted in attainment of the 1-hour SO_2 NAAQS. A commenter also indicated that the modeling used the maximum PTE and the likelihood that all three major contributing sources would emit at their PTE at the same time is minimal. Commenter also indicated that facilities' actual emissions have consistently been below their PTE.

Commenter indicated that other evidence instead supports, rather than contradicts, the modeling results. Commenter referred to Table 2 in the Proposed Finding of Nonattainment, which shows the modeling results that modeled the maximum potential to emit (PTE) of all the major sources contributing to the ambient design values, including three different operating scenarios for Rain, the largest SO_2 source in St. Bernard Parish.

Commenter indicated the modeling essentially "double-counted" emissions from the out-of-parish, distant, Phillips 66 source at Alliance, Plaquemines Parish. Citing the Supplemental TSD for our approval of LDEQ's attainment demonstration, commenters argue the actual 2017 emissions from Phillips 66 were included in the model as a conservative measure even though accepted EPA protocols did not require Phillips 66 emissions to be included. Commenters then argue that these emissions were double counted when they were also accounted for in the "background" values from the Meraux monitoring data.

A commenter claims that EPA's required modeling protocols result in very conservative predictions of ambient SO_2 levels (i.e., overpredicted levels), stating that under the EPA's SO_2 NAAQS Data Requirements Rule (DRR), LDEQ placed ambient SO_2 monitors in five locations outside the St. Bernard area that began monitoring by January 1, 2017, and the modeling for these other areas indicated that levels would be well above the 1-hour SO_2 standard. However, as evidence that the modeling is very conservative, commenter indicated that at four of these locations, more than three years of monitoring data collected showed ambient levels at less than 50% of the standard, and

pursuant to EPA's monitoring requirements EPA subsequently approved discontinuation of monitoring at those locations, referring to the LDEQ 2020 Louisiana Annual Network Monitoring Plan submitted to EPA on April 5, 2020.

Commenter argues that based on these other monitors not in St. Bernard Parish, the modeled predictions of high ambient SO_2 levels shown in the modeling done by LDEQ and EPA for St. Bernard Parish is likewise very conservative. Commenter concluded that where such modeling predicts attainment and such predictions are supported by actual monitored design values at nearby monitors showing levels below the model predictions, the modeled predictions should be accepted as prima facie evidence of attainment.

Commenter argues that although EPA characterizes the modeled values in the SIP attainment demonstration as being "close" to the 1-hour SO_2 NAAQS, even the worst operational scenario had a design value at least 2 ppb below the standard (3% below). Furthermore, some other operational scenarios yielded worst case predictions that were 11% and 5% below the standard, respectively. The commenters seemed to be indicating that there is some head room in the modeling results such that any non-compliance with emission limits or stack parameters may not lead to actual concentrations that would result in exceedances or violations of the 1-hour SO_2 NAAQS.

Response: We disagree with the comments that the AERMOD model and EPA's modeling protocols result in "very conservative" overpredictions of ambient SO_2 concentrations. As discussed in the proposed rule, LDEQ used the most recent version of AERMOD and followed EPA's guidance for SIP modeling for SO_2.[14] The attainment demonstration modeling is based on PTE/allowable emissions (i.e., the maximum permitted amount) and stack parameters for different operational stages at the Rain facility, including stand-alone operations for the waste heat boiler and the pyroscrubber

[14] See *Appendix A, Modeling Guidance for Nonattainment Areas* of the April 23, 2014 *Guidance for 1-Hour SO2 Nonattainment Area SIP Submissions*, available in the docket for this action.

and transition stages between the two modes of operation.[15]. Consequently, the attainment demonstration modeling reflects the maximum level of emissions and ambient concentrations that could occur while sources meet the SIP emission limits and required stack parameters, as required by the CAA and our regulations. When EPA approved this modeling demonstration for this purpose, such demonstration was not the subject of a challenge, and EPA is not reopening the fundamental conclusions about the modeling that it previously reached in this action. Again, the issue is Rain's inability to comply with the emission limits and stack parameters in the attainment demonstration SIP which the attainment modeling indicated were necessary for the area to attain.

AERMOD is the regulatory air dispersion model[16] for use in assessing near field (within 50 kilometers) criteria pollutant ambient air concentrations for air quality analyses for regulatory purposes. AERMOD has been subjected to an extensive, independent peer review. Analysis of AERMOD's performance with field study data sets indicates that AERMOD performs best for elevated point sources such as Rain and the other larger SO_2 emission sources in the modeling and provides maximum modeled design values with an acceptable degree of accuracy. The result is a slightly conservative and protective estimation of maximum modeled DVs for these types of sources, not, as commenter characterizes it, an overestimation which always results in monitoring showing attainment. While AERMOD might be slightly conservative in model predictions, modeling for attainment demonstrations cannot have tendencies to underestimate concentrations as that would result in violations of air quality standards going undetected and would not be protective of public health. EPA promulgated AERMOD as the preferred model to characterize impacts from emission sources for 1-hour SO_2 maximum DV concentrations (and several other NAAQS pollutants) in 2005

[15] 86 Fed. Reg. 69,213.
[16] 40 CFR Part 51 Appendix W – Guideline for Air Quality Models.

and it has been used in numerous designations for SO_2 and Lead, numerous attainment demonstration SIPs for criteria pollutants such as SO_2, $PM_{2.5}$, and Lead, as well as in numerous permit application analyses. See the RTC document for full analysis of specific comments on AERMOD modeling performance.

EPA's 40 CFR Part 51 Appendix W, Guideline on Air Quality Models, requires the use of short-term maximum PTE/allowable emissions when modeling the primary source(s) in the nonattainment area (see Section 8 including Table 8-1) including the source(s) that are being evaluated for an emission limit. Since the 1-hour SO_2 NAAQS is an hourly standard that is based on the three-year average of the 99th percentile of the annual distribution of daily maximum one-hour average concentrations, it does not take many modeled or monitored exceedances to result in violations of the standard. For these reasons, it is necessary to model the short-term (hourly) maximum PTE/allowable emission rate limits for sources such as Rain, Chalmette Refinery and Valero Refinery. LDEQ's attainment demonstration SIP included revised short-term PTE/allowable emission limits and stack parameters for Rain, along with the short-term PTE allowable emission limits for Chalmette Refinery, and Valero Refinery. It was these limits that Rain did not comply with during certain periods making it not possible to find the area had attained by its attainment date.

Several commenters compared actual annual emissions to annual PTE/allowable emissions and indicated that actual emissions have been lower than PTE/allowable emissions at Rain, Chalmette Refinery, and Valero Refinery. Regardless of annual actual emissions, the sources likely operated at higher hourly emission rates much of the time and had the legal authority to operate up to the maximum hourly PTE/allowable emission rates. Moreover, at issue is that Rain, in fact, did not comply at all times with its required allowable short-term emissions limits and stack parameters in the AOC which the attainment modeling showed was necessary for the area to attain the NAAQS.

Contrary to the commenters' claims, we did consider how actual emissions may have differed from what was modeled in our evaluation of the evidence, including the modeling results. When relying on a modeling demonstration based on allowable emissions for purposes of determining attainment by the attainment date, EPA looks to the emission limit(s) and any other limits (stack parameters in this case) that were adopted and whether the relevant source or sources were complying with those modeled limits prior to the attainment date. In other words, EPA looks to whether the state has demonstrated that the control strategy in the SIP has been fully implemented. One of the ways to determine if the plan was fully implemented is to review compliance records to determine if the control measures have been implemented as required by the approved SIP. This is necessary because a modeling demonstration based on allowable emissions alone is not sufficient to verify factual air quality status without the supporting information on compliance with those emission limits and associated stack parameter limits. We discuss facility compliance in more detail in the following section (subsection II.A.4). As explained in subsection II.A.4, because emissions at times exceeded the allowable limits and/or stack parameters failed to meet the minimum requirements that were modeled, LDEQ's modeling is not conservative and actual concentrations would be expected to be higher than LDEQ's modeling results. We note that Rain also underestimated pyroscrubber emissions (discussed further in this response and the next response) which would further contribute to underestimation of actual concentrations when pyroscrubber emissions occurred.

In sum, from the available information, EPA cannot determine with certainty that the area attained the NAAQS as the emissions and stack parameters at times fall outside the limits and conditions that were modeled in the approved attainment demonstration. The noted violations of the permit limits or underestimated emissions would be expected to

result in higher concentrations than were modeled and may have resulted in exceedances and violations of the one-hour SO_2 NAAQS in areas other than the monitored location.

In our evaluation, we focused on the time period between adoption of the AOC on August 2, 2018, and the attainment date of October 4, 2018. For that approximately 2-month period, Rain identified 7 days where they were not in compliance with either emission limits and/or stack parameter limits in the AOC.[17] Modeling analyses, including many exploratory model runs performed by EPA and/or LDEQ, were conducted to help establish the 11 operational scenarios with associated emission limits and stack parameter limits in the AOC. The modeled concentrations were sensitive to changes in the stack parameters of stack air flow and minimum temperature. Changes to these factors impact the ground-level concentrations by changing how high the plume lofts and how quickly it reaches ground levels. Decreases to stack flow rate and/or stack temperature would be expected to result in decreased dispersion and increases in ground-level ambient air concentrations and potentially move where the maximum modeled concentrations occur. Therefore, if actual air flow and/or stack temperature is below the minimum values in the AOC that were modeled, the maximum modeled design value in the attainment demonstration modeling results is no longer conservative and is likely an underestimation of the actual maximum DV due to the reduced dispersion as a result of less than minimum stack flow or temperature. For the different modeling scenarios in the attainment demonstration, Rain's emissions were the largest contributor to the maximum modeled design values in the modeling domain. Therefore, the described changes to Rain's dispersion characteristics coupled with an underestimation of actual pyroscrubber emissions (for scenarios with pyroscrubber emissions) would be expected to increase the maximum modeled DVs and could result in modeled DVs that are above the 1-hour SO_2

[17] See deviations listed in the semiannual monitoring report for July 1-December 31, 2018.included in the docket for this action.

NAAQS. On 6 of these 7 days, Rain reported emitting below the required minimum stack flow rate for the pyroscrubber stack for transitional scenarios.[18] Emitting at flow rates below the minimum airflow requirements would result in higher ambient air impacts from pyroscrubber stack emissions and the maximum design value would be expected to increase. A number of scenarios were established to model the air quality impacts when Rain transitioned its operations from full operation through the pyroscrubber stack to operation though the heat recovery stack. [19] Since in all of these transitional scenarios of emissions, the emissions from Rains' pyroscrubber stack had a large impact on the maximum modeled design values, the periods when Rain was not meeting minimum stack parameters raise a real concern that the attainment demonstration modeling results do not reflect the situation that actually occurred and do not reflect a conservative assessment of the actual maximum modeled design value at the attainment date. If these non-compliance periods with lower flowrates and/or temperatures were modeled, they would have a higher maximum modeled concentration value than the AOC required stack parameters would allow for during the same modeled period and would likely show a violation of the NAAQS. Furthermore, as discussed elsewhere, pyroscrubber emissions were underestimated and actual emissions, if modeled, would also result in a higher maximum modeled concentration than the AOC emission limits would allow for during the same modeled period and would likely show a violation of the NAAQS. Without knowing the exact parameters and pyroscrubber emissions we cannot model these actual stack parameters and emissions and confirm with certainty that the value would model a violation, but we do know the modeling for the attainment demonstration was very sensitive to stack parameters and pyroscrubber emissions such that it is likely that these excursion periods would have resulted in some exceedances and potentially violations of

[18] Transitional scenarios are operational scenarios identified in the AOC that have emissions from both pyroscrubber and waste heat boiler stacks.
[19] See EPA's Attainment Demonstration Supplemental TSD pages 20-27.

the NAAQS. Because of this, the EPA cannot determine with certainty that the area attained the NAAQS. As discussed further in our responses in other parts of this notice, the form of the 1-hour SO_2 NAAQS is very sensitive to a small number of exceedance or near exceedance hours within days each year (on the order of 4 days a year, on average), so having 7 days of non-compliance in a two-month period is concerning and threatens the ability to attain the NAAQS.

As the commenter noted, some of the attainment demonstration modeling for these transition scenarios resulted in DVs that were 11% below the NAAQS (range of all transition stages was 5% to 15% below the NAAQS) implying the modeling had some margin of safety. As discussed in the next response (subsection II.A.4), the 2019 stack test results indicate that pyroscrubber emissions have been underestimated by at least 10% and up to approximately 60% at times,[20] which would remove much, if not all, of the head room even without factoring in dispersion worse than what was modeled due to not complying with minimum stack flow and temperatures.

In addition, when the facility is in its transition stages, the current equation to determine air flow volume through the hot stack underestimates the amount of flow, resulting in further underestimation of pyroscrubber stack emissions. We note that Rain has recently proposed changes to the emissions equation and stack flow equation are based on Rain's analyses of the existing equations to stack tests in 2019-2021. This change in the emissions equation and stack flow equation proposed by Rain is not before EPA or LDEQ for official review. We note that it does support EPA's concerns that the emissions and stack parameter limits in the August 2, 2018 AOC were not implemented at all times and actual emissions may have exceeded the allowable emission rates at a higher frequency than reported in the compliance reports. If these different operating parameters and/or higher emission rates were modeled, the maximum modeled design

[20] See Table 5 of the 2019 Stack Test Report, available in the docket for this action.

values would be higher, and, therefore, the existing approved modeling results are not conservative. Without knowing the exact parameters and amount of higher pyroscrubber emissions we cannot model these actual stack parameters and emissions, but we do know the modeling for the attainment demonstration was very sensitive to stack parameters and pyroscrubber emissions such that it is likely that these excursion periods would have resulted in some exceedances and potentially violations of the NAAQS. Because of this, EPA cannot determine with certainty that the area attained the NAAQS.

The Phillips 66 refinery (Phillips) south of Rain was included in the modeling that LDEQ provided as part of the attainment demonstration SIP and is located approximately 27 km south of Rain.[21] Phillips was operating at the time, and Phillips' actual emissions were included in the modeling as a background source at the time the attainment demonstration was submitted in 2018. Since the maximum modeled concentrations were to the West of Rain, even if the background monitor value included any impacts from Phillips 66, the modeled impacts from Phillips emissions would not be transported to add to the maximum modeled concentration; this is due to Phillips not being located upwind (East or West) of Rain, which means there is no double-counting of Phillips emissions impacts to the maximum modeled DVs in the modeling for the different operational scenarios.

See the RTC and our response to the previous comment in subsection II.A.2 about monitors in other areas and how the information provided is not sufficient to understand how modeled concentrations for the 2012-2014 period and monitored values from 2017-2019 compare.

4. Facility Compliance

[21] EPA's Attainment Demonstration Supplemental TSD pages 7-8, 14-16, found in the docket for this rulemaking. Modeling results in modeling files for other operating scenarios are included in the Supplemental TSD.

Comment: The commenters state that EPA should consider the overall level of compliance by the Rain facility with its Title V permit and the AOC agreement in its determination of whether the St. Bernard area has attained the SO_2 NAAQS. The commenter disagrees that the Rain facility has not achieved a high degree of compliance with the SO_2 emissions limits set forth in its current Title V Operating Permit and the AOC agreement. Commenter continues that Rain has operated below their sitewide permitted SO_2 emission limit most of the time for the past four years in addition to operating below permitted limits of individual sources most of the time. The commenter also claims that the compliance history of the waste heat boiler/baghouse and the pyroscrubber stack with the permit and AOC limits in 2020 and 2021, coupled with the relatively few excursions of operating parameters that occurred for the period August 2, 2018, through October 4, 2018, show that EPA's justification for its proposed determination is inadequate.

In reference to annual emissions, the commenter indicated the facility's permitted SO_2 emissions for the entire site (i.e., all sources of SO_2 emissions at the facility) are currently 2,626 tpy and that Rain has operated well below this sitewide annual total over the past four years in addition to annual SO_2 limits for individual sources. Commenter continued that the current Title V permit also includes short-term SO_2 emissions limits for the waste heat boiler/baghouse (EQT 0003) and the pyroscrubber stack (EQT 0004). The waste heat boiler/baghouse (EQT 0003) has a maximum 510.00 lb/hr SO_2 limit and the pyroscrubber stack (EQT 0004) has a maximum 2,022.70 lb/hr SO_2 limit.

Commenter indicates that the AOC Agreement, entered between LDEQ and Rain CII Carbon and effective on August 2, 2018, includes 11 distinct emissions limits for SO_2 associated with the waste heat boiler/baghouse (EQT 0003) and/or the pyroscrubber (EQT 0004). Commenter stated that these emissions limits vary depending on operating conditions of the rotary kiln and associated process equipment and was established based

on flow and temperature parameters. Additionally, the AOC Agreement also includes various monitoring, reporting, recordkeeping, and testing requirements for the waste heat boiler/baghouse and the pyroscrubber to ensure compliance with the underlying emission limits. Commenter asserted that an excursion of stack parameter limits such as flowrate or temperature parameter (for one of the 11 distinct emission limits) does not necessarily equate to an exceedance of an SO_2 emissions limit and therefore EPA does not know for sure that an exceedance of the NAAQS level would have resulted.

Commenter also provided information about the waste heat boiler/baghouse (EQT 0003) operations for 2020 and first half of 2021, indicating it was only out of compliance for 30 hours in 2020 and 15 hours in the first half of 2021 and that it was in in compliance more than 99.6% of the time it operated. Commenter noted that the Title V permit limits the pyroscrubber stack (EQT 0004) to a maximum of 500 hours/year on a 12-month rolling average and that the facility has not exceeded that limit. Regarding pyroscrubber stack operations for 2020 and the first half of 2021, commenter indicated Rain was only out of compliance for 72 of 7,234 hours in 2020 and 78 out of 4,018 hours for the first half of 2021 resulting in compliance 99.0 percent of the time in 2020 and 98.1 percent of the time in the first half of 2021.

Commenter summarized that except for very limited periods, the Rain facility has not exceeded the short-term SO_2 emissions limits over the past four years, indicated by the facility's Title V semiannual deviation reports and annual compliance certifications. Commenter noted that the Title V permit requires Rain to operate and maintain a SO_2 continuous emissions monitor ("CEMS") for the waste heat boiler/baghouse (EQT 0003) to ensure compliance with these limits (See, Specific Requirement Nos. 55-58 and 80 in Title V Permit No. 2500-00006-V4).

Commenter (Rain) also indicated EPA should consider the pending amendment to the currently effective AOC Agreement entered on August 2, 2018. Commenter indicated

that Rain has conducted performance tests on the pyroscrubber stack on March 8-9, 2018, and July 7-8, 2018, and after implementation of the AOC Agreement. Rain CII Carbon conducted additional performance tests on March 13-14, 2019, July 22-23, 2020, and September 15-19, 2021. Based on these performance tests, Rain has proposed an amendment to the AOC Agreement that would revise certain flow and temperature operating parameters. Commenter continued that Rain's proposed amendment, currently under review by LDEQ and preliminary review by EPA, will further reduce the self-reported flow and temperature excursions for the waste heat boiler/baghouse and pyroscrubber emissions points. Commenters assert that EPA should take these pending proposed changes to the AOC Agreement into account as a part of its determination whether the area attained the 2010 SO2 NAAQS.

Commenter LDEQ indicated it would concede that Rain has not adequately met the emission limits in the AOC. However, LDEQ then claims that all equations used to establish those limits were based upon theoretical modeling scenarios contrived from the facility's operations and, therefore, it is difficult to predict every possible operating combination for this facility. LDEQ argues that modeling the periods when the facility did not meet the established limits would present a better picture of whether the area was attaining, rather than assuming that the limited number of modeled combinations are the only possible combinations which would pass modeling. LDEQ stated that it continues to model new combinations of emission limits and stack parameters for Rain's proposed amendment to the AOC Agreement entered on August 2, 2018, and LDEQ and EPA[22] are currently providing feedback on those elements. LDEQ indicated that there are numerous variations of operating parameters that result in passing models with new stack operating parameter ranges and revised emission limits that are under review.

[22] The EPA wishes to clarify that this language summarizes what the commenter stated. The EPA has not received a formal submittal from LDEQ of a revised AOC. The EPA is only providing preliminary, early engagement support here as it does with all technical matters when requested by the state.

Response: With respect to comments that EPA should consider the compliance period as a whole from 2017 through 2021, EPA disagrees. EPA is required to determine if the area's air quality attained or did not attain by the October 4, 2018, attainment date. As part of that determination, EPA considers whether control measures approved in the attainment SIP were fully implemented by that date. In our proposal, we provided evidence that Rain has struggled to meet the SIP-approved AOC limits in the period up to the October 4, 2018 attainment date to support our proposed finding of failure to attain. We note that the commenters have provided additional information that indicates the Rain facility has continued to have non-compliance periods past the October 4, 2018 attainment date and that Rain is working with LDEQ and EPA to revise the emission rate limits and stack parameters limits for different operating scenarios, modify the emission calculation formula for the pyroscrubber stack, and complete revised modeling incorporating these proposed changes.[23] (We note that when referring to the waste heat boiler/baghouse (EQT 0003) we will shorten to "waste heat boiler" and for the pyroscrubber (EQT 0004) we will shorten to "pyroscrubber.") While the period following the October 4, 2018 attainment date is not the basis for EPA's final determination, this additional information is illustrative that Rain did not demonstrate full compliance with the August 4, 2018 AOC limits both in the period up to October 4, 2018, and after October 4, 2018, which further supports EPA's final determination that the attainment demonstration SIP for St. Bernard Parish that EPA approved had not been fully implemented. This EPA approved attainment demonstration SIP included necessary requirements for the Rain facility that formed the basis of the modeling demonstration in the SIP and EPA's approval.

[23] See deviations in 2021 first half Compliance report, 2021 Stack Test report, and Email (with attachments) from LDEQ to EPA on December 8, 2021, that provided updated analysis of pyroscrubber emission formula compared with stack test data, proposed new emission and stack parameter limits or to be included in a future AOC revision, and updated modeling. These are included in the docket for this action.

With respect to the comment that Rain had complied and been below the annual emission limits for the last four years (facility total and unit limits) we note that this is not of central importance in determining if the area has attained the 1-hour SO_2 NAAQS. As discussed in Section II.A.2, determination of attainment could be based on as few as 12 hours that have modeled/monitored exceedances or near exceedances at a receptor/monitor in a 3-year period.[24] Compliance with annual total emissions does not take into account short term emission rates variation and whether emission limits (defined by certain stack parameter regimes) are being complied with for all operating hours. Therefore, compliance with annual tpy emissions is not germane to determining if the area has attained. Again, the form of the standard is such that as few as 12 hours or less of modeled exceedances or near exceedances could result in a modeled DV that does not attain the standard; therefore, even a small number of short periods of non-compliance with an emission limit or the required stack parameters can result in a violation of the standard.

Prior to LDEQ's attainment demonstration SIP proposal in 2017 and leading up to the revised limits in the August 2, 2018 AOC; EPA, LDEQ, and Rain continued to conduct modeling to refine the operational scenarios and identify emission limits for each scenario that were specific to stack volume flow ranges and temperature ranges because the modeling was very sensitive to the combination of emissions and the stack parameter ranges; outside of the specific stack parameters for these operational scenarios, the emission rates would often model nonattainment.[25] The revised August 2, 2018 AOC established revised emission limits with specific temperature ranges and stack flow ranges that Rain believed they could comply with. These limits are not theoretical ranges

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[24] The 1-hour SO_2 Design Value is an average of the yearly 4th High maximum daily 1-hour SO_2 value of each year, thus the DV is based on 12 values at a receptor/monitor that are either exceedances or near the standard that when the average of 3 consecutive years results in a DV that violates the 1-hour SO_2 NAAQS.
[25] See TSDs and other materials in EPA's approval of LDEQ's 1-hour SO_2 attainment demonstration SIP for St. Bernard Parish in the docket for this action (Docket No. EPA-R06-OAR-2017-0558).

as they were based on the combination of previous stack tests and input from Rain, which led to established ranges that cover the combinations of emissions and stack parameters that could realistically occur. The stack parameter ranges were modeled to establish what emission limits would not result in modeled violations (DVs above the 1-hour SO_2 NAAQS), and the stack parameters define what is the applicable emission limit. These updated AOC limits in the August 2, 2018 AOC and attainment demonstration modeling results, highlight the need for Rain to fully implement and achieve strict compliance with the emissions limits and associated stack parameter ranges in order for St. Bernard Parish to attain the NAAQS. We also note that prior to August 2, 2018, Rain was not operating in compliance with the limits in the previous AOC, and this was a principal reason for the establishment of new limits in the revised August 2, 2018 AOC.

Commenters did not contest that Rain was not in compliance with AOC limits for 7 days in the period from August 2, 2018, through October 4, 2018; commenters only argued that the period of noncompliance was a short amount of the time, and that the facility was in compliance most of the time. However, EPA would again like to emphasize that given the form of the 1-hour SO_2 standard discussed earlier, a very small number of periods of non-compliance with the established AOC limits (as few as 1 hour per day for 4 days in a year, on average) can result in modeled and/or monitored violations, and, therefore, having 7 days of non-compliance in less than 2 months can result in several modeled exceedances of the 1-hour SO_2 NAAQS. The model demonstrating attainment did not assume compliance with the modeling parameters 90% of the time or the majority of the time but all of the time. Modeling results were sensitive to stack parameters and emission rates such that any time the facility was out of compliance there is a high likelihood that an exceedance could occur. Furthermore, as discussed in more detail later in this response, there were likely more times that the facility was not in compliance in the period from August 2, 2018 through October 4,

2018 that were not identified due to underestimation of emissions and/or uncertainty in estimated flow rates. We also note that prior to August 2, 2018, Rain was not operating in compliance with the limits in the previous February 2018 AOC that were also based on different emission rate limits for different stack parameters operational ranges.

Commenter included details about the number of hours of non-compliance for 2020 and first half of 2021 and summarized that Rain was only noncompliant a relatively small percentage of the time during that period. EPA included Rain's 2018 through 2020 semi-annual monitoring reports, where Rain reported non-compliance periods, in the docket for this rulemaking's proposal action. Since the commenter referred to the 2021 semi-annual monitoring report for the first half of 2021, we are also including that report in the docket for this action. While the compliance record with AOC limits since October 4, 2018 is not the basis for our determination of whether the area has attained, it is informative to note that the facility continues to have a number of hours and days where it fails to comply with the August 2, 2018 AOC limits.[26] In 2019, either emissions and/or stack parameters from the waste heat boiler stack were not in compliance with the AOC for 21 hours over 10 days, and either emissions and/or stack parameters from the pyroscrubber stack were not in compliance for 63 hours over 12 days. In 2020, the waste heat boiler limits were not in compliance for 30 hours over 12 days, and the pyroscrubber limits were not in compliance for 72 hours over 14 days. For the first half of 2021, the waste heat boiler limits were not in compliance for 16 hours over 7 days, and the pyroscrubber limits were not in compliance for 78 hours over 12 days. We note that the pyroscrubber is limited to operating 500 hrs/year, so 72 hours in 2020 reflects that it operated at least 14% of the time not in compliance (14.4% based on assumption that it

[26] See deviations listed in semiannual monitoring reports for 2018. We also note as that the source continued to experience deviations in 2019, 2020, and 2021. The semiannual monitoring reports for 2018, 2019, 2020, and first half of 2021 as well as the 2019, 2020, and 2021 stack test reports are available in the docket for this action.

operated up to the allowed 500 hours in 2020). These periods of non-compliance with emission limits and/or stack parameter limits in the August 2, 2018 AOC occur at a frequency that can result in nonattainment and shows the area has failed to fully implement the necessary measures prescribed in the EPA approved nonattainment area SIP.

While commenters de-emphasize the hours of non-compliance and non-compliance with stack parameter limits, these stack parameter limits were based on modeling conducted with these values and associated emission limits for each specific scenario, and non-compliance with stack parameters does result in non-compliance with the AOC limits that were approved in the attainment demonstration SIP. Non-compliance with stack parameter limits creates a situation where the facility's emissions are occurring with dispersion parameters outside what was modeled and that are necessary to demonstrate attainment. For example, for a number of the non-compliant periods, the calculated flow rates for the pyroscrubber stack did not meet the AOC requirements in the August 2, 2018 to October 4, 2018 period, indicating that pyroscrubber stack emissions were released at lower velocities than modeling indicated was acceptable when the flow rates limits were established. Periods of non-compliance with stack parameters is consequential, as lower flow velocities and/or lower stack temperatures result in less dispersion which can result in higher ground-level concentrations than modeled. When this is coupled with pyroscrubber emissions that are more than the allowed limit this also can result in higher ground-level concentrations than what was modeled.

When relying on a modeling demonstration based on allowable emissions for the purposes of determining attainment, the EPA looks to whether the emission limit and other limits were adopted and whether the relevant source or sources were complying with those modeled limits prior to the attainment date. That is, when determining attainment by the attainment date using air quality modeling of allowable emissions, EPA

looks to whether the state has demonstrated that the control strategy in the SIP has been fully implemented (in other words, ensuring that compliance records demonstrate that the control measures have been implemented as required by the approved SIP). This is necessary because a modeling demonstration based on allowable emissions is not itself sufficient to show factual timely attainment without supporting information demonstrating compliance with emission limits and associated stack parameter limits.

We note that in our proposal we referred to Rain's 2019 stack test report regarding pyroscrubber stack emissions (Rain referred to this as the "hot stack") which indicated that Rain found that "the AOC hot stack equation underestimates hot stack emissions during most of the transition from hot stack to cold stack" and "[d]uring no hour did the combined flue gas flow and temperature meet the description of any transition stage." The report then states "the AOC limits and conditions do not reflect actual emissions conditions and it is difficult to identify the appropriate transition stage," before recommending that the August 2018 AOC's flue gas flow rates, temperatures, and emissions limits for transitions stages 1, 2, and 3 be replaced with new conditions.[27] This 2019 stack test was the first annual stack test as required by the August 2, 2018 AOC and provides a comparison of calculated emissions and flowrates for the pyroscrubber stack to actual measured values. Comparison of the calculated SO_2 hot stack emissions to the measured hot stack emissions, shows that actual emissions are underestimated during the transition and were approximately 50% to 60% higher than calculated values for most hours of the transition.[28] The stack test also shows that the calculated hot stack flow rate is at times higher than what was measured during hot stack alone operations and during transition stages. Rain found that the flow rate equation "both overestimates and underestimates hot stack gas flow rate." This stack test demonstrates that not only have

[27] See the 2019 Stack Test Report, available in the docket for this action.
[28] See Table 5 of the 2019 Stack Test Report, available in the docket for this action.

emissions been underestimated during the transition periods, but the stack parameters fell outside of the modeled transition stage requirements in the AOC. From the available information, EPA cannot determine with certainty that the area attained the NAAQS as the emissions and stack parameters at times fall outside the limits and conditions modeled in the approved attainment demonstration. The noted violations of the AOC limits and underestimated emissions have likely resulted in exceedances and potentially violations of the SO2 NAAQS in areas other than the monitored location.

Commenter indicated that EPA should take proposed changes to the AOC being developed by Rain into account as a part of its final rule. EPA is currently involved in the preliminary review of Rain's potential revisions to the AOC, including revisions to the emission formula that Rain uses to calculate emissions from the pyroscrubber stack and potential changes in how flow rate is determined for the pyroscrubber stack and revised modeling using these proposed changes. However, we cannot base a final decision of attainment based on such proposed revisions not officially before us for review as well as there continues to be uncertainty over the effectiveness of such changes and compliance therewith. While our decision is based on whether St. Bernard Parish attained by October 4, 2018, we do note in our proposal that based on the 2019 stack test, Rain had indicated that their pyroscrubber emission formula underestimates emissions. The 2019 stack test also showed that stack flow equations were overestimating and underestimating pyroscrubber stack flow. We also note that the additional stack tests in 2020 and 2021 coupled with pending potential AOC revisions proposed by Rain that EPA and LDEQ are preliminarily reviewing, while not the basis or rationale for our decision making, includes additional deviations indicating that Rain continued to have difficulty complying with the limits in the August 2, 2018 AOC after the attainment date had passed. The proposed revisions to the emissions formula for the pyroscrubber indicate that estimated emissions should have been higher than those calculated with the formula used for determining

compliance since August 2, 2018. This indicates there may have been more times that pyroscrubber emissions did not comply with the AOC limits.[29] The stack tests indicate that pyroscrubber stack flows were being overestimated by the equations some of the time, which creates a concern that the attainment modeling is not conservative and underestimates actual maximum concentrations. Overestimation of pyroscrubber flow means actual conditions had lower stack velocities and less dispersion, resulting in actual concentrations higher than the maximum modeled values. Stack tests also indicate some periods when the stack parameter equation underestimates flow, and because the flow rate is used to identify the transition stage and applicable emission rate, this could result in a different transitional stage being identified with different emission limits than the actual transitional scenario the pyroscrubber stack is operating within. Misidentification of the operating stage and applicable limits could result in additional periods of noncompliance that were not identified and higher concentrations than were modeled for that stage. These issues highlight the implications of the underestimation of maximum concentrations created by the underestimation of pyroscrubber emissions and overestimation or underestimation of pyroscrubber stack parameter equations used in determining compliance during the period prior to October 4, 2018. Underestimating emissions and mischaracterizing the actual pyroscrubber stack flow would likely also result in more periods of non-compliance than was reported, further indicating that the limits in the attainment demonstration SIP had not been fully implemented by October 4, 2018.

Commenter asserted that an exceedance of stack parameter limits or emission limits does not automatically lead to exceedances or design values above the SO_2 NAAQS and

[29] Email (with attachments) from LDEQ to EPA on December 8, 2021, that provided updated analysis of pyroscrubber emission formula compared with stack test data, proposed new emission and stack parameter limits or to be included in a future AOC revision, and updated modeling, available in the docket for this action.

actual emissions and stack parameters of non-compliance periods should be modeled explicitly to determine if the specific non-compliance periods would result in exceedances or design values above the SO_2 NAAQS in determining if the area failed to attain. As discussed earlier in this action and in previous actions, the modeling was very sensitive to the combination of stack air flow, temperature and emission rates, and required 11 different operational scenarios to be able to model the full range of operations of the Rain facility. The stack parameter ranges for each operational scenario were developed based on stack test data and exploratory modeling and where it showed potential modeled violations, emission limits were further reduced. The 11 operating scenarios were developed and refined with several iterations leading up to the August 2, 2018 AOC because initial modeling of worst case emissions and stack parameters for all flow ranges of the pyroscrubber and/or waste heat boiler stack resulted in modeled violations. The 11 operating scenarios were developed to try and give operational flexibility to Rain and still have modeling that demonstrated attainment. The facility has struggled to comply with these 11 operational scenarios and identified 7 days in the period of August 2, 2018, through October 4, 2018, where the facility was not in compliance with the August 2, 2018 AOC limits.[30] As indicated in the proposal, part of a determination of whether the area has reached attainment is whether there are limits (emission limits and stack parameter limits) in place that have been fully implemented that demonstrate modeled attainment. In this case there was an AOC in place for this roughly 2-month period, but the limits were not being complied with to indicate that the control strategy in the SIP had been fully implemented and, therefore, that the area reached attainment. In addition to the identified periods of non-compliance in the 2018 report, we also identified that the pyroscrubber emissions were underestimated, and pyroscrubber stack flows were over- and under-estimated, which could lead to mis-

[30] See deviations listed in semiannual monitoring reports for 2018.

identifying the appropriate transition stage and emission limits, and these factors indicate that additional periods of non-compliance were possible during that 2-month period than what was reported. As discussed elsewhere in our responses, Rain has continued to have more than a dozen days per year (2019 and 2020) that they identified that did not comply with the August 2, 2018 AOC limits, and Rain has requested to revise the emission formula for the hot stack and also change the equation for determining stack parameters and emission limits for the operational scenarios and further revise the limits in the August 2, 2018 AOC. This information continues to support our position that the August 2, 2018 AOC limits were not fully implemented and complied with prior to the October 4, 2018 attainment date and periods of non-compliance have continued to occur.

EPA disagrees that modeling of the 7 days (when Rain did not comply with the August 2, 2018 AOC limits) is appropriate or possible based on several factors. Given the observed sensitivities of the modeling, it is likely that modeling actual emissions or parameters would result in modeled exceedances. The exact stack parameters and emission rates for the Rain sources are not available to be modeled. Nor are exact emission rates for many sources at Chalmette and Valero refineries. As discussed elsewhere in responses, Rain is requesting changes to the AOC including changes to the formula for calculating emissions from the pyroscrubber stack that would result in higher emissions being calculated and also potentially changing how pyroscrubber flow rates and temperatures are derived, and the combination of these proposed changes could increase estimated emissions from the pyroscrubber when in transitional stages by 27%. These changes indicate that pyroscrubber emissions were underestimated in the past due to the emission equation and due to underestimated pyroscrubber stack flow, including during the period from August 2, 2018, through October 4,2018, and as a result periods of non-compliance may have been underestimated. The revised emission formula is under

review by LDEQ[31] and the formula could change further, so there is not an accurate way to estimate pyroscrubber emissions for the 7 days of non-compliance periods (from August 2, 2018, through October 4, 2018). Similarly, there is uncertainty in the estimated pyroscrubber flowrates with a potential to overestimate and underestimate the actual flowrates which also results in changes to how much the pyroscrubber stack is emitting. A revised estimation methodology for pyroscrubber stack parameters is also currently under review by LDEQ[32] as part of the proposed AOC revisions. With uncertainty about what the actual emissions were during these non-compliance periods and uncertainty as to actual stack parameters, it is not feasible to try and model the periods of non-compliance. Moreover, since emissions were being underestimated some of the time with the pyroscrubber formula, and the pyroscrubber flowrates were overestimated/underestimated, there could also be more periods that the facility was not in compliance in the period from August 2, 2018, through October 4, 2018.

5. Overall Assessment

Comment: EPA received a number of comments opposed to EPA's proposed determination that the St. Bernard area failed to attain the one-hour SO_2 NAAQS by the applicable attainment date. Commenters indicated that EPA should find that St. Bernard Parish did attain based on all the available information. Some of these commenters listed their assessment of several categories of factors that they indicated when taking all of them into account provided overall support that they thought that the area had reached attainment by the October 2018 attainment date and EPA should weigh all these categories of factors and conclude the area did reach attainment. We have described these factors in more detail elsewhere and provide an additional summary here. These factor

[31] EPA is so far only doing preliminary, early engagement support here per the state's request, as any revised AOC is not officially before EPA for review.
[32] *Id.*

categories that the commenters raised include (1) the large reductions in emissions at Rain and reductions in emissions at other nearby sources, (2) the two monitors in the area both have monitoring levels below the NAAQS level, (3) the AERMOD modeling that was included in the SIP demonstration was conservative for several reasons and demonstrated attainment, (4) the facility has achieved a high level of compliance with the limits in the attainment demonstration SIP with only a small amount of hours not in compliance, and (5) EPA should consider compliance information since October 4, 2018 and also proposed revisions to the AOC and revised modeling. See the comments in subsections II.A.1 through II.A.4 for a summary of the major subjects that commenters are asking EPA to weigh in making EPA's determination of whether or not the area attained by the attainment date. Overall, several commenters indicated that these factors should be considered in an overall weight-of-evidence that supports their comments that EPA should determine the area did attain.

In addition, commenters alleged that in EPA's proposed determination, EPA rejected or ignored actual data from the monitors in St. Bernard Parish when it factored in modeling and compliance data. Commenters argued that EPA's position in its proposed determination is based on "conjecture" and not rationally connected to any evidence. Commenters also stated that while EPA cited potential issues with Rain's compliance with the values used in the modeling, it did not attempt to quantify those impacts, nor correlate any issues of compliance problems with any actual impact at the ambient monitoring locations. Commenters continued that EPA's failure to do so results in an arbitrary, unsupported determination that the air quality in the parish did not meet the 1-hour SO_2 NAAQS.

Response: We disagree with the commenters statements that EPA did not consider and weigh all the available information in an appropriate weight-of-evidence approach when making our determination for the area. In our proposal, we proposed to find that the

St. Bernard area did not attain the 2010 one-hour SO_2 NAAQS by the October 4, 2018 attainment date. That proposal and our final action are based on our review and weighing of all of the relevant, available information, including monitoring, emissions, modeling, stack testing information, and compliance data in determining if the area attained or failed to attain by the October 4, 2018 attainment date.

As discussed in more detail in preceding responses (Responses in sections II.A.1 through II.A.4), EPA has evaluated comments and available information and assessed if overall each comment group provides relevant information that the area attained or did not attain the 1-hour SO_2 NAAQS by October 4, 2018.

Comments summarized in subsection II.A.1 relate to decreases in emissions and modeled emissions in St. Bernard from Rain and other SO_2 sources. See our responses to the comments and information in subsection II.A.1. Overall EPA found the comments did not provide sufficient information that clearly shows the area attained by October 4, 2018, only that emissions have decreased. As explained in subsection II.A.1, LDEQ's modeling accounted for all emission reductions at the time the modeling was performed in 2018 by incorporating the most recent short term allowable emissions for the modeled sources in St. Bernard Parish.

Comments summarized in subsection II.A.2 relate to decreases in monitored values, recent monitored values that are not violating the standard, and location of modeled maximum values versus values at the monitor locations. See our responses to the comments and information in subsection II.A.2. Overall, EPA found the comments did not provide sufficient information that clearly shows the entire area attained or did not attain by October 4, 2018, and we conclude commenters did not provide any substantial evidence that the area did or did not attain, simply that monitoring levels have dropped. We provide additional explanation in subsection II.A.2 that the monitors are not located

such that they are representative of the maximum SO_2 concentrations in the area and thus do not provide sufficient evidence that the area has attained.

Comments summarized in subsection II.A.3 relate to whether the modeling as conducted is overly conservative and overestimates concentrations. See our responses to the comments and information in subsection II.A.3. Overall, EPA found the comments did not provide sufficient, additional information that clearly shows the area attained and instead, some of the information provides evidence that non-compliance periods may have been more numerous than reported, thus having a higher potential for exceedances in the period of August 2, 2018 through October 4, 2018. Such information substantiates our findings that the area did not attain by October 4, 2018. We conclude that consideration of the comments and additional information presents therein did not provide sufficient evidence that the area attained by October 4, 2018, but in contrast provides further evidence that due to identified periods of non-compliance coupled with likely additional non-compliance periods that were not identified due to underestimation of emissions and/or uncertainty in estimated flow rates, the necessary emission limitations and stack parameters in the AOC were not fully implemented. Because the emissions and stack parameters at times fall outside the limits and conditions modeled in the approved attainment demonstration, the LDEQ's attainment modeling, contrary to the commenter's assertions, is not conservative all the time. Moreover, the non-compliance periods may have resulted in exceedances and potentially violations of the one-hour SO_2 NAAQS in areas other than the monitored location and thus, EPA cannot find that the area attained.

Comments summarized in subsection II.A.4 relate to facility compliance including periods of non-compliance from August 2, 2018 through October 4, 2018 and from October 5, 2018 through June 30, 2021, and whether periods of non-compliance could result in exceedances/violations. See our responses to the comments and information in

subsection II.A.4. Overall, EPA found the comments did not provide additional information that clearly shows the area attained by the attainment date, in contrast the information further corroborated that the pyroscrubber emissions were underestimated and calculations for stack parameters were also inaccurate and would result in further underestimating emissions for the period August 2, 2018, through October 4, 2018, thus providing evidence that Rain may have been not in compliance for periods in addition to those identified for the 2-month period in 2018. The additional compliance records, stack test reports, and the information provided in association with the proposed AOC changes provide further weight of evidence that the Rain facility has not been able to comply with emission limits and stack parameters in the August 2, 2018 AOC and that Rain needs new emission limits, new pyroscrubber emission equation, new formulas for calculating stack flows, and new modeling. Overall, we conclude that consideration of the comments and additional information provided therein did not provide any substantial weight of evidence that the area did attain by October 4, 2018, but does provide further evidence that the limits in the attainment demonstration SIP had not been fully implemented and that periods of non-compliance have occurred prior to the attainment date and continued to occur in St. Bernard Parish. Based on this additional information, it is evident that the facility was not in compliance with AOC limits during the period August 2, 2018, through October 4, 2018.

We disagree with the commenters' statements that we rejected or ignored data from the monitors in St. Bernard Parish in our proposed determination. We also disagree that our proposed determination was based on conjecture and not rationally connected to any evidence. As EPA stated in its responses stated earlier in this document, EPA acknowledges that the area’s air quality has improved due to emissions reductions in the area, and that the monitors reflect this improvement (see sections II.A.1 and II.A.2). EPA considered the data from the Chalmette Vista and Meraux monitors along with all other

relevant information in its determination. We discussed the degree of potential impacts from Rain's noncompliance and how that could affect the design values and attainment in the St. Bernard area as well as its impact to the attainment demonstration modeling (see sections II.A.3 and II.A.4). In addition, we explain that with uncertainty about what the actual emissions and stack flowrates were during these non-compliance periods, it is not feasible to try to model the periods of non-compliance. We continue to affirm that (1) the Rain facility's control measures had not been fully implemented by the attainment date, (2) because the limits and stack parameters upon which the attainment modeling relied on have not been met, the attainment modeling with evident compliance issues tied to it, cannot be supportive of a finding of attainment, and (3) monitoring data alone is insufficient to determine the area's attainment. Therefore, contrary to the commenters' assertion, to determine the area had attained in the face of evidence that the requirements of the attainment demonstration SIP had not been met, would have required conjecture. EPA cannot determine with certainty that the area attained the NAAQS. This forms our basis for determination that the St. Bernard area failed to attain the SO_2 NAAQS by the October 4, 2018 attainment date.

In summary, we did weigh all relevant, available information initially in our proposal to find the area did not attain by October 4, 2018. We have reviewed all comments and information provided therein and determined that this information provided further corroborative evidence that Rain was not able to comply with AOC limits on multiple occasions during the roughly 2-month period up through October 4, 2018. The EPA also notes that the company is working with LDEQ to develop new emission limits, a revised emission formula for pyroscrubber emissions, new formula for calculating air flows through the stacks, revised stack parameter limits for some of the operating scenarios, and revised modeling. However, any such revised AOC is not officially before us for review or action. Again, the combination of the changes to these above-referenced items

and revisions to the AOC is evidence that Rain cannot comply with the existing AOC and that the EPA approved SIP for St. Bernard Parish has not been fully implemented. Under CAA section 179(d)(2), if the EPA determines that an area did not attain the NAAQS by the applicable deadline, LDEQ has up to 12 months from the date of the determination to submit a revised SIP for the area demonstrating attainment. The revised SIP will need to address the current air quality and SO_2 emissions in St. Bernard and include new modeling and a new attainment demonstration package.

B. Comments on Redesignation of the St. Bernard Area

Comment: Commenters disagreed with EPA's proposed determination that the St. Bernard area failed to attain the SO_2 NAAQS and requested EPA redesignate the area to unclassifiable or attainment using the available information, including monitoring data and modeling results.

Response: EPA would like to clarify that in this action, EPA is only making a determination that the St. Bernard area failed to attain the SO_2 NAAQS by the area's attainment date of October 4, 2018. The EPA designated St. Bernard Parish nonattainment for the 2010 one-hour SO_2 NAAQS on August 5, 2013, which became effective on October 4, 2013; St. Bernard Parish has remained designated nonattainment since its initial designation and that designation status will not be affected by this action.

EPA notes that the CAA section 107(d)(3)(F) explicitly prohibits redesignating areas from nonattainment to unclassifiable. Furthermore, this action is not an action that redesignates the St. Bernard area from nonattainment to attainment in accordance with the requirements prescribed in CAA section 107(d)(3)(E). We also note that in a May 29, 2019 final action, we approved the St. Bernard area's SO_2 nonattainment SIP planning requirements, including the attainment demonstration (84 FR 24712); however, that action also did not change the nonattainment designation of St. Bernard Parish.

Once an area is designated as "nonattainment" for a standard, that area retains that nonattainment designation until it meets the CAA's redesignation requirements. For an area to be redesignated to attainment, in addition to a determination that the area attained the 2010 SO_2 NAAQS, the air agency must also submit, and receive full approval of a request that satisfies all of the criteria for redesignation to attainment, including:

(1) obtain a determination that the area has attained the NAAQS;

(2) have a fully approved attainment SIP that meets all of the applicable requirements;

(3) demonstrate that the improvement in the area's air quality is due to permanent and enforceable reductions;

(4) have a fully approved maintenance plan that provides for continued attainment; and

(5) satisfy all of the applicable requirements in CAA section 110 and CAA Subpart D.

However, the EPA again emphasizes that this action is limited to the EPA's determination that the St. Bernard Parish Area has failed to attain the 2010 SO_2 NAAQS. Any redesignation request would have to be developed and submitted by the state to EPA and would be subject to a separate agency action with opportunity for public participation.

C. Comments on Air Quality Concerns

Comment: EPA received a number of comments from community members and community groups raising general environmental and air quality concerns within and around the St. Bernard area. Commenters stated their concerns over air pollution from various sources and how that pollution would affect or has affected their health. Commenters expressed air quality concerns due to improper enforcement historically. Some commenters additionally raised environmental justice concerns due to the

proximity of the industrial facilities and the effect of their emissions on surrounding communities. Commenters requested that EPA examine the air quality and emissions in the area and work with LDEQ to ensure all SIP provisions are compliant with the CAA and that air quality standards and SIP requirements are implemented and enforced. Commenters also requested that EPA perform cumulative impact analyses and health risk assessments for the area.

Response: EPA appreciates these comments, which raise additional environmental and public health issues of concern in this region of Louisiana. We wish to first recognize the importance of the issues raised in comments and have provided responses to those where possible. However, many of these comments raised are not directly relevant to the basis for our final decision in this rulemaking, (in other words, the issues and points raised in the comments, which if adopted, would have required us to change our proposed determination of whether ambient SO_2 levels in the St. Bernard Parish area met the NAAQS by the attainment date.) It is important to note that only comments addressing whether SO_2 levels in the area met the SO_2 air quality standard can be considered as a part of our decision-making process for this final action.

As a general matter, we wish to recognize commenters' concerns that certain communities are disproportionately impacted by environmental harms and risks. Nationwide, EPA is working to address disproportionate impacts in many aspects of our programs to the greatest extent allowed by federal law. While we did not base our final finding of the failure to attain on specific environmental justice factors, we do wish to share for informational purposes only that this final rule is not anticipated to have disproportionately high or adverse human health or environmental effects on communities with environmental justice concerns because it is not anticipated to result in or contribute to emissions increases in St. Bernard Parish, Louisiana. CAA section 179(d) requires that the State must conduct additional air quality analysis and evaluation of

further SO_2 reductions in the area to provide for attainment of the NAAQS and must submit to EPA a new SIP for this purpose within one year of the publication of this final action.

With regards to concerns about LDEQ's surveillance and enforcement program in the region, EPA is committed to our mission to protect human health and the environment by ensuring that federal laws protecting human health and the environment are administered and enforced fairly, effectively, and as Congress intended, including through EPA's oversight role in the implementation of the CAA. EPA works closely with LDEQ to ensure that LDEQ is properly implementing its program. We accomplish this through close coordination on specific investigations and enforcement actions, monthly calls, and regular program reviews through the State Review Framework.[33] Additionally, EPA maintains authority to conduct inspections and initiate enforcement actions within the state of Louisiana. In April 2021, EPA's Office of Enforcement and Compliance Assurance issued a memo entitled, "Strengthening Enforcement in Communities with Environmental Justice Concerns," which directs the EPA Regional Offices to increase our facility inspections in overburdened communities. Since the memo was issued, EPA Region 6 has increased our air inspections in Louisiana's overburdened communities and those areas with environmental justice concerns.

In addition, EPA announced several key actions on January 26, 2022, aimed at finding solutions to the environmental burdens that EPA Administrator Michael S. Regan encountered on his November 2021 Journey to Justice Tour through Mississippi, Louisiana, and Texas. The Tour spotlighted longstanding environmental justice concerns in historically marginalized communities and allowed Administrator Regan to hear firsthand from residents dealing with the impacts of pollution. Specifically, EPA committed to address environmental justice concerns by conducting a Multi-Scale

[33] See *https://www.epa.gov/compliance/state-review-framework.*

Monitoring Project. This project includes unannounced inspections, sampling, and air monitoring in priority areas. More about the Multi-Scale Monitoring Project can be found at *https://www.epa.gov/newsreleases/epa-administrator-regan-announces-bold-actions-protect-communities-following-journey*.

Commenters requested that EPA should perform cumulative impact analyses and health risk assessments for the area and region. EPA is working to develop tools, metrics, and guidance to assess cumulative impacts and human health risk assessments and incorporate these into our programs. As provided in the EPA's *FY 2022-FY 2026 Strategic Plan*,[34] one of the Fiscal Year 2022-2023 Agency Priority Goals includes delivering "tools and metrics for EPA and its Tribal, state, local, and community partners to advance environmental justice and external civil rights compliance." Specifically, by September 30, 2023, EPA will "develop and implement a cumulative impacts framework, issue guidance on external civil rights compliance, establish a set of at least 10 indicators to assess EPA's performance in reducing disparities in environmental and public health conditions, and train staff and partners on how to use these resources."

We encourage citizens and communities to continue to engage with EPA and LDEQ to raise specific concerns regarding permitting and enforcement actions within the Parish.

Comment: A number of commenters specifically mentioned the proposed mega international port, terminal, and container yard in Violet, St. Bernard Parish LA (Port of New Orleans's Louisiana International Terminal) and asked that this project not be built, citing concerns that it would deteriorate the air quality in St. Bernard Parish and cause harm to its residents.

Response: We note that this comment is outside the scope of this rulemaking and involves separate regulatory actions, but in an effort to aid and inform the public and

[34] See *https://www.epa.gov/planandbudget/strategicplan*.

identify opportunities for public comment on the proposed project, the following response is provided.

The Port of New Orleans (PONO) is seeking permits from the U.S. Army Corps of Engineers (USACE) to build its proposed terminal project in Violet, St. Bernard Parish, Louisiana. In response to PONO's permit application, USACE deemed the application complete and issued a public notice on January 24, 2022, and again on March 28, 2022, under USACE reference permit number MVN-2021-00270-EG requesting comments from interested parties on the application to consider and evaluate the impacts of the proposed activity. USACE is currently reviewing comments received during the public comment period to determine the next steps on the permits for the project, prepare an environmental analysis pursuant to the National Environmental Policy Act of 1969 (NEPA), and determine public interest in the project.

Under NEPA, USACE, as the lead federal agency, must study the potential impacts of the LIT project on the physical, cultural, human, and natural environments before permitting construction. The study must also identify actions to minimize negative impacts and evaluate alternatives to the proposed project that could serve the same purpose.

USACE will ask the public what potential impacts should be studied through a public process of scoping meetings and comment periods tentatively scheduled to begin in October 2022. The resulting NEPA environmental analysis prepared by USACE will be public noticed for review and comment by any interested parties. The EPA NEPA program plans to participate in the scoping and public comment phases of USACE's NEPA environmental analysis. The USACE public notices for the PONO's terminal project will be available at *https://www.mvn.usace.army.mil/Missions/Regulatory/Public-Notices/*.

Comment: The commenters stated that LDEQ should be required to submit a revised SIP to EPA, provide expeditious attainment of the SO_2 NAAQS, and provide for additional measures to protect public health. The commenters also stated that EPA should consider updated air dispersion modeling for all sources in the St. Bernard Parish.

Response: We appreciate and acknowledge the commenter's statements. In this action, EPA is finalizing our finding that the St. Bernard Parish SO_2 nonattainment area failed to attain the 2010 SO_2 standard by the attainment date of October 4, 2018. This action triggers under CAA section 179(d) a requirement from the State of Louisiana to submit, within one year of its publication, revisions to the Louisiana SIP that, among other elements, provide for expeditious attainment of the 2010 SO_2 standard. This revised SIP to meet nonattainment area requirements to provide for attainment is typically called an attainment demonstration SIP or attainment SIP or plan.

We agree with the commenters that it is important to consider all emission sources of SO_2 in developing a plan that is protective of the NAAQS and note that this type of analysis is a necessary component of the attainment SIP for the area. The required revised SO_2 attainment plan must address two main components: (1) Emission limits and other control measures that assure implementation of permanent, enforceable, and necessary emission controls, and (2) a modeling analysis which demonstrates that these emission limits and control measures provide for timely attainment of the NAAQS. The required modeling includes modeling the cumulative impact of all SO_2 emission sources in the area on ambient air quality and must demonstrate that the entire nonattainment area (all of St. Bernard Parish) will attain the standard with the implementation of the necessary emission limits. The modeling demonstration in the 2018 attainment SIP analyzed emissions from the three major SO_2 sources in the parish (Valero Refining, Chalmette Refining, and Rain, which contributed 99% of the point source emissions in the area)

using maximum allowable emissions and federally enforceable permit limits.[35] The revised SIP must include an updated modeling demonstration reflecting the current permitted and other federally enforceable allowable emissions for sources in the area. In addition, the attainment SIP requirements include a requirement for an emission inventory of current emissions for all sources of SO_2 in the nonattainment area. That information would enable the EPA to identify any new large sources of SO_2 when determining which sources should be modeled and addressed in a new attainment demonstration SIP.

D. Comments on State Programs

Comment: The commenter requested that EPA withdraw its approval of the State of Louisiana's authority to implement the CAA within St. Bernard Parish and that, instead, EPA Region 6 assume the authority and responsibility for designing, approving, implementing, and enforcing air quality implementation plans for St. Bernard Parish.

Response: We note that this comment is outside the scope of this rulemaking, but to better aid and inform the public, the following response is provided on the topic of state delegated authorities under the CAA.

States, local governments, territories, and tribes are not provided a blanket approval of authorities to implement the federal Clean Air Act within their respective jurisdictions. Air quality programs and plans are individually submitted to the EPA for review and approval, and if the programs and plans meet CAA requirements, then EPA is obligated to approve them. We note that the CAA requires EPA to approve any and all SIPs that satisfy the applicable CAA requirements. The CAA prescribes a regulatory scheme that envisions a collaborative process between the states and federal government. The EPA reviews and approves state-wide regulatory programs for each state, such as the new

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[35] See Section IV.C. of the April 19, 2018 proposal, "Approval and Promulgation of Implementation Plans; Louisiana; Attainment Demonstration for the St. Bernard Parish 2010 SO_2 Primary National Ambient Air Quality Standard Nonattainment Area" (83 FR 17349).

source review (NSR) and Title V permitting program, as well as NAAQS-specific infrastructure SIPs; EPA also reviews and approves area-specific plans within the state to implement and enforce control measures providing for attainment of the NAAQS. EPA's review of such programs and plans ensures that implementation mechanisms and enforcement authority are adequate to meet CAA requirements, but actual enforcement is generally undertaken by states with EPA and citizens also having enforcement authority.

Comment: Commenters made recommendations for LDEQ's permitting process. Commenters recommended that an oversight board be established for the LDEQ, that a conflict of interest policy be established for LDEQ staff members that issue permits, and that the LDEQ be required to establish a written policy that guides when public hearings are required. Commenter stated that EPA should consider delaying the issuance of all Title V permits until health risks and cumulative impacts are reviewed and improvements incorporated in Title V permits.

Response: We note that this comment is outside the scope of this rulemaking, but to better aid and inform the public, the following response is provided on the topic of state permitting programs.

EPA ensures that mechanisms are in place and that a state has adopted the appropriate statutory and regulatory authority. For example, the State has included the required opportunities for public participation (as approved in the State's Title V program), but more specific decisions such as written guidance dictating when public hearings are required is left to the State's expertise.

As required under Title V of the CAA, EPA has promulgated rules which define the minimum elements of an approvable State operating permits program and the corresponding standards and procedures by which EPA will approve, oversee, and withdraw approval of a State operating permits program (57 FR 32250, July 21, 1992). These rules are codified at 40 CFR part 70. Title V requires states to develop and submit

to EPA programs for issuing these operating permits to all major stationary sources and to certain other sources. EPA's Operating Permits Program review occurs pursuant to section 502 of the CAA and the part 70 regulations, which together outline criteria for approval and disapproval. Title V operating permits must address applicable federal CAA requirements, including requirements for public participation (see 40 CFR 70.7(h)). EPA promulgated final full approval of the State of Louisiana's Title V Operating Permits Program on September 12, 1995 (60 FR 47296).

On December 28, 2016, EPA approved revisions to the Louisiana SIP that addressed requirements in CAA section 128 regarding state board composition and conflict of interest and disclosure requirements (81 FR 95477). LDEQ is an executive agency that acts through its Secretary and approves all CAA permits and enforcement orders in Louisiana. LDEQ stated in its submittal that for public disclosure of any potential conflict in the SIP, as required by CAA section 128, that if a person derives anything of economic value that such person should be aware, he/she must disclose specified elements under the Louisiana Revised Statutes (LA RS) Title 42; Chapter 15: Code of Governmental Ethics; Section 1114(A)(1)-(4) and (C) "Financial disclosure." These relevant revised statutes approved into the SIP demonstrates that Louisiana complies with the requirements of CAA section 128.

Comment: Commenters stated that LDEQ's permitting program prioritizes facility permit approvals without consideration of public comments and limits public participation. Commenters cited the approval of the PBF Chalmette Refinery, LLC's application for a Part 70 permit to construct and operate a Renewable Diesel Unit and the associated variance application as a recent example of the commenters' claimed permitting program inadequacies. Commenters recommended auditing LDEQ's public participation process for its permitting program by identifying projects that have received

more than a specified number of comments, and if any resulted in a change of the project description.

Response: We note that this comment is outside the scope of this rulemaking, but to better aid and inform the public, the following response is provided.

EPA notes that in the LDEQ's permit application process for the Chalmette Renewable Diesel Unit issued on December 21, 2021, LDEQ found that the application satisfied the permit application requirements. As provided earlier in this notice, LDEQ's permitting program satisfies the CAA requirements and has received EPA's approval. We additionally note that LDEQ stated in its final approval that it amended the permit as a result of public comments. As a result of the public participation process that citizens engaged in with the LDEQ, the permit was amended as follows: N-hexane emissions from the hotwells were required to be controlled to 98 percent rather than 95 percent and limited to 17.90 tons per year (tpy); Particulate Matter emissions from the cooling tower are now controlled to 0.005 percent rather than 0.02 percent with resulting annual emissions limits of 4.47 tpy $PM_{2.5}$ and 4.05 tpy PM_{10}. In addition, the control efficiency on the vacuum systems and dust collectors which control emissions from bleached earth loading and filter aid loading will be increased from 95 to 99 percent. The process heaters will be fired exclusively with natural gas rather than refinery gas, resulting in lower SO_2 emissions due to the lower sulfur content of the fuel. Heater 23a will be fitted with low nitrous oxide (NOx) burners and constrain its firing rate to 55 MMBTU/hr, thus reducing NOx emissions and all other products of incomplete combustion. Taken together, these permit changes will result in lower emissions.

EPA also notes that it is within LDEQ's authority to issue variances. The Louisiana regulations generally prohibit commencement of construction unless a permit is issued, and fees paid (LAC 33:III.501(C) (2) and (3)). However, the variance provisions, approved as part of Louisiana's Title V Operating Permits Program on September 12,

1995 (60 FR 47296) and incorporated at LAC 33:III.525, provide that minor permit modifications or variances under a Title V permit program are not required to undergo public participation requirements (*see* 40 CFR 70.7(e)(2) and (3), and 40 CFR 70.4(d)(3)(iv)).

EPA notes that for the permit application process for the Chalmette Renewable Diesel Unit issued on December 21, 2021, LDEQ responded to over 100 distinct comments, and as a result of citizen engagement in the public participation process, the permit was amended, and the resulting changes are anticipated to lower emissions at the site as described earlier in this notice.

In general, a Title V petition allows anyone to raise concerns to EPA and to ask the Agency to object to the issuance of a new, modified, or renewed operating permit for a specific facility if the concerns with the permit were raised to the permitting authority during the notice and comment period for the permit action. If a member of the public believes that a Title V permit issued by a state, local, or tribal permitting authority does not comply with the CAA or the EPA's Title V permit implementing regulations (40 CFR part 70), they may petition EPA to object to the permit pursuant to certain Title V petition requirements. If EPA grants a petition and objects to the issuance of a permit, the permitting authority must correct or rectify issues with the permit. EPA has 45 days to review a Title V permit proposed by a permitting authority. If the Administrator does not object to a permit during that time, the public has 60 days to petition the Administrator to object to the permit.

For more information on the Title V program, opportunity to petition a state-issued Title V permit, and EPA’s authority and oversight role on a state’s EPA-approved Title V permit program, visit *https://www.epa.gov/title-v-operating-permits*.

Comment: Commenters requested EPA to allow the use of low-cost, reliable sensors as part of the Louisiana Annual Monitoring Network Plan and install additional monitors

in the area in order to better inform the public about the air quality in the area and to protect the health and well-being of those impacted by pollution. Commenters stated that the current State of Louisiana monitoring network is inadequate.

Response: We note that this comment is outside the scope of this rulemaking, but to better aid and inform the public, the following response is provided.

EPA acknowledges that an increasing number of low-cost air quality sensors are now available on the commercial market, but the amount of research-based evaluation of these sensors remains very limited. EPA is engaged in the discovery, evaluation, and application of these emerging technologies and is sharing information gained with its partners and stakeholders. EPA scientists are involved in the evaluation of some air sensors for use by the public and provide the information in reports, but do not make any endorsements or recommendations for their use. Data from new air sensor instruments (such as low-cost air quality sensors) should not be used in a regulatory context at this time unless those instruments meet all applicable regulatory requirements.[36]

In order to systematically characterize air sensor measurements, EPA is supporting research on sensor performance including the development of non-regulatory performance targets and testing protocols for supplemental and informational monitoring applications that complement—but do not replace—existing regulatory programs and requirements. These efforts are intended to provide regulators, outside parties, and the public alike with streamlined, unbiased assessments of sensor performance in the near-term and into the future.

For more information on EPA's position on the use of air sensor data for NAAQS compliance and the steps the Agency is taking to better understand the data quality,

[36] EPA Memorandum, "Air Sensors," from Anne L. Idsal, Office of Air and Radiation. June 22, 2020.

interpretation, and management of sensor data in the ambient environment, see the June 2020 EPA memorandum from the EPA Office of Air and Radiation.[37]

Regarding the adequacy of Louisiana's monitoring network, the monitoring network outlined in a state's Annual Air Monitoring Network Plan (AAMNP) must meet federal statutory and regulatory requirements, including technical requirements for siting. Ambient SO_2 monitoring data are collected by state, local, and tribal monitoring agencies in accordance with the monitoring requirements contained in 40 CFR parts 50, 53, and 58. A monitoring network is generally designed to measure, report, and provide related information on air quality data as described in 40 CFR part 58. To ensure that the data from the network are accurate and reliable, the monitors in the network must meet a number of requirements including the use of monitoring methods that EPA has approved as Federal Reference Methods (FRM) or Federal Equivalent Methods (FEM). The FRM/FEM instruments must meet rigorous standards for accuracy and reliability (see 40 CFR part 53 for details).

Louisiana's Statewide Air Quality Surveillance Network was approved by EPA on August 6, 1981 (46 FR 40005). EPA also approved into the Louisiana SIP provisions that require air quality monitoring be conducted consistent with EPA guidelines (54 FR 9783, March 8, 1989). In July 2021, LDEQ submitted its 2021 AAMNP that included the plan for the SO_2 NAAQS; EPA approved the LDEQ's 2021 AAMNP in October 2021.

The LDEQ's AAMNP goes through public notice and comment each year. Information on LDEQ public notices is provided at *https://deq.louisiana.gov/public-notices*. The 2022 LDEQ AAMNP comment period was open from April 22, 2022, to May 26, 2022. The EPA notes that in LDEQ's response to one of the comments received regarding front-line communities and environmental justice concerns, LDEQ stated the following: "To help foster relationships with under-served communities, LDEQ has been

[37] *Id*.

placing the Temporary Located Community (TLC) Air Monitoring Program air monitors in "front-line community" neighborhoods to collect ambient air quality data. This real-time data is relayed to LDEQ's website… LDEQ has plans to place a TLC Air Monitor in the Lower Ninth Ward in New Orleans later this year. For more information, see the Environmental Justice Consideration section of the 2022 Louisiana Annual Air Monitoring Network Plan." EPA acknowledges and encourages the use of the TLC program as part of LDEQ's efforts to address EJ concerns in the States' communities.

E. Other Comments on the NAAQS and Designations

Comment: Commenters recommended the EPA consider using the World Health Organization's updated standard of 40 μg/m^3 24-hour mean, stating that a greater degree of protection than the EPA's 2010 SO_2 standard of 75 ppb is needed.

Response: We note that this comment is outside the scope of this rulemaking, but to better aid and inform the public, the following response is provided.

Sections 108 and 109 of the CAA govern the establishment, review, and revision, as appropriate, of the NAAQS for each criteria air pollutant to provide protection for the nation's public health and the environment. The CAA requires periodic review of the science upon which the standards are based and the standards themselves. Reviewing the NAAQS is a lengthy undertaking and includes the following major phases: (1) planning, (2) integrated science assessment (ISA), (3) risk/exposure assessment (REA), (4) policy assessment (PA), and (5) rulemaking. More information on the NAAQS review process can be found at this link: *https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards*.

Additionally, the 75 ppb standard for the primary one-hour SO_2 NAAQS is based on the 99th percentile of daily maximum one hour average concentrations, averaged over 3 years, and is calculated differently from a 24-hour mean. See 40 CFR 50.17. The 75 ppb standard is not calculated by averaging the daily concentration of SO_2, it is calculated by

determining the highest concentration within a one-hour period in a given day and is aimed towards preventing acute short-term exposure to SO_2 in order to better protect public health. As provided in the final rule promulgating the 2010 SO_2 NAAQS, the rationale for the establishment of the 75 ppb standard focused primarily on respiratory morbidity following short-term (5-minutes to 24-hours) exposure to SO_2, for which the ISA (Integrated Science Assessment for Oxides of Sulfur-Health Criteria) found a causal relationship.[38] The maximum daily one-hour SO_2 values from four days each year from 3 consecutive years determines whether the area will attain; as a result, a very small number of monitored exceedances can result in a violation.

III. Final Action

Under CAA section 179(c)(1)-(2), the EPA is making a determination that the St. Bernard Parish SO_2 nonattainment area has failed to attain the 2010 one-hour SO_2 NAAQS of 75 ppb by the applicable attainment date of October 4, 2018. This determination is based upon consideration of and review of all available information for the St. Bernard area leading up to the area's attainment date of October 4, 2018, including (1) emissions and monitoring data, (2) the state's air quality modeling demonstration, which showed the emission limits and stack parameters required at Rain, the primary source of SO_2 emission in the area, compliance with which were necessary to provide for the area's attainment, and (3) Rain's available compliance records between the period when the AOC limits became effective (August 2, 2018) and the area's attainment date. After publication of this final rule, the State of Louisiana is required under CAA section 179(d) to submit revisions to the SIP for the St. Bernard area. The required SIP revision for the area must, among other elements, demonstrate expeditious attainment of the SO_2 standard within the time period prescribed by CAA section 179(d) and such additional

[38] See Section II of the final rule "Primary National Ambient Air Quality Standard for Sulfur Dioxide", for more details (June 22, 2010, 75 FR 35519).

measures as the Administrator may reasonably prescribe that can be feasibly implemented in the area in light of technological achievability, costs, and any non-air quality and other air quality-related health and environmental impacts. The SIP revisions required under CAA section 179(d) would be due for submittal to the EPA no later than one year after the publication date of this final action. At this time, we are not prescribing additional measures for the SO_2 SIP revisions under CAA section 179(d)(2). This final action also triggers the implementation of contingency measures adopted in this area under CAA section 172(c)(9).

IV. Environmental Justice Considerations

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, Feb. 16, 1994) directs federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. The EPA defines environmental justice (EJ) as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies."[39] EPA is providing additional analysis of environmental justice associated with this action. We are doing so for the purpose of providing information to the public, not as a basis of our final action.

EPA conducted a screening analysis using EJSCREEN, an environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and

[39] See *https://www.epa.gov/environmentaljustice/learn-about-environmental-justice.*

approach for combining various environmental and demographic indicators.[40] The EJSCREEN tool presents these indicators at a Census block group (CBG) level or a larger user-specified "buffer" area that covers multiple CBGs.[41] An individual CBG is a cluster of contiguous blocks within the same census tract and generally contains between 600 and 3,000 people. EJSCREEN is not a tool for performing in-depth risk analysis, but is instead a screening tool that provides an initial representation of indicators related to environmental justice and is subject to uncertainty in some underlying data (e.g., some environmental indicators are based on monitoring data which are not uniformly available; others are based on self-reported data).[42] To help mitigate this uncertainty, we have summarized EJSCREEN data within St. Bernard Parish, which covers multiple block groups and represents the average resident within the Parish. We present EJSCREEN environmental indicators to help screen for locations where residents may experience a higher overall pollution burden than would be expected for a block group with the same total population. These indicators of overall pollution burden include estimates of ambient particulate matter ($PM_{2.5}$) and ozone concentration, a score for traffic proximity and volume, percentage of pre-1960 housing units (lead paint indicator), and scores for proximity to Superfund sites, risk management plan (RMP) sites, and hazardous waste facilities.[43] EJSCREEN also provides information on demographic indicators, including percent low-income, communities of color, linguistic isolation, and less than high school education. The EPA prepared an EJSCREEN report covering the St. Bernard Parish SO_2 nonattainment area, which covers the entire Parish. Table 1 presents a summary of results

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[40] The EJSCREEN tool is available at *https://www.epa.gov/ejscreen*.
[41] See *https://www.census.gov/programs-surveys/geography/about/glossary.html*.
[42] In addition, EJSCREEN relies on the five-year block group estimates from the U.S. Census American Community Survey. The advantage of using five-year over single-year estimates is increased statistical reliability of the data (i.e., lower sampling error), particularly for small geographic areas and population groups. For more information, see *https://www.census.gov/content/dam/Census/library/publications/2020/acs/acs_general_handbook_2020.pdf.*
[43] For additional information on environmental indicators and proximity scores in EJSCREEN, see "EJSCREEN Environmental Justice Mapping and Screening Tool: EJSCREEN Technical Documentation," Chapter 3 and Appendix C (September 2019) at *https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf.*

from the EPA's screening-level analysis for the St. Bernard area compared to the U.S. as a whole (the detailed EJSCREEN reports are provided in the docket for this rulemaking).

Table 1— St. Bernard Parish EJSCREEN Analysis Summary

Variables	St. Bernard Parish	U.S.
Pollution Burden Indicators		
Particulate matter ($PM_{2.5}$), annual average	8.35 µg/m^3 (43rd %ile)	8.74 µg/m^3 (—)
Ozone, summer seasonal average of daily 8-hour max	38.6 ppb (24th %ile)	42.6 ppb (—)
Traffic proximity and volume score*	400 (63rd %ile)	710 (—)
Lead paint (percentage pre-1960 housing)	0.16% (48th %ile)	0.28% (—)
Superfund proximity score*	0.1 (66th %ile)	0.13 (—)
RMP proximity score*	2.5 (93rd %ile)	0.75 (—)
Hazardous waste proximity score*	2.6 (76th %ile)	2.2 (—)
Demographic Indicators		
People of color population	38% (55th %ile)	40% (—)
Low-income population	45% (75th %ile)	31% (—)
Linguistically isolated population	2% (53rd %ile)	5% (—)
Population with less than high school education	20% (79th %ile)	12% (—)
Population under 5 years of age	7% (67th %ile)	6% (—)
Population over 64 years of age	11% (34th %ile)	16% (—)

* The traffic proximity and volume indicator is a score calculated by daily traffic count divided by distance in meters to the road. The Superfund proximity, RMP proximity, and hazardous waste proximity indicators are all scores calculated by site or facility counts divided by distance in kilometers.

This final rule formalizes EPA's determination that the St. Bernard Parish SO_2 nonattainment area has failed to attain the 2010 one-hour SO_2 standard of 75 ppb by the applicable attainment date of October 4, 2018, in accordance with section 179(c)(1)-(2) of the CAA. This action provides notice to the public that the area has failed to attain the NAAQS and informs the State of Louisiana of CAA requirements the State needs to meet so that air quality in the area will undergo further improvements. After publishing this final rule, the State of Louisiana is required under CAA section 179(d) to submit

revisions to the SIP for the St. Bernard area within one year. The required SIP revision for the area must, among other elements, demonstrate expeditious attainment of the SO_2 standard within the time period prescribed by CAA section 179(d) and such additional measures as the Administrator may reasonably prescribe that can be feasibly implemented in the area in light of technological achievability, costs, and any non-air quality and other air quality-related health and environmental impacts. At this time, we are not prescribing additional measures for the SO_2 SIP revisions under CAA section 179(d)(2). This final rule is not anticipated to have disproportionately high or adverse human health or environmental effects on communities with environmental justice concerns because it is not anticipated to result in or contribute to emissions increases in Louisiana.

V. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders*.

A. Executive Order 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and therefore was not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the provisions of the PRA because it does not contain any information collection activities.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This proposed action, if finalized, would require the state to adopt and

submit SIP revisions to satisfy CAA requirements and would not itself directly regulate any small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate of $100 million or more, as described in UMRA (2 U.S.C. 1531-1538) and does not significantly or uniquely affect small governments. This action itself imposes no enforceable duty on any state, local, or tribal governments, or the private sector. This action proposes to determine that the St. Bernard Parish SO_2 nonattainment area failed to attain the SO_2 NAAQS by the applicable attainment dates. If finalized, this determination would trigger existing statutory timeframes for the State to submit SIP revisions. Such a determination in and of itself does not impose any federal intergovernmental mandate.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. The proposed finding of failure to attain the SO_2 NAAQS does not apply to tribal areas, and the proposed rule would not impose a burden on Indian reservation lands or other areas where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction within the St. Bernard Parish SO_2 nonattainment area. Thus, this proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175.

G. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This proposed action is not subject to Executive Order 13045 because the effect of this proposed action, if finalized, would be to trigger additional planning requirements under the CAA. This proposed action does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211, Actions That Significantly Affect Energy Supply, Distribution, or Use

This proposed rule is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). The effect of this proposed action, if finalized, would be to trigger additional planning requirements under the CAA.

K. The Congressional Review Act, 5 U.S.C. 801 *et seq*., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller

General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the ***Federal Register***. A major rule cannot take effect until 60 days after it is published in the ***Federal Register***. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

L. Judicial Review. Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See CAA section 307(b)(2).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by Reference, Intergovernmental relations, Pollution, Reporting and recordkeeping requirements, Sulfur dioxide.

Dated: September 26, 2022.

Earthea Nance,
Regional Administrator, Region 6.

For the reasons stated in the preamble, the EPA amends chapter I, title 40 of the Code of Federal Regulations as follows:

PART 52 – APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

Subpart T – Louisiana

2. Subpart T is amended by adding § 52.978 to read as follows:

§ 52.978 Control strategy and regulations: Sulfur dioxide.

(a) *Determination of failure to attain*. Effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, the EPA has determined that the St. Bernard Parish nonattainment area failed to attain the 2010 1-hour primary sulfur dioxide (SO_2) national ambient air quality standards (NAAQS) by the applicable attainment date of October 4, 2018. This determination triggers the requirements of CAA section 179(d) for the State of Louisiana to submit a revision to the Louisiana SIP for the St. Bernard Parish nonattainment area to the EPA by **[INSERT DATE ONE YEAR AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The SIP revision must, among other elements, provide for attainment of the 1-hour primary SO_2 NAAQS in the St. Bernard Parish SO_2 nonattainment area as expeditiously as practicable but no later than **[INSERT DATE FIVE YEARS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].**

(b) [Reserved]

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