6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R06-OAR-2021-0029; FRL-12218-02-R6]

Air Plan Disapproval; Texas; Control of Air Pollution from Visible Emissions and Particulate Matter

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA, the Act), the Environmental Protection Agency (EPA) is disapproving a revision to the Texas State Implementation Plan (SIP) submitted by the State of Texas through the Texas Commission on Environmental Quality (TCEQ) on August 20, 2020 (2020 SIP revision). The 2020 SIP revision addresses emissions during planned Maintenance, Startup and Shutdown (MSS) activities for certain Electric Generating Units (EGUs) and includes requirements intended to address visible emissions (opacity) and Particulate Matter (PM) emissions during planned MSS activities. The requirements are included in eight Agreed Orders (AOs) issued by TCEQ to the affected EGUs and provided in the 2020 SIP revision. EPA determined that the requirements contained in these AOs do not meet the CAA enforceability requirements or the CAA requirement that emission limitations must apply on a continuous basis. We are taking this action in accordance with section 110 of the Act.

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

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-R06-OAR-2021-0029. All documents in the docket are listed on the *https://www.regulations.gov* website. 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*.

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

I. Background and Summary of Bases for Disapproval

The background for this action is discussed in detail in our September 3, 2024, proposal (89 FR 71237). In that document, we proposed to disapprove a revision to the SIP submitted by the State of Texas through the TCEQ on August 20, 2020, that addresses emissions during planned MSS activities for specified EGUs and includes requirements intended to address visible emissions (opacity) and PM emissions during planned MSS activities at these specified EGUs.

The 2020 SIP revision and included AOs were intended to address concerns regarding the applicability of two long standing Texas rules during periods of MSS.[1] Texas included in the 2020 SIP revision the State's interpretation of these rules, taking the position that the numerical opacity and PM limits have never applied to coal fired EGUs using ESPs during periods of MSS because of the technical limitations on the

[1] Specifically: 30 Texas Administrative Code (TAC) 111.111 (originally adopted as Texas Air Control Board (TACB) Regulation I, Rule 103), which limits opacity; and 30 TAC 111.153(b) (originally adopted as TACB Regulation I, Rule 105.31), which limits particulate matter emissions from solid fuel fired-steam generators to 0.3 lbs/million Btu averaged over a two-hour period. TACB Regulation I, Rules 103 and 105.31 were approved by EPA on May 31, 1972 (37 FR 10895); these rules were subsequently revised (amendments most recently approved May 8, 1996 (61 FR 20732), and April 28, 2009 (74 FR 19144)), which renumbered and recodified these rules to what they are today.

control technology. This interpretation was first provided by TCEQ in 2015 as part of a Title V action[2]; this is the first time the interpretation has been included as part of a SIP revision. The State's regulatory language contains no indication that the rules do not apply to this specific subset of sources during MSS.

In the instant SIP revision, Texas provided Agreed Orders that contain operational requirements and work practices that would apply during periods of MSS at EGU's equipped with ESPs. Texas also provided historic ambient particulate matter monitoring data, explaining that even though under its interpretation, these rules have never applied during MSS, there have not been any violations of PM NAAQS measured anywhere near these sources.

EPA has considered three interrelated provisions of the Clean Air Act (CAA) in assessing the approvability of this SIP submission. First, the requirement under CAA section 110(a)(2)(A) which requires that SIPs include "enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter."

Second, under CAA section 302(k), "emission limitation" and "emission standard" mean a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter.

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[2] See letter, from Steve Hagle, Deputy Director, Office of Air, TCEQ to Gina McCarthy, Administrator, EPA, dated December 2, 2015 (setting forth TCEQ's interpretation that the opacity and PM emission limitations in 30 TAC 111.111 and 30 TAC 111.153(b) never applied to periods of planned MSS activities at coal-fired EGUs equipped with ESPs as a control device).

Finally, 110(l) provides that the Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 7501 of this title), or any other applicable requirement of this chapter.

In our September 3, 2024, proposal (89 FR 71237), we proposed disapproval of this SIP revision because these AOs were not enforceable as required by CAA section 110 and did not provide for continuous limitation of emissions as required by CAA section 302(k). Our review under 302(k) in the proposed action was based on language in the SIP revision that seems to clearly indicate the reason Texas submitted these agreed orders was to make these MSS requirements federally enforceable so that emission limitations apply on a continuous basis as required under 302(k). As discussed in detail in the response to comments, Texas provided comments on our proposed action indicating that it did not intend that these emission restrictions be considered emission limits as defined by Section 302.

After careful review of all comments, we are finalizing our disapproval. We are finding that the agreed orders are not enforceable as required by 110(a)(2)(A). The rules are not enforceable because the requirements do not clearly demark as to when start up ends and compliance with the 30 TAC chapter 111 numerical limits is required, and during startup and shutdown, the work practice requirements for when an ESP must be engaged or removed from service are overly vague and do not define specific conditions to identify when and what steps must be followed to engage and operate the ESPs during these events. For periods of maintenance, the only requirement is to follow good air pollution control practices and safe operating practices.

We are also determining that it is necessary or appropriate for these measures to be considered emission limitations as defined by 302(k) and thus must be continuous. Clearly this is supported by the explanation accompanying the SIP submission that

indicated this revision was provided to make the limits continuous under 302(k). Texas commented, however, on our proposed action that it was not its intent that these agreed orders be considered as emission limitations. As discussed fully in our comment response on this matter, EPA disagrees. First, Texas indicates these limits are used in the permitting context to implement BACT which under the States and EPA definition of BACT must be continuous. Second, these AOs as written would allow for emissions that could threaten the State's ability to comply with the requirements of the CAA, and the NAAQS in particular. Given that on a lbs/hour basis, these MSS emissions can be much higher than emissions during normal controlled operation, it is necessary and appropriate that measures be in place to provide for attainment and maintenance of the NAAQS. This conclusion is supported by modeling evidence provided by a commenter which suggests that, in fact, uncontrolled emissions during MSS could result in violations of the PM NAAQS.

We are finding that the Agreed Orders do not provide for continuous emission limitation as required by 302(k). During MSS, the AOs have various requirements intended to limit the duration of the MSS though as discussed in our proposal and further in the response to comments, the limits on duration are often not clearly defined and thus not practical to enforce. Moreover, all of the AOs allow during this time period for coal to be burned for a time period which the ESP is not operating with no actual limitation on quantity, rate or concentration either through a numeric limit or clearly defined work practice that would affect emissions. Effectively, the emission limitation is not continuous.

EPA is not basing its disapproval on 110(l), but we do note that the modeling provided by one commenter convincingly indicates that the monitoring evidence provided in the SIP revision is not sufficient to show that the SIP revision does not interfere with attainment or maintenance of the NAAQS. It is clear from the modeling

that potential impacts from MSS activities would occur much closer to the affected facilities than the monitors upon which Texas' demonstration is based. A future SIP revision to address this disapproval would likely need to include modeling to provide evidence that the NAAQs is protected in areas in closer proximity to the affected facilities.

Finally, EPA is cognizant of the technical issues with ESPs that impact their effectiveness at lower temperatures. Still, two commenters both indicated that to comply with EPA's Mercury and Air Toxics Standards (MATS) rule, they do not fire coal until the ESP is energized. While these requirements are not in this SIP revision, EPA believes that there may be a solution that can be built, hopefully to avoid duplicative SIP and MATs requirements and ensuring both NAAQS and Air Toxics requirements are met. We look forward to discussions with the State and affected operators to resolve these long outstanding issues.

II. Response to Comments

The comment period for the proposed action closed on October 3, 2024. We received comments on our proposal from several commenters. This section contains the EPA's response to the more significant comments regarding the EPA's proposed action. For responses to all comments received see the Response to Comments Document (RTC) available in the docket for this action. We received two comments after the close of the comment period. We fully address those comments in the RTC document available in the docket for this action.[3] After careful consideration of all comments received, we are finalizing this action as proposed.

A. General Comments on EPA's Bases for Disapproval

[3] EPA is only required to consider those comments that are received during the comment period; however, it is within EPA's discretion to consider comments received after the close of the comment period.

Comment: Some commenters argue that the proposed disapproval by the EPA relies on principles that lack a valid basis in the Clean Air Act (CAA), specifically citing Sections 110(a)(2)(A) and 302(k) regarding enforceable emission limitations. Certain commenters, including NSSGA and Luminant, urge the EPA to withdraw its disapproval and approve the Texas SIP provisions, arguing that the proposal is inconsistent with CAA principles and relevant judicial decisions. One commenter (Sierra Club) supports EPA's proposed disapproval and agrees that the 2020 SIP revision violates the CAA.

Response: EPA disagrees with the comments that our proposed disapproval at issue here relies on principles that lack a valid basis in the CAA and is inconsistent with CAA principles and relevant judicial decisions. States have discretion regarding how best to meet their obligations to implement, attain, maintain, and enforce the NAAQS, as long as they meet applicable statutory and regulatory requirements. A State's SIP submission to address attainment, maintenance, and enforcement of the NAAQS or other SIP requirements can include a wide variety of types of provisions, such as: source-specific emissions limitations and associated monitoring, recordkeeping, and reporting; applicable State or local rules (or State laws) regarding controls on sources or categories of sources; other local or State commitments to undertake certain activities; and non-regulatory supporting information.[4] The EPA evaluates and acts on SIP submissions on a case-by-case basis through notice and comment rulemaking. The Agency reviews each submission against the applicable CAA requirements for that particular submission, which can vary based on program requirements and the relevant NAAQS.

In the Supreme Court's recent decision in *Loper Bright*, the Court recognized that Congress may delegate (and often has delegated) discretionary authority to agencies. *See Loper Bright Enters. v. Raimondo*, 144 S. Ct. 2244, 2268 (2024). Applicable to this

[4] Basic Information About Air Quality SIPs, *https://www.epa.gov/air-quality-implementation-plans/basic-information-about-air-quality-sips* (last updated January 20, 2023).

action, Congress has delegated to EPA the responsibility and authority to approve or deny SIP submittals. Section 110(k)(3) of the Clean Air Act (CAA) states, in relevant part, that a "plan revision shall not be treated as meeting the requirements of this chapter until the Administrator approves the entire plan revision as complying with the applicable requirements of this chapter." Further, section 110(l) of the CAA states that EPA "shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress . . ., or any other applicable requirement of this chapter." Here, the State submitted the AOs as site specific SIP requirements that the EPA evaluated for compliance with the CAA. For the reasons described at length in other responses, the proposal, and the final rulemaking, this SIP submission does not comply with the CAA, and thus EPA's disapproval is appropriate.

B. Comments on Applicability of the Rules in 30 TAC 111

Comment: A number of commenters indicate that the limits in Title 30, Texas Administrative Code, Chapter 111 (30 TAC 111) have never applied during MSS to EGUs controlled by electrostatic precipitators (ESPs). Some commenters point out that EPA acknowledged in the proposal preamble that the technical features of ESPs make it unlikely these sources can comply during MSS operations with the numerical limits laid out in 30 TAC 111. Commenters take issue with the fact that the proposal also points out that there is no textual indication in the language of the regulations that the rules do not apply to power plants controlled by ESPs during MSS. One commenter points out that the statement ignores parallel provisions establishing exemptions for MSS periods, such as Texas Air Control Board Rule 12.2 (1972), which TCEQ has consistently presented to EPA at each stage of the dialogue, and states that EPA's observation about the immediate text of Chapter 111 at best elevates form over substance, and as a disapproval basis, such an approach is clearly impermissible.

Response: The EPA disagrees with the commenters' assertions that the applicability of the rules in 30 TAC 111 has been clear. The first time that TCEQ explained with any clarity that these rules never applied to periods of planned MSS activities at coal-fired EGUs equipped with ESPs as a control device was in an interpretive letter dated December 2, 2015, from Steve Hagle, Deputy Director, Office of Air, TCEQ to Gina McCarthy, Administrator, EPA, (2015 interpretive letter). The 2015 interpretive letter was developed as part of a Title V proceeding. The 2020 SIP revision is the first time that Texas presented its interpretation with clarity as part of a SIP revision and attempted to define the time period allowed for MSS in the SIP and, by extension, the time period for when the rules in 30 TAC 111 do not apply. Although TCEQ issued these sources MSS permits to authorize these emissions during the time period of MSS and the permits have conditions addressing the length of time allowed for MSS, a permit cannot revise the SIP.[5]

In the proposal, EPA did not take a position on whether the rule previously applied during MSS to power plants controlled by ESPs. Instead, we evaluated the 2020 SIP revision as necessary, under the State's interpretation and as described in the SIP revision, to make the emission limits continuous and federally enforceable. As discussed elsewhere, we do not believe the AOs are enforceable or provide for continuous limitations on emissions. We believe a SIP revision is necessary under TCEQ's interpretation, to clearly define the time period of allowed MSS, to provide for continuous emission limitations, and to ensure the work practices or other limitations that

[5] Commenter's reference to TACB Rule 12.2 is unavailing for similar reasons. As part of the preamble to EPA's approval, the Agency specifically stated the following: "Several State plans include regulations under which an owner or operator could be exempt from compliance with an applicable emission limitation if he can show that emissions from the source will not interfere with the attainment or maintenance of the national standards. The Administrator neither approves nor disapproves such optional control features. States are advised, however, that action taken to allow any such exemptions will constitute revision of a State plan and therefore will be subject at that time to the Administrator's approval." 37 Fed. Reg. 10842, 10845 (May 31, 1972). In other words, Rule 12.2 may have established a process for Texas and then EPA to approve exemption provisions that comply with the CAA (i.e. through the SIP submission process) but did not establish any exemptions from TAC 111 limits on its own.

apply during periods of MSS are enforceable. In addition, based on the modeling that was provided in comments on this action, it does not appear that an interpretation that indicates the rules in 30 TAC 111 do not apply during MSS is protective of the NAAQS. A future SIP revision will need to demonstrate, consistent with CAA section 110(l), that the limitations or work practices included in the revision are protective of the NAAQS.

C. Comments on EPA Authority

Comment: A number of commenters claim that EPA exceeded its authority in evaluating the AOs as emission limitations in contradiction of the DC Circuit's opinion in *Environmental Committee of the Florida Electric Power Coordinating Group, Inc. v. EPA*, 94 F.4th 77 (D.C. Cir. 2024). The commenters point out that the Clean Air Act grants States primary responsibility for deciding what emission reductions will be required and from which source. The EPA's responsibility is to ensure SIP revisions comply with the Act's requirements. If a SIP revision meets the Act's requirements, EPA must approve the revision. Commenters indicate that States have primary responsibility to craft SIPs, including the "emission limitations, control measures means or techniques … as may be necessary or appropriate to meet the applicable requirements" of the CAA. Commenters argue that EPA's proposal not only inappropriately redefines section 110(a)(2)(A) of the Act, but it also takes the discretion away from States to determine what constitutes enforceable, appropriate, or necessary emission limitations to be incorporated into a SIP.

Response: The CAA grants States a central role in regulating air quality through the creation and implementation of SIPs, which outline state-specific strategies to meet the National Ambient Air Quality Standards (NAAQS) and other applicable CAA requirements. The States must ensure that SIPs include enforceable emission limitations, compliance schedules, and monitoring systems. EPA agrees that States have considerable

flexibility in choosing how to meet Federal standards. However, the EPA must review the SIPs to ensure compliance with Federal law and other CAA requirements and approve SIP submittals that comply and disapprove those that do not. Congress established a framework of mandatory requirements *within which* States may exercise their considerable discretion to design SIPs to provide for attainment and maintenance of the NAAQS and to meet other CAA requirements.[6] This view was affirmed in *Environ. Comm. Fl. Elec. Power v. EPA*, 94 F.4th at 93:

> [W]hile states generally have "the power to determine which sources w[ill] be burdened by regulation and to what extent," *Union Elec. Co. v. EPA*, 427 U.S. 246, 269, 96 S. Ct. 2518, 49 L. Ed. 2d 474 (1976), the Act "'subject[s] the states to strict minimum compliance requirements' and gives EPA the authority to determine a state's compliance with the requirements," *Michigan v. EPA*, 213 F.3d 663, 687, 341 U.S. App. D.C. 306 (D.C. Cir. 2000) (quoting *Union Elec. Co.*, 427 U.S. at 256-57).

While it is initially the State's responsibility to determine which 110(a)(2)(A) emission limitations and other control measures are necessary or appropriate to attain and maintain the NAAQS and meet other CAA requirements, the D.C. Circuit made it clear that the final determination of what is "necessary or appropriate" is EPA's responsibility:

> To be sure, EPA could determine that the hypothetical state is *wrong* in concluding that its chosen mix of "other control measures" is "necessary or appropriate" to meet the NAAQS. If so, EPA might decide that, for the state to meet the NAAQS, at least one of the "other control measures" must be adjusted such that it satisfies the definition of an "emission

[6] See 80 FR. at 33877-33879 for a lengthier discussion of the *Train v. Natural Resource Defense Council* line of cases and how the Supreme Court views EPA's role as more than ministerial in approving SIPs and also views CAA 110(a)(2)(A) as imposing more requirements than simply whether or not the SIP leads to NAAQS attainment and maintenance.

> limitation"—including, for instance, by converting it from a discontinuous to a continuous measure.[7]

EPA agrees that States have the primary responsibility to determine what measures will be included in a SIP as necessary to meet the Act's requirements and that EPA must approve a SIP revision if it meets the Act's applicable requirements. In this instance, far from ignoring the State's discretion, we read the 2020 SIP revision and took it at face value. The SIP revision stated:

> The proposed SIP revision would make certain operational limits and work practices for periods of planned MSS at the listed EGUs federally enforceable so that emission limitations apply on a continuous basis (at all times of operation) (see FCAA, § 110(a)(2)(A) — SIP must contain emission limits, measures, etc. and § 302(k) — emission limits apply on a continuous basis to assure continuous emission reduction).

This statement appears to indicate that Texas intended for the 2020 SIP revision to create emission limitations that apply on a continuous basis and are federally enforceable. Moreover, this is consistent with the understanding between Texas and EPA that is documented in the letter exchange between Guy Donaldson, Associate Director, Air Branch, Air and Radiation Division, EPA Region 6, dated March 13, 2017, and Steve Hagle, Deputy Director, Office of Air, TCEQ, dated June 7, 2017 (Hagle letter). The Hagle letter stated the purpose of the AOs would be to include enforceable opacity and particulate emissions limitations for periods of planned startup and shutdown activities.

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[7] *Environ. Comm. Fl. Elec. Power v. EPA*, 94 F.4th at 101. The Supreme Court has affirmed that a measure of discretion is due to federal agencies when they are empowered to "regulate subject to the limits imposed by a term or phrase that leaves agencies with flexibility, such as 'appropriate' or 'reasonable.'" *Loper Bright*, 144 S. Ct. at 2263. The type of statutory language in CAA section 110(a)(2)(A) ("as may be necessary or appropriate to meet the applicable requirements of this chapter…") is squarely within the type of language the Supreme Court was referring to that allows EPA to take the ultimate discretionary role in determining what is "necessary or appropriate."

As commenters have pointed out, TCEQ undertook this SIP revision to resolve a Title V problem after the EPA was petitioned under Title V to object to Texas using MSS permits issued under its NSR program to revise the SIP to provide exemptions from the rules in Chapter 111 during MSS. As is discussed in Section II.B, in its 2015 interpretive letter, Texas put forward its explanation that the rules did not apply to coal fired boilers with ESPs during MSS. This interpretation left the SIP without clarity on the allowed time periods for MSS and when the Chapter 111 rules would apply. Moreover, the understanding between TCEQ and EPA, as documented in the exchange of letters,[8] makes clear EPA's expectation that the SIP should provide for continuous emission limitations.

In sum, the EPA has the authority to review the 2020 SIP revision as an emission limit subject to the requirements of 302(k) and we are only evaluating what is written in the SIP and our understanding from the discussions leading up to the development of the SIP revision.

To the extent TCEQ no longer believes continuity is necessary or appropriate for the 30 TAC 111 provisions and the AOs, EPA disagrees, as is described in additional detail in Section II.D of this document.

D. Comments on DC Circuit Decision and "Emission Limitations"

Comment: Numerous commenters discuss the D.C. Circuit's recent decision in *Environmental Committee of Florida Electric Power Coordinating Group v. EPA*, 94 F.4th 77 (D.C. Cir. 2024) and its implications for whether or not the emissions limits in the AOs should count as "emissions limitations" as defined in section 302(k) of the CAA. Commenters state that, per the court's decision, not all emission limits in a SIP necessarily need to qualify as "emission limitations" under CAA 110(a)(2)(A), which

[8] Letter from Guy Donaldson, Associate Director, Air Branch, Air and Radiation Division, EPA to Steve Hagle, Deputy Director, Office of Air, TCEQ, dated March 13, 2017, and June 7, 2017 return letter from Steve Hagle. Included in the docket for this action.

requires that SIPs "include enforceable emission limitations and other control measures, means or techniques…*as may be necessary or appropriate* to meet the applicable requirements of this chapter" (emphasis added). Commenters argue that EPA has not determined whether it is necessary or appropriate for the AOs to qualify as emissions limitations, and that the Agency should not play "semantic gotcha games" to thus qualify them. Commenters claim that it is not necessary or appropriate for the AOs to qualify as emissions limitations, as they are work practices established as BACT. Commenters also claim that EPA's 2015 SSM policy[9] has been overruled and that the court found that exemption provisions in other State SIPs were acceptable.

One commenter states that Texas admitted that the SIP provisions at issue were "emissions limitations" and thus need to be continuous. Commenter also argues that the SIP provisions are "necessary or appropriate" to meet CAA requirements both because they were originally submitted in order to provide for attainment and maintenance of the NAAQS, and because commenter has modeled NAAQS violations.

Response: It is important at the outset to be very clear about what is contained within the D.C. Circuit's opinion in *Florida Electric* and what is not. EPA agrees with commenters that the D.C. Circuit held that section 110(a)(2)(A) of the CAA requires only that emission limitations (as defined in section 302(k)) be continuous and that a particular SIP provision is only required to be an "emission limitation" if it is "necessary or appropriate to meet" applicable CAA requirements. In particular, the court held that EPA "would need to find that, to enable a State to meet the NAAQS or some other 'applicable

[9] *See* State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, 80 FR 33840 (June 12, 2015).

requirement,' it is 'necessary or appropriate' that emissions restrictions subject to automatic exemptions satisfy the statutory definition of an 'emission limitation.'"[10]

Crucially, the court did *not* find that the emissions limits with automatic exemptions that EPA had SIP called were acceptable or appropriate. In fact, the court explicitly withheld judgment as to whether the "called SIPs' relevant emission restrictions in fact amount to (or must amount to) 'emission limitations' per the statutory definition."[11] The court stated that if EPA "were to determine that, for states to meet the CAA's applicable requirements, it is 'necessary or appropriate' for their emission reduction measures to meet the statutory definition of 'emission limitations' and operate during SSM periods, the agency could explain and implement that rationale and its action would be subject to judicial review."[12] That is precisely what EPA is doing in this final action: determining that it is necessary or appropriate for the emissions reduction measures submitted to the Agency by Texas, in conjunction with the existing measures, to meet the full definition of "emissions limitation" under 302(k), and thus they must be continuous.[13]

The EPA did not explicitly propose to make such a "necessary or appropriate" determination in the proposed disapproval action because the Agency determined that Texas agreed that the AOs were emissions limitations as defined under the CAA. The EPA's conclusion was not based merely on the fact that Texas used the words "emission limitation" in its submission, but rather the fact that the submission was explicitly intended to create continuous emissions limitations:

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[10] 94 F.4th at 102.
[11] *Id*. at 110.
[12] *Id.* Some commenters state that certain SIP provisions that EPA SIP called in the 2015 SSM Action for which the SIP call was vacated are substantially similar to the AOs. Given that the D.C. Circuit did not find that those SIP provisions were appropriate or acceptable, their similarity to the AOs is irrelevant.
[13] Commenters frame the question as whether or not the AOs themselves need to meet the definition of "emission limitation." The AOs are intended to cover only periods of MSS; as such, the question EPA needs to answer is whether it is necessary or appropriate for the AOs combined with the numerical limits in 30 TAC 111.111 and 30 TAC 111.153 to be "emission limitations."

> The proposed SIP revision would make certain operational limits and work practices for periods of planned MSS at the listed EGUs federally enforceable so that emission limitations apply on a continuous basis (at all times of operation) (see FCAA, § 110(a)(2)(A) — SIP must contain emission limits, measures, etc. and § 302(k) — emission limits apply on a continuous basis to assure continuous emission reduction).[14]

As the D.C. Circuit stated, "states are initially charged with determining whether an 'emission limitation' is 'necessary or appropriate' to meet the CAA's applicable requirements."[15] It is true that Texas's submission came before the D.C. Circuit's opinion was released; however, EPA could only act on what had been submitted, and the only conclusion the Agency could draw was that Texas had initially determined that the AOs, in combination with the numerical limits in 30 TAC Chapter 111, were in fact emissions limitations that should apply on a continuous basis. EPA agreed that continuity was required, as is discussed at length in the proposal, and thus had no need to make an additional determination.

Regardless of Texas's intentions, EPA agrees that the substance of the provisions at issue are more important than their label. As such, EPA has reviewed these provisions in detail and determined that it is "necessary or appropriate" for the emissions restrictions, including the submitted AOs, to meet the definition of "emission limitations" in CAA section 302(k).

First, as is highlighted by the commenters, Texas has approved the emissions reduction measures included in the AOs in permits as "best available control technology" (BACT) for the sources at issue during MSS periods. Texas claims that the measures are continuous in part because they constitute BACT. BACT is explicitly defined in the CAA

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[14] 2020 SIP revision at iv.
[15] 94 F.4th at 107.

and EPA's regulations as "an *emission limitation* based on the maximum degree of reduction of each pollutant subject to regulation…."[16] In other words, Congress indicated that the combination of measures approved as BACT must be emission limitations. In contrast with section 110(a)(2)(A), there is no indication that measures approved as BACT can be anything other than emission limitations—if it constitutes BACT, it must be an emission limitation, and thus must meet the CAA definition of emission limitation in section 302(k). If the AOs are BACT, they must be emission limitations, and thus must be continuous. [17]

Second, these AOs as written would allow for emissions that could threaten the State's ability to comply with the requirements of the CAA, and the NAAQS in particular. In general, SSM exemptions can threaten public health and welfare, particularly given that they can allow for dramatically higher amounts of emissions than the amount of pollutants emitted at other times. For the first time, Texas is attempting to clarify and make federally enforceable requirements that apply to the relevant sources specifically during MSS periods. However, rather than limits that appear on their face to apply at all times, the sources governed by the AOs would have periods where no enforceable standards apply at all. EPA highlighted the problematic features of the AO measures in the proposal. Two particular features could allow for essentially unlimited periods of high PM emissions: first, for startup and shutdown periods, there are no limits to the frequency of startup or shutdown events, and the requirements for when an ESP must be engaged are overly vague. Second, for maintenance periods, there are essentially

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[16] CAA section 169(3); 40 CFR § 52.21(b)(12) (emphasis added). Texas's definition of BACT incorporates EPA's definition by reference. 30 T.A.C. secs. 116.111(a)(2)(C), 116.160(c)(1)(A).

[17] This has been EPA's consistent interpretation of the CAA since at least 1993. See, e.g., *In re Southwestern Electric Power Company*, Order on Petition No. VI-2014-01 (February 3, 2016), at 8 (stating that BACT limits apply at all times, including during periods of shutdown and malfunction events); *In re Cash Creek Generation, LLC*, Order on Petition No. IV-2010-4 (June 15, 2012), at 21 (same). TCEQ consistently claims in its comments that the precise combination of measures in the AOs are what constitutes BACT. However, it is not clear whether what has been approved as BACT also includes the lb/hr emission limits for PM that apply during MSS in the relevant permits. Those lb/hr limits were not included in the AOs submitted for approval into the SIP.

no restrictions during certain time periods. As currently written, neither Texas nor commenters have shown that the requirements in the AOs are protective of the NAAQS.

In fact, there is quantitative evidence in the record that demonstrates approving these AOs could result in NAAQS violations. During the public comment period, Sierra Club presented modeling showing that the emissions restrictions, or lack thereof, included in the AOs have the potential to cause NAAQS violations in the areas around the relevant sources. As is discussed in the modeling section, Section II.I, the modeling may actually be underestimating the ambient air quality in those areas given the overly conservative assumptions around background concentrations. As is also discussed in response in Section II.H, the modeling presents a more accurate view of the ambient air quality near the relevant sources than Texas has provided in its submission and comments, given the fact that the monitors cited to by Texas are not sited to characterize the air quality near theses sources, with the closest monitor being 17 kilometers (km) from the sources referenced in the modeling.

It is true that some sources are currently choosing to be more protective than the SIP limits combined with the AOs would require. For example, NRG has chosen to burn sub-bituminous coal rather than lignite, which results in lower modeled PM concentrations. However, those choices are not specifically required under the AOs or the SIP. When assessing SIP submissions, Congress has directed EPA to review the "enforceable emission limitations and other control measures" that are required under CAA section 110(a)(2)(A)—measures that are not in the SIP cannot displace those requirements. The modeling by Sierra Club presents a compelling case that, if the AOs are adopted and sources decide not to continue to overcomply (for whatever reason—an exogenous shock to the system, a change in strategy, court decisions affecting other Federal rules, etc.), the AOs as they are currently written are not protective of the NAAQS because, in conjunction with the PM and opacity limits in 30 TAC 111, they do

not apply on a continuous basis. As such, EPA is determining that, in order to ensure NAAQS protection, it is necessary or appropriate for the AOs to apply continuously when incorporated with the 30 TAC 111 PM and opacity limits into the SIP, and thus the AOs, in conjunction with the limits that apply during non-MSS periods, must meet the definition of emission limitation.

EPA agrees with the logic expressed in the comment from Sierra Club and, as such, is disapproving the SIP submission. EPA agrees in particular that modeling is not always necessary in order for the Agency to make a "necessary or appropriate" determination, depending on the context of the SIP submission. EPA has multiple grounds to find that it is "necessary or appropriate" for the SIP provisions at issue here to be emissions limitations, and thus continuous.

E. Comments on Alternative Emissions Limitations (AEL) Criteria

Comment: Commenters argue that EPA's reliance on seven recommended criteria for assessing the AOs is inappropriate and lacks statutory basis, asserting that any standards for evaluating Texas's plans must derive from the text of the CAA itself. One commenter also argues that "non-applicability" is not the same as an "exemption" provision and thus the AEL criteria should not even apply.

Response: In the context of making *recommendations* to States for how to address emissions during startup and shutdown, the EPA has long recommended seven criteria for States to evaluate in establishing appropriate alternative emission limitations.[18] Among the purposes for these recommendations was the need to take into account technological limitations that might prevent compliance with the otherwise applicable emission limitations, while ensuring that those alternative limitations complied with the continuity and enforceability requirements of the CAA. As a general matter, they provide

[18] 57 FR 13502 (Apr. 16, 1992).

a framework intended to assist States in developing emissions limitations that meet the requirements of the CAA. That framework also helps EPA assess whether the CAA's requirements are met. These recommendations serve to assist in the development of enforceable and continuous requirements that would apply during periods when the limits in Chapter 111 for normal operation cannot be met due to the technological limitations of the ESPs.

The recommended seven criteria were re-articulated in the 2015 SSM SIP Action, and read as follows: (1) The revision is limited to specific, narrowly defined source categories using specific control strategies; (2) Use of the control strategy for this source category is technically infeasible during startup or shutdown periods; (3) The AEL requires that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable; (4) As part of its justification of the SIP revision, the State analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable AEL; (5) The AEL requires that all possible steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality; (6) The AEL requires that, at all times, the facility is operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures; and (7) The AEL requires that the owner or operator's actions during startup and shutdown periods are documented by properly signed, contemporaneous operating logs or other relevant evidence.

Any SIP revision establishing an AEL that applies during startup and shutdown would be subject to the same procedural and substantive review requirements as any other SIP submission. While the EPA compared the AOs to these recommendations (specifically we discuss criteria 5 and criteria 6 in the proposed action), the failure to

follow these criteria is not the basis of the EPA's disapproval.[19] The EPA reviewed whether the AOs could in practice be enforced as required by the CAA. The EPA found, as discussed in the proposal and in response to comments in Section II.F, that the emission limits were too subjective to provide for enforceability and are not continuous.

The EPA's disapproval of the Texas SIP submission stems from a statutorily derived authority conferred upon the agency through Congress and our disapproval is based on those authorities.

TCEQ also commented that the 30 TAC 111 rules do not apply to plants equipped with ESPs during MSS periods[20] and that "non-applicability is not the same as exemption" and thus the AEL framework is inapplicable. As we have noted, the AEL framework is simply a series of recommendations, and so EPA's review of Texas's submission under that framework is meant to provide a helpful lens through which to assess the submission for approvability. Nonetheless, "non-applicability" and "exemption" are precisely the same thing in this context: limits that apply during normal operation and allegedly do not apply during periods of MSS. Any other conclusion would be nothing more than a "semantic 'gotcha' game." *Florida Electric*, 94 F.4th at 109.

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[19] See additional discussion on these recommendations in response to comments in Section II.F.3. It should also be noted that Texas did not give consideration to criteria 4, e.g. the State analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable AEL. See Section II.H and.I discussing Sierra Club's modeling evaluation of the potential impact of worst case emissions.

[20] At various points in TCEQ's comment letter, it makes what EPA interprets as drafting errors about its interpretation of the scope of the 30 TAC Chapter 111 limits. First, it states "as TCEQ explained in the proposed and adopted SIP narrative and the incorporated December 2, 2015, interpretive letter, the PM and opacity limits in §§111.111(a)(1) and 111.153(b) do not apply to plants equipped with electrostatic precipitators (ESPs) for particulate control." Neither the proposed SIP nor the interpretive letter make such an extremely broad claim—that the 30 TAC Chapter 111 limits don't apply *at all* to plants equipped with ESPs. EPA's interpretation is that TCEQ intended to state, as they did in those other documents, that the limits do not apply *during MSS periods*.

Second, TCEQ states that "its SIP rules on opacity and PM do not apply during periods of SSM for these specific units." Presumably TCEQ intended to state that those limits do not apply during periods of MSS, which covers maintenance periods rather than the malfunction periods covered by the acronym "SSM." Otherwise, EPA would be required to disapprove the submission as it would be an admission by Texas that 30 TAC chapter 111 limits do apply during maintenance periods and its new submission would be newly putting in place exemptions to those limits during those periods.

F. Comments on Enforceability, Continuity, and Adequacy of the AO requirements

1. Continuity

Comment: Commenters argue that, even if the combination of 30 TAC 111 limits and the work practice and operational standards contained within the AOs must meet the definition of "emission limitation" and thus be continuous, the requirements do apply on a continuous basis and thus should be approved. In particular, TCEQ states that the durational limits do not allow for uncontrolled operation and are an integral part of the permit requirements for MSS that TCEQ determined to be BACT. Commenter asserts that time limits are controls because they are set at a level that will allow the plants to conduct startups and shutdowns up to an annual and daily amount of PM emissions associated with these activities. The permits include Maximum Allowable Emissions Table (MAERT) limits set at levels that are determined to be protective and not interfere with maintenance of the PM NAAQS.

Response: EPA disagrees with commenter that the AOs operate alongside the PM and opacity standards in 30 TAC 111 to create a continuous emission limitation. It is true that emissions limitations do "not require that a singular rate or concentration apply on a continuous basis. Rather, the limitation can include "design, equipment, work practice, or operational standard[s]." However, the EPA finds that for the AO restrictions that apply during startup and shutdown periods, the requirements are overly vague and there are no limits to the frequency of startup or shutdown events, allowing for essentially unlimited periods of uncontrolled PM emissions. We discuss this in more depth in response to other comments. In addition, we find that the requirements during planned maintenance do not provide for continuous emission limits because there are no restrictions to emissions or work practices that apply other than a limit to the total annual time of maintenance activities. For these activities, the AOs "authorize" periods of opacity greater than 20%

for a number of hours per year (e.g., 535 hrs/year for each unit at Martin Lake). The only ostensible requirement during maintenance periods appears to be that the source operate the boiler and its ESP in accordance with good air pollution control practices, safe operating practices, and protection of the facility and associated air pollution control equipment. The generic general duty that an owner or operator shall operate a source consistent with safety and good air pollution control practices for minimizing emissions is not sufficient to identify what these specific practices might be across the range of maintenance activities to which the AOs apply. Therefore, such general duty clauses are not practically enforceable as a limitation on emissions during these activities.[21]

It is important to note that the relevant permits from which the AOs originate also include lb/hr PM limits during MSS periods that operate in the background of the combination of work practices that are contained in the AOs that were submitted to EPA. It is not clear from TCEQ's submission or comments whether what has been approved by TCEQ as BACT also includes the lb/hr emission limits for PM that apply during MSS in the relevant permits. It is also unclear why TCEQ did not include those limits in the AOs. As such, we are not specifically evaluating those numerical limits as they are not included in the SIP submittal. EPA's analysis of whether or not the limits in 30 TAC 111 combined with the submission operate as a continuous emissions limitation might be different if there were additional lb/hr background limits that also applied.[22] In response to comments in Section II.I of this document and in the RTC, we discuss modeling submitted by Sierra Club that evaluates the potential for emissions during MSS to result in violations of the NAAQS and compares the modeled emission rates to the permit limits. Texas did not provide modeling with this SIP revision. As we discuss elsewhere,

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[21] *See* 80 FR 33840, 33899-900, and 33903-904 (June 12, 2015) for an extended discussion of why periods when only a "general duty" provision applies cannot constitute part of an enforceable, continuous emission limitation.

[22] To be clear, emissions limitations need not be numerical at all times to be continuous, but it is easy to guarantee continuousness when a numerical limit applies at all times.

there are no limits on frequency of MSS events in the AOs and therefore, the durational limits for individual startup and shutdown events are not protective of the ton/year requirements in the permits. Furthermore, the permit limits are not permanent because they are not incorporated into the SIP and can therefore be revised by the State without a SIP approval.

2. Enforceability and Adequacy of AO Requirements

Comment: A commenter (NRG) states that EPA fails to identify benchmarks against which to judge the adequacy of Limestone's work practices for frequency or duration, or control-level for MSS emissions. Commenter also states that EPA fails to identify any CAA or other regulatory authority that suggests frequency, duration, or control-level standards for SIP provisions on MSS emissions, nor does EPA identify a requirement in the Act or another regulation for which a longer duration, higher frequency, or lesser degree of control would raise a compliance concern.

Commenter states that the AO provides clear and enforceable constraints and there is no deficiency as to the allowable frequency and duration or level of control. Commenter (TCEQ) disagrees with EPA that no discussion on the historical frequency of startup events is included in the SIP narrative and that periods of startup and shutdown have been and continue to be infrequent and intermittent. Commenter (NRG) claims that in the 50-year history of the MSS requirements and their predecessor provisions, no party has raised concerns with the frequency or duration of Limestone's MSS emissions, the level of control of emissions, or the practical enforceability of constraints imposed on the facility, nor has any issue arisen as to any air quality issues associated with those emissions.

Several commenters mention EPA's use of the term "practical enforceability." Some of these commenters argue that the 2020 SIP revision is practically enforceable, while others argue that "practical enforceability" is not a requirement in the Act.

Commenters assert that the EPA disapproved the AOs because they do not impose standardized or identical requirements on all sources.

One commenter (Sierra Club) states that the EPA correctly asserts that the CAA requires SIPs to include enforceable emission limits. The citizen suit provision in 42 U.S.C. section 7604 further supports this by allowing citizens to take legal action over violations of SIP limits. The provisions in the AOs that allow for exemptions during MSS periods (referred to as "MSS provisions") violate this enforcement requirement by effectively eliminating public access to enforce SIP limits during these periods. The MSS provisions are also not practically enforceable, as they fail to provide clear standards for when equipment, like ESPs, is considered "in service" or functioning properly to control emissions.

Response: The EPA disagrees with the commenters arguing that the AOs are adequate and enforceable. As an initial matter, the adequacy of all SIP submissions are judged against CAA requirements, including that they are enforceable and, if they are emission limitations or it is necessary or appropriate for them to be emission limitations, that they are continuous. Enforceable meaning that the SIP is subject to a legal means for ensuring that sources are in compliance with the control measure set out in the proposal. In the proposed action, we discuss at length the reasons why we find the requirements submitted by the State for incorporation into the SIP to not be enforceable. Second, an additional requirement for emission limitations in the SIP are that they are continuous. We address the determination that is necessary or appropriate for the AOs combined with the numerical limits in 30 TAC 111.111 and 111.153 to be “emission limitations” and therefore must be continuous in response to separate comments in this document.[23]

[23] See Section II.C and D

EPA has long used the term "practical enforceability" to refer to requirements for source specific permits to be federally enforceable.[24] Use of the term "practical" is not adding new enforceability requirements but seeks to provide clarity on the manner in which the source specific requirements are not federally enforceable.

In 1987, EPA laid out enforceability criteria that SIP rules must meet.[25] In general, practical enforceability for a source-specific permit term means that the provision must specify: (1) a technically accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, annually); and (3) the method to determine compliance including appropriate monitoring, record keeping and reporting. For rules and general permits that apply to categories of sources, practical enforceability additionally requires that the provision (4) identify the categories of sources that are covered by the rule; (5) where coverage is optional, provide for notice to the permitting authority of the source's election to be covered by the rule; and (6) recognize the enforcement consequences relevant to the rule.[26]

In the instant action, EPA proposed to find that the conditions contained within the source specific AOs do not meet the requirements for enforceability. The conditions that Texas submitted as part of their SIP revision are too subjective to provide EPA with clear methods and conditions to be able to practically enforce the limitations should the need arise. For example, the AOs submitted as part of the 2020 SIP revision include a requirement that "all the sources must comply with the boiler and ESP manufacturer's operating procedures, or the owner/operator's written Standard Operating Procedures (SOP) manual and to operate in a manner consistent with the procedures to minimum opacity."[27] However, it is unclear from the 2020 SIP revision what procedures should be

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[24] *See* Guidance an Enforceability Requirements for Limiting Potential to Emit through SIP and §112 Rules and General Permits, US EPA, January 25, 1995
[25] *See* "Review of State Implementation Plans and Revisions for Enforceability and Legal Sufficiency," from Michael Alushin, Alan Eckert, and John Seitz, September 3, 1987 (1997 SIP memo).
[26] *Id.*
[27] *See* source specific AOs included in the docket for this action

followed if the SOP is inconsistent with the manufacturer's operating procedures. Further, as the SOP can be modified over time, the required work practices cannot be considered permanent and enforceable. For a measure to be relied on as an emission limitation, it must be permanent which means it cannot be revised absent following the SIP revision process.

We disagree with the commenter that there are "clear and enforceable constraints" to the frequency or duration of events, as there is no limit to the frequency of normal startup or shutdown events. Furthermore, the definitions for when startup ends or shutdown begins lack clear and measurable requirements by which compliance can be determined. Just as limits on the duration of the MSS events were identified by TCEQ as BACT and necessary to minimize emissions and reflect best management practices and promote the safe, effective operation of the respective boiler and ESP, limits on frequency of MSS events are necessary to effectively limit the emissions.[28] Commenters state that they have strong financial incentives to minimize the frequency and duration of MSS periods, however an incentive is not the same as an enforceable requirement. Furthermore, while we understand that there is a strong economic incentive to avoid downtime or periods of MSS in order to provide for efficient generation of electricity and sale of product, there does not seem to be an economic incentive to bring the ESP up to full operation during MSS due to the operating costs required to run the ESP. This is why it is important to define in a clear and enforceable requirement for when operation of the ESP should be initiated, and more importantly, when compliance with the limits in TAC

[28] *See 2020 SIP revision at Section 2.2.2*: "Special conditions in the EGUs' NSR permits were designed to provide a federally enforceable limit for emissions during planned MSS activities when the ESPs are operated outside the optimal range. The conditions define the startup and shutdown periods and establish durational limits for these activities in order to minimize emissions. The time limits in the special conditions reflect best management practices and promote the safe, effective operation of the respective boiler and ESP. Minimizing emissions using good air pollution control procedures and best management practices are considered BACT for the planned MSS activities. These conditions are specifically incorporated into the AOs for the respective EGUs." We note that it is not clear whether what has been approved as BACT also includes the lb/hr emission limits for PM that apply during MSS in the relevant permits. Those lb/hr limits were not included in the AOs submitted for approval into the SIP.

Ch. 111 is required. As discussed elsewhere in this document, comments from Sierra Club (including modeling) confirm our concern with this level of emissions, showing that the emissions restrictions provided in the AOs could potentially threaten attainment and maintenance and cause NAAQS violations in the areas around the relevant sources. As we noted in the proposed action, this is of particular concern as utilization of coal-fired power generation has become more variable and planned startup and shutdown events may occur more frequently than they have in the past. Even intermittent or infrequent events can potentially impact the NAAQS, in particular the 24-hr PM NAAQS that is based on the very high end (98th percentile) of 24-hour average concentrations in a year, which would be equivalent to the 8th highest day in the year when evaluating modeling.[29] In the 2020 SIP revision, TCEQ provides that data from Electric Reliability Council of Texas (ERCOT) for calendar year 2018 shows for the five sources in ERCOT there were 46 days during which a unit was in startup mode.[30] Providing data from one year is not sufficient to identify any variability in frequency of MSS events from year to year or any recent trends of increased frequency that would indicate whether past performance is indicative of future expected practice. Regardless, there are no enforceable limitations on frequency in the AOs or SIP.

We also disagree with the commenter (NRG) that the AOs provide "clear and enforceable constraints" with respect to the level of control required. The commenter does not specifically address any of the deficiencies in the requirements identified by EPA in the proposed action that make the requirements vague and unenforceable. For

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[29] 40 CFR Part 50.20 and 40 CFR Part 50 Appendix N. 40 CFR Part 50.20(b) "The primary annual PM2.5 standard is met when the annual arithmetic mean concentration, as determined in accordance with appendix N to this part, is less than or equal to 9.0 µg/m3.: 40 CFR Part 50.20(c) "The primary 24-hour PM2.5 standard is met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N to this part, is less than or equal to 35 µg/m3." 40 CFR Part 50 Appendix N clarifies the specific procedures for calculating the PM 2.5 design values. See Appendix N for details, but in general the PM 2.5 annual NAAQS design value is the average of three consecutive years annual arithmetic mean concentrations, and the PM 2.5 24-hour NAAQS design value is the average of three consecutive years of the annual 98th percentile of 24-hour values.

[30] See 2020 SIP submission at Section 2.2.1

example, for NRG Limestone, the AO requires the ESP be placed into service as soon as practical after the air heater outlet temperature is between 200 and 300 degrees Fahrenheit. It is unclear why a range is specified rather than a minimum temperature or if there are other measurable parameters, such as flow rate or drum metal temperature, that are being evaluated to determine when it would be "practical" to place the ESP into service. Once the air heater outlet temperature is within the specified range, there are no specific conditions identified to define when it is required to place the ESP in service beyond "as soon as practical," and no way to independently verify if the ESP was in fact placed into service as soon as practical. The commenter simply restates the requirements in the AO and states that they are clear and enforceable. Similarly, for NRG Limestone, the AO states that one condition required to identify when a startup ends is when the ESP is "fully optimized" but there are no specific conditions identified to define when the ESP is to be considered fully optimized. As identified by commenters (Sierra Club), the requirements do not define what it means to place an ESP "into service" and do not specify how the ESP must be operated during the startup period. This allows the ESPs to be operated at widely varying performance levels during startup, with some or all ESPs operating at much lower efficiencies (e.g., by turning on one or two fields during startup) than the equipment is capable of achieving.

We disagree with the commenter that there is no deficiency with respect to the required operating procedures during MSS events. It is unclear what procedures should be followed for startup and shutdown if requirements in the SOP are inconsistent with the manufacturer's operating procedures. In addition, the owner/operator's SOP can be modified over time, and therefore the required work practices cannot be considered permanent and enforceable. As discussed in the proposed notice, we also find that the general duty provisions that apply during maintenance activities in the AOs are not practically enforceable. The generic general duty that an owner or operator shall operate a

source consistent with safety and good air pollution control practices for minimizing emissions is not sufficient to identify what these specific practices might be across the range of maintenance activities to which the AOs apply, and thus such general duty clauses are not practically enforceable as a limitation on emissions during these activities.[31] The AOs do not include any work practices that the sources are required to apply during these maintenance periods. For these activities, the AO for NRG Limestone "authorize" periods of opacity greater than 15% for 535 hrs/year for each unit. As we discuss elsewhere, because emission limitations must be continuous, they cannot include gaps or periods during which sources are not required to limit their emissions and thus, for example, cannot include exemptions for emissions during periods of operation such as MSS. We find that these requirements are neither enforceable nor continuous.

Commenters raise issue with a lack of identified concerns with enforceability/adequacy of these provisions or air quality over the history of Limestone's MSS practices. However, for the first time, Texas is attempting to clarify and make federally enforceable SIP requirements through the submitted AOs that apply to the relevant sources specifically during MSS periods. These submitted AOs must be evaluated for compliance with the CAA requirements, including that they are enforceable and protective of the NAAQS. During these events, the only requirements that apply are the work standards concerning placing the ESP in service as soon as practicable during startup or keeping the ESP in service as late as practicable during shutdown. There is no requirement for the sources to limit emissions during such events in any other way. PM emissions during these events can be much higher than normal emissions and there is no limitation on the number of times during the year a boiler can go through a planned startup or shutdown. As discussed elsewhere in this document, the lack of limits to the

[31] *See* 80 FR 33840, 33899-900, and 33903-904 (June 12, 2015) for an extended discussion of why periods when only a "general duty" provision applies cannot constitute part of an enforceable, continuous emission limitation.

frequency of startup events, and overly vague requirements for when an ESP must be engaged, work together to mean that there could be essentially unlimited periods of high PM emissions where no enforceable standards apply to limit emissions. Neither Texas in the 2020 SIP revision nor commenters have shown that the requirements in the AOs are protective of the NAAQS. As discussed elsewhere in this document, comments from Sierra Club (including modeling) confirm our concern with this level of emissions, showing that the emissions restrictions provided in the AOs have the potential to cause NAAQS violations in the areas around the relevant sources. The historical record of air monitoring data is not sufficient to identify air quality concerns as the monitors are not located in the vicinity of the sources and therefore cannot be used to characterize air quality or impacts from these emissions near the sources.

The EPA disagrees with commenters' assertion that the EPA disapproved the AOs because they do not impose standardized or identical requirements on all sources.[32] EPA's disapproval is not based on a lack of identicality. In describing the issues with the AOs, EPA noted that the AOs vary in level of specificity and then provided an analysis of each AO, identifying the different approaches and lack of specificity in each approach that makes for an unenforceable requirement. At no point did EPA identify a concern with the lack of uniformity in the AOs. As explained in the proposed action, we are disapproving the 2020 SIP revision because the AOs lack specificity and are ambiguous and unenforceable because they are unclear as to the procedures an operator must follow to be in compliance and at what point in the startup or shutdown process the facility must switch from compliance with the AO to compliance with 30 TAC 111.111(a)(1) and 30 TAC 111.153(b) as required for routine operation.

[32] Commenters raised the issue of replicability not being a valid basis for disapproval, citing Texas v. E.P.A., 690 F.3d 670, at 683 (5th Cir. 2012) which holds that replicability is not an independent authoritative standard and standards that the EPA uses must derive from the CAA itself. This case is not analogous to this disapproval as replicability is not used as a basis of disapproval.

One commenter agreed with EPA's view that the AOs are unenforceable, stating that in addition to EPA's own enforcement powers, the CAA guarantees citizens' ability to directly enforce SIP limits. EPA agrees that the citizen suit provisions of the CAA further highlight the need for SIP limits like the AOs to be enforceable.

In summary, we find that the AO restrictions are overly vague and unenforceable. We also find that the AO requirements, in combination with the requirements in 30 TAC 111, do not provide for continuous emission limitations. Finally, we find that the AO requirements have not been shown to be protective of the NAAQS.[33]

3. EPA's Recommended Measures

Comment: Commenter (NRG) states the EPA suggests several additional "preferred features" such as use of natural gas, different control devices, or reliance on MATS controls for the Agreed Orders. Commenter states that these "preferred features" are not required to comply with the Act and would be redundant, ineffective or inappropriate.

Response: The "preferred features" identified by the commenter were provided by EPA as examples of measures that, if taken, would be expected to minimize emissions during MSS, not as specifically required features of the AOs. They are provided in the context of the recommendations for AELs that serve as guidance and not requirements for developing emissions limits that apply at times like MSS when technological limitations require different limitations on emissions. As discussed elsewhere, the AOs as submitted do not provide for enforceable requirements during MSS. EPA provided a discussion of measures that could be considered to potentially address these enforceability deficiencies. For example, if the AOs included a requirement to startup using natural gas and only introduce coal once the ESP is fully energized, that would be a clear and enforceable requirement that would also minimize emissions during startup. Similarly, use of a

[33] See Sections II.G, H and I for additional discussions on interference with attainment or maintenance of the NAAQS and modeling of potential impacts from MSS emissions.

baghouse would also alleviate concerns from emissions during MSS. We in no way are suggesting that these are the only options for addressing emissions during MSS but provided them as examples of options that could be considered in developing approvable emission limits that apply during MSS. To the extent that some of these specific measures are already available and taken at the facility to comply with MATS or other requirements, they would also address emissions during MSS, and these can and should be incorporated into the SIP to provide for permanent and enforceable requirements during these periods. EPA's proposed disapproval was based on the determination that the AO requirements are unenforceable and not that they failed to include these "preferred features."

We disagree that adoption of these measures into the SIP would be redundant as the MATS requirements were promulgated to address hazardous air pollutants, such as mercury, and are subject to revision and/or court decisions independent of the requirements in the Texas SIP. To rely on these requirements to address opacity and PM emissions from EGUs with ESPs during MSS in Texas, Texas should adopt the requirements into the SIP.

4. Recordkeeping and Reporting

Comment: Commenters restate the recordkeeping language in the AOs and state that these requirements are not deficient. TCEQ states that the AOs are all enforceable because each plant operator must maintain records demonstrating when the startup or shutdown periods occur, based on flue gas temperature at the ESP, and must comply with permitted allowable emissions for PM emissions during planned SSM activities. In addition, TCEQ comments that EPA's claims are speculative and not based on evidence of noncompliance with the identical terms contained in the plants' NSR permits that have been in place for over 10 years. NRG comments that EPA identifies no basis in the Act

for a standard against which to evaluate monitoring, recordkeeping, and reporting in an MSS provision.

Commenters also claim that deviation reports required under the Title V operating permits provide information to determine compliance.

Response: We disagree with the commenters. Typically, a primary mechanism for ensuring that a SIP provision is legally and practicably enforceable is for a State to impose sufficient monitoring, recordkeeping, and reporting (MRR) requirements on affected sources. CAA section 110(a)(2)(F)(i) speaks more explicitly to the requirement for SIPs to provide for emissions monitoring by requiring "the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owner or operators of stationary sources to monitor emissions from such sources," as may be prescribed by EPA. EPA has promulgated regulations implementing this requirement at 40 CFR 51.214, which requires State SIPs to contain legally enforceable procedures to "[r]equire stationary sources subject to emission standards as part of an applicable plan to install, calibrate, maintain, and operate equipment for continuously monitoring and recording emissions," among other requirements. EPA notes that monitoring and recordkeeping requirements serve multiple purposes, including supporting effective enforcement of SIP requirements. A lack of adequate monitoring and recordkeeping requirements can undermine the ability of the State, the EPA, and citizens to evaluate or enforce a source's compliance with applicable emissions limitations imposed by the SIP.

The AOs require sources to keep records of periods of planned MSS, the opacity measured by the continuous opacity monitoring system (COMS) for the duration of the planned MSS activities, and the work practices followed during the planned MSS activities. As discussed in the proposed action, EPA finds that these AOs do not specifically require sources to keep records of the parameters used to identify when startup or shutdown periods actually occur, such as temperature or unit load, or ESP

operating parameters. The AOs also do not specifically require sources to keep records of the parameters that are monitored (e.g., air heater outlet temperature, drum metal temperature, periods when solid fuel is burned) to determine whether the ESP should be placed into or removed from service during these MSS periods. These are the types of specific monitoring records that are necessary to provide adequate information to evaluate when startup and shutdown periods actually occur or whether Chapter 111 requirements apply and evaluate compliance with the AO requirements regarding when the ESPs are required to be placed into or removed from service. A requirement to "identify periods of planned MSS" and the "work practices followed" does not provide sufficient information to evaluate whether the facility accurately recorded the end of a startup or beginning of a shutdown event, or whether the ESP was engaged at the appropriate time during the startup process. Thus, the monitoring and recordkeeping requirements do not provide adequate information to evaluate when a startup event ends, and thus whether the AO or Chapter 111 requirements should apply at a given time. Therefore, because there is no way to evaluate which requirements apply, there is no way to evaluate compliance with the applicable requirements.

The commenter further states that the AO requirements are "all enforceable because each plant operator must maintain records demonstrating when the startup or shutdown periods occur, based on flue gas temperature at the ESP." However, there is no specific requirement in the AOs for sources to record or maintain records of flue gas temperature. Thus, there are no records available to evaluate when the startup or shutdown periods occurred based on the flue gas temperature. Furthermore, only Oklaunion's AO specifies a specific temperature (once the outlet gas temperature to the ESP is greater than 300°F) when the ESP should be placed into service. The AOs for the other seven facilities lack this level of specificity and are not enforceable because they require the ESP to be placed into service "as soon as practical." This requirement is

subjective, and it is unclear how the required recordkeeping would provide the necessary information to allow for verification that this requirement has been met.

With respect to the commenter's suggestion that EPA's claims are speculative and not based on evidence of noncompliance with the identical terms contained in the plants' NSR permits that have been in place for over 10 years, this is not relevant to EPA's conclusion that the relevant requirements do not have sufficient MRR requirements to provide the information necessary to be able to evaluate compliance with and enforce the requirements in the future. As explained, sufficient MRR requirements are necessary to provide adequate information to be able to evaluate compliance with the Chapter 111 and AO SSM-related requirements. Whether there is evidence of noncompliance with the permit terms that have been in place for 10 years in the past has no bearing on the ability to evaluate and enforce compliance with the relevant requirements in the future.

Finally, commenters also claim that deviation reports required under the title V operating permits provide adequate information to determine compliance. Regardless of whether there are reporting requirements in the title V permits as the commenter claims, this does not resolve the deficiencies in the monitoring and recordkeeping requirements. In other words, a requirement to report monitoring and recordkeeping information that is not sufficient to provide the information needed to evaluate compliance with the applicable requirements is deficient.

For the reasons explained, the relevant MRR requirements do not meet CAA and regulatory requirements and do not provide sufficient information to evaluate compliance with and enforce the specified rules. As discussed in the proposal and in response to other comments in this section, we are disapproving the SIP revision because the requirements in the AOs are overly vague and too subjective to provide for enforceability. The insufficient MRR requirements further reinforce the conclusion that the AOs are not enforceable as written.

G. Comments on Section 110(l) and Interference with Attainment or Maintenance of the NAAQS

Comment: One commenter (Sierra Club) commented that the 2020 SIP revision would relax the existing SIP, resulting in interference with attainment and maintenance of the NAAQS under CAA section 110(l). Therefore, Sierra Club contends that EPA must disapprove the SIP revision under CAA section 110(l), in addition to the rationale EPA provided at proposal. Specifically, Sierra Club pointed to language in our proposal that acknowledged that there is not textual evidence in the language of the regulations that indicate that the rules do not apply continuously, and thus this SIP revision would relax the existing SIP. Sierra Club goes on to say that Texas provided no modeling or other evidence that this SIP revision would not interfere with attainment or maintenance of the NAAQS to show compliance with CAA section 110(l). To further support their comment, Sierra Club provides modeling suggesting that in areas in near proximity to two of the facilities, there could be violations of the PM NAAQS due to emissions allowed under the 2020 SIP revision.

Contrary to Sierra Club's CAA section 110(l) comment, two commenters, TCEQ and the Texas MSS Working Group, indicated that the rules in 30 TAC 111 have never applied to these facilities during MSS. Further, the Texas MSS Working Group contends that Texas provided a "robust" demonstration under CAA section 110(l) The MSS Working Group also noted that EPA did not comment in its proposal on TCEQ's CAA section 110(l) demonstration.

One commenter, NRG, provided late comments (received October 9, 2024) indicating that the Sierra Club modeling showing potential PM NAAQS violations at its Limestone Electric Generating Station did not reflect its current operations which utilized cleaner fuels such sub-bituminous coal instead of lignite and natural gas during startup. NRG also argued that EPA's original rationale was not based on potential NAAQS

violations and that to rely on Sierra Club's modeling, the Agency must reopen the public comment period. Luminant also submitted late comments (received November 22, 2024) that were similar to NRG's comments.[34]

Response: EPA agrees that CAA section 110(l) is relevant to all SIP revisions and that it makes clear that the Administrator may not approve a SIP revision if it would interfere with attainment or maintenance of the Act. EPA, however, did not base its proposed disapproval on CAA section 110(l). Instead, we based our proposed disapproval on concerns, discussed elsewhere, with the enforceability and continuousness of the AOs provided in the 2020 SIP revision. In this action, we are finalizing our determination that the AOs are 1) not enforceable and 2) it is necessary or appropriate for the AOs and provisions in 30 TAC 111 to be emissions limitations, and they are not continuous in violation of the CAA.

While our disapproval is not based on failure to meet CAA section 110(l) requirements, we do believe that Sierra Club's modeling provides ample evidence that the TCEQ 110(l) demonstration is not adequate to determine that the SIP revision does not interfere with attainment and maintenance of the NAAQS. In other words, Sierra Club's modeling confirms that we are prohibited from approving this submission. TCEQ's 110(l) demonstration is based on two arguments. First, TCEQ claims that MSS emissions have always been occurring from these facilities and never were controlled by the ESPs used by these facilities for control. Second, TCEQ states that there has never been evidence detected by Texas's PM ambient monitoring network of any PM NAAQS violations. Sierra Club provides modeling for two of the facilities covered by the 2020 SIP revision that indicates that violations of the NAAQS are possible, both under the sources' current practices, and to an even greater extent if emissions are uncontrolled during MSS to the extent allowed under the AOs in the 2020 SIP revision. It is worth

[34] We fully address these late comments in the RTC document.

pointing out that Texas did not provide modeling with this SIP revision. Sierra Club's modeling makes clear that any potential violations of the PM standard as a result of MSS emissions would be much closer to the facilities than any of the monitors Texas points to in its 110(l) demonstration. In the absence of relevant monitoring data, modeling has long been utilized to estimate impacts of facilities on air quality. In this case, Sierra Club used EPA's preferred model, AERMOD, and modeled the impact of two of the facilities at 25%, 50%, 75%, and 100% load assuming combustion of lignite and separately combustion of sub-bituminous coal and considering that the ESP would not be energized during MSS. The modeling indicates that $PM_{2.5}$ MSS emissions could potentially result in modeled values above the 24-hour PM2.5 NAAQS and the annual PM2.5 NAAQS. This modeling also suggests that a similar modeling analysis of maximum MSS emissions from the other power plant facilities at issue here could potentially result in violations of the NAAQS. Violations of the standard were indicated at both facilities modeled, with higher concentrations modeled when burning lignite. See response to Comments on Air Dispersion Modeling Results in this document and the RTC Document for full evaluation and discussion of the model results.

Although the Limestone facility has not burned lignite since December 2017, the Limestone units are not restricted by permit or rule from the types of fossil fuels that can be fired in its boilers. The Martin Lake facility entered into an AO in early 2022 that prohibits the facility from burning lignite, but that requirement is currently not federally enforceable.[35] EPA's review of the modeling did not detect any significant issues with the modeling techniques themselves or the conclusions, although refinements could be performed.[36] NRG claimed that its Limestone facility uses natural gas during startup to

[35] This AO was submitted to EPA for approval as part of the SO2 NAAQS attainment SIP revision. EPA has not taken final action on that submittal at this time. See EPA proposed actions 89 FR 63117 (Aug. 2, 2024) and 89 FR 68378 (Aug. 26, 2024).

[36] See Section I and the RTC document for additional discussion of EPA's review of the modeling

comply with EPA's MATS rules and that the ESPs are placed into service "contemporaneous to solid fuel firing", which would certainly reduce PM emissions to very low levels during this period of operation. However, there is no SIP requirement or requirement in the submitted AO that NRG is required to burn only natural gas at startup or that would prohibit the burning of solid fuel prior to placing the ESP into service. Additionally, there is no requirement to burn only sub-bituminous coal rather than lignite in the SIP or the AOs. NRG could decide to change their practices if they are not required to take such emissions-reducing measures in the SIP. In addition, this further highlights the specific, enforceable measures available to the source such as prohibiting burning solid fuel until the ESP is in service, in contrast to the vague requirements actually included in the AOs such as "placing the ESP into service as soon as practical" or "operating the facilities and associated air pollution control equipment in accordance with good air pollution control practices."

In sum, while Sierra Club's modeling confirms that EPA is prohibited from approving this SIP revision, it is unnecessary for EPA to base its disapproval on failure to comply with section 110(l) requirements. An approvable SIP revision would need to confirm that the revision would not interfere with attainment or maintenance of the NAAQS or any other applicable CAA requirement. In the absence of monitoring data from monitors located closer to the facilities, such a demonstration would most likely need modeling. Sierra Club's modeling makes clear that such a demonstration would depend on the type of coal or other fuel used during startup, and those fuel requirements would need to be made enforceable to ensure the SIP revision did not interfere with attainment or maintenance.

In response to NRG's late comment that EPA is not providing sufficient notice and must open a new public comment period, it is not required that the Agency repropose every time a comment raises new evidence to consider. "To avoid perpetual cycles of

new notice and comment periods, a final rule that is a logical outgrowth of the proposal does not require an additional round of notice and comment even if the final rule relies on data submitted during the comment period."[37] EPA's final action here is in substance exactly the same as its proposal—as the Agency has made clear, these AO requirements are not enforceable or continuous and allow for periods of unlimited emissions. Sierra Club's modeling is evidence that the emissions can interfere with attainment or maintenance of the NAAQS. EPA "fairly apprise[d] interested persons of the subjects and issues" the Agency considered; "the notice need not specifically identify every precise proposal which the agency may ultimately adopt as final rule."[38]

H. Comments on the Use of Air Dispersion Modeling

Comment: Sierra Club commented that air quality dispersion modeling is a technically appropriate, efficient, and readily available technique for evaluating air quality impacts associated with SIP submittals and revisions. Sierra Club pointed out that EPA has identified the AERMOD steady-state plume dispersion model as the Agency's default model for the assessment of both primary and secondary particulate matter concentrations from large point sources. Sierra Club also indicated that EPA has recognized in analogous circumstances, monitoring alone is not generally adequate for identifying the maximum concentration of particulate matter impacts from large sources "[d]ue to the generally localized impacts" from those sources, and the lack of nearby monitors. Sierra Club also cited to TCEQ's air monitoring network plan, that indicates that there are no PM air quality monitors in the vicinity of any of the facilities at issue in this proposal, or even in the same county. Sierra Club continued that the use of air dispersion modeling is also consistent with the Agency's historic use of such modeling for determining compliance with the NAAQS and the use of dispersion modeling to demonstrate

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[37] *Bldg. Indus. Ass'n v. Norton*, 247 F.23d 1241, 1246 (D.C. Cir. 2001) (internal citations omitted).
[38] *Chemical Mfrs. Ass'n. v. EPA*, 870 F.2d 177, 203 (5th Cir. 1989) (internal citations omitted).

attainment with the NAAQS is also court-validated. Sierra Club summarized that the use of scientifically and legally supported air quality dispersion modeling (AERMOD in this case) to characterize and evaluate the air quality impacts of Texas's 2020 SIP revision, including the worst-case emissions from MSS operations at those facilities is not only consistent with EPA's Appendix W guidance, but it is well supported by EPA's lengthy and court-validated history of using AERMOD as a tool for evaluating individual source compliance with the NAAQS and is technically appropriate and supported by EPA regulations and guidance.

Response: As discussed in more detail in the RTC document for this action, there are no $PM_{2.5}$ monitors located within 50 km of either Luminant's Martin Lake or NRG's Limestone facility. We note that three of the eight facilities do have $PM_{2.5}$ monitors located in the same county, but those monitors are not sited near the facilities, with the closest being 17 kilometers from the facility.[39] Maximum modeled primary PM concentrations are usually within three kilometers of the source and then concentrations drop off quickly with increasing distance for these types of facilities in semi-flat terrain. Therefore, none of the $PM_{2.5}$ monitors have been sited to pick up the maximum impacts near the sources covered by the 2020 SIP revision; therefore, it is necessary to utilize area specific modeling to estimate $PM_{2.5}$ air quality levels around these facilities. EPA has utilized modeling to assess air quality standards for single facilities in permitting actions, SIPs, enforcement cases, and designations since the 1970s.[40] For example, EPA relied on

[39] There are PM2.5 monitors in Harrison, Potter and Atascosa Counties where the Southwestern Electric Power Company H.W. Pirkey, San Miguel Electric Cooperative, Inc. San Miguel and Southwestern Public Service Company Harrington Station are respective located.

[40] Guideline on Air Quality Models versions including 40 CFR Part 51 Appendix W (current version published November 2024 (FR Vol. 89, No. 230, November 29, 2024, 95034-95075). The EPA originally published the Guideline in April 1978 (EPA–450/2–78–027). The EPA revised the Guideline in 1986 (51 FR 32176) and updated it with supplement A in 1987 (53 FR 32081), supplement B in July 1993 (58 FR 38816), and supplement C in August 1995 (60 FR 40465). The EPA published the Guideline as Appendix W to 40 CFR part 51 when the EPA issued supplement B. The EPA republished the Guideline in August 1996 (61 FR 41838) to adopt the CFR system for labeling paragraphs. The EPA also published updated Guideline in 2003, 2005, and 2017.

modeling from States, industry, and third-party modeling performed by Sierra Club and others during the 1-hour SO_2 designations for Round 2 and Round 3 designations to assess areas should be designated nonattainment or attainment and also to assess the appropriate boundaries for the nonattainment areas.[41] EPA also relied on modeling from States and industry in 2008 Lead NAAQS designations.[42] Modeling provides the ability to assess the air quality in areas around facilities because it is impractical to site monitors everywhere. EPA concurs that modeling with AERMOD in this case is the appropriate model to use and is an appropriate technique, scientifically and legally, to analyze primary pollutant concentrations of $PM_{2.5}$ in the areas around these facilities when they have MSS emissions.[43]

In addition to the citations provided by Sierra Club, EPA's reliance on modeling rather than monitoring data was recently upheld by the 5th Circuit in *Texas v. EPA*, 91 F.4th 280 (5th Cir. 2024).[44] The court highlighted that review of an agency's evaluation of complex scientific data within its technical expertise—such as the decision whether to use modeling or monitoring data in evaluating possible attainment issues--is extremely deferential, and that there is a 'presumption of regularity' that is difficult for challenging parties to overcome.[45] The court applied that standard and found that EPA did not act arbitrarily or capriciously in relying on modeling data despite the existence of monitoring data.[46]

I. Comments on Results of Air Dispersion Modeling

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[41] SO2 designations FR cities including Federal Register Vol. 81, No. 133, July 12, 2016, 45039-45055; Federal Register Vol. 81, No. 239, December 13, 2016, 89870-89876; Federal Register Vol. 83, No. 6, January 9, 2018, 1098-1172.
[42] Lead Designations FR Vol. 75, No. 244, November 22, 2010, and Texas Area Designations for the 2008 Lead National Ambient Air Quality Standards.
[43] 40 CFR Part 51 App. W Sections 1.0, 4.0 (including 4.2.2.1 and 4.2.3.5), and Appendix A to Appendix W of Part 51 Summaries of Preferred Air Quality Models (Section A.1)
[44] *See also Galveston-Houston Assoc. for Smog Prevention v. EPA*, 289 Fed. Appx. 745, 754 (5th Cir. 2008) (upholding use of modeling rather than monitoring data).
[45] *Id.* at 291 (citing to *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 824 (5th Cir. 2003) and *American Petroleum Inst. v. EPA*, 787 F.2d 965, 983 (5th Cir. 1986)); *see also Huntsman Petrochemical LLC v. EPA*, 114 F.4th 727 (D.C. Cir. 2024).
[46] *Id.* at 293.

Comment: Sierra Club indicated that EPA must consider credible third-party modeling. Sierra Club has submitted modeling of "worst case" MSS potential emissions rates for boilers at two of the facilities (Luminant's Martin Lake facility and NRG's Limestone facility) for multiple load levels spanning from 10% load to 100% load. Sierra Club concludes that the modeling results credibly demonstrate that effectively uncontrolled PM emissions from Martin Lake and Limestone plants during MSS periods, as would be allowed under Texas's proposed 2020 SIP revision and its Agreed Orders, could result in violations of the annual and 24-hour NAAQS for $PM_{2.5}$ in areas surrounding these two facilities. Sierra Club did not model whether MSS emissions from the other power plant facilities at issue here could cause violations of the NAAQS, but the modeling results for Martin Lake and Limestone suggest that MSS emissions at the other facilities could result in violations of the NAAQS.

NRG provided late comments (received October 9, 2024) indicating that the Sierra Club modeling showing potential PM NAAQS violations at its Limestone Electric Generating Station overstates Limestone's emissions. Luminant also submitted late comments (received November 23, 2024) on the modeled emission rates and modeling results.[47]

Response: The EPA obtained the modeling files from Sierra Club (SC) and has reviewed both the reports from Wingra (Sierra Club's contractor) and the modeling files for modeling of MSS emissions from Luminant's Martin Lake facility and NRG's Limestone facility. EPA reviewed the different components of the modeling and found that overall, it is informative and does indicate that "worst case" MSS emissions could result in modeled violations. EPA is including a summary of two key elements of our review related to the emission rates modeled and the representative background monitoring concentration added to modeled values here, and note that our full review of all the Sierra

[47] We fully address these late comments from NRG and Luminant in the RTC document.

Club modeling and results are included in the RTC document available in the docket for this action.

The SIP revision and the AOs for these two facilities do not include any numerical limits on the maximum pounds per hour (lb/hr) that could be emitted from each boiler during MSS. As discussed in Section II.F.2, the SIP revision with its AOs does not include limits on the frequency of startup and shutdown events so there is no restriction to the total number of hours per year that the boilers at a facility can be in a normal MSS operation situation; therefore, they could operate a large number of hours per year and the MSS emissions could potentially impact the 24-hour $PM_{2.5}$ NAAQS and the annual $PM_{2.5}$ NAAQS. Sierra Club modeled MSS emissions for every hour of the year and based on the lack of limits on hours of operation per year in MSS mode, we find this assumption to be reasonable, especially when analyzing the 24-hour $PM_{2.5}$ NAAQS, which is based on the very high end (98th percentile) of 24-hour average concentrations in a year.[48] As a check on the reasonableness of Sierra Club's assumptions, EPA reviewed Sierra Club's modeled emission rates, compared that with the MSS emission limits included in the facilities' MSS permits[49], and found the Sierra Club's emission rates were similar or less than the $PM_{2.5}$ lb/hr emission limits in the permits for NRG Limestone. As discussed in the RTC document, we also find that the modeled emission rates for Martin Lake are also reasonable. EPA has not fully reviewed the $PM_{2.5}$ lb/hr emission limits and the underlying assumptions and calculations in the MSS permits for these two facilities to

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[48] 40 CFR Part 50.20 and 40 CFR Part 50 Appendix N. 40 CFR Part 50.20(b) "The primary annual PM2.5 standard is met when the annual arithmetic mean concentration, as determined in accordance with appendix N to this part, is less than or equal to 9.0 $\mu g/m^3$.: 40 CFR Part 50.20(c) "The primary 24-hour PM2.5 standard is met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N to this part, is less than or equal to 35 $\mu g/m^3$." 40 CFR Part 50 Appendix N clarifies the specific procedures for calculating the $PM_{2.5}$ design values. See Appendix N for details, but in general the $PM_{2.5}$ annual NAAQS design value is the average of three consecutive years annual arithmetic mean concentrations, and the $PM_{2.5}$ 24-hour NAAQS design value is the average of three consecutive years of the annual 98^{th} percentile of 24-hour values.

[49] As discussed elsewhere, Texas issued permits to these facilities to address emissions during MSS. The permits were not submitted as part of this SIP revision. The permits include lb/hour and ton/year emission rate limits that are not included in the SIP revision and thus are not specifically being reviewed in this action but are discussed here as a reference point for the reasonableness of Sierra Club's assumptions.

evaluate if they are representative of the maximum emissions that could occur during MSS but note that some of the other associated limits in the permits (i.e. ash content and sulfur content limits) indicate that the maximum emission rates could be larger/higher using EPA's emission factors. If higher emission rates are possible during MSS, then Sierra Club's maximum modeled concentrations would also be expected to be higher if appropriately adjusted and remodeled.[50]

Modeled ambient concentrations are estimated by adding the modeled values to a representative background concentration from a representative monitor which represents concentrations from non-modeled sources and general $PM_{2.5}$ background levels in the area. EPA's review found that Sierra Club used the lowest $PM_{2.5}$ monitored design values[51] in the State of Texas, which are significantly lower than $PM_{2.5}$ monitored design values at monitors located closer to these two facilities. Monitored design values from these closer monitors should have been added to the modeling because they would be more representative of regional $PM_{2.5}$ background concentrations than the low values Sierra Club utilized. Using the more representative background monitored design value concentrations for Limestone and Martin Lake results in higher maximum modeled design values and more of Sierra Club's operating scenarios having maximum design values that exceed the 24-hour and annual $PM_{2.5}$ NAAQS.

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[50] We also note that EPA's guidance in assessing PM2.5 impacts is to also include the secondary formation of PM2.5 due to precursor emissions (i.e. NOx and SO2). Including the secondary formation of PM2.5 would be expected to have some increase in the overall maximum modeled concentration. See Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM2.5 under the PSD Permitting Program (pdf) (3.36 MB, 04/30/2019, 454-R-19-003). Available for download at https://www.epa.gov/nsr/guidance-development-modeled-emission-rates-precursors-merps-tier-1-demonstration-tool-ozone

[51] Design Values for $PM_{2.5}$ Annual and 24-Hour NAAQS are calculated in accordance with 40 CFR Part 50 Appendix N using monitoring data collected and the Design Values are compared to the $PM_{2.5}$ Annual and 24-Hour NAAQS (40 CFR Part 50.20) to determine whether the design value meets or exceeds the applicable $PM_{2.5}$ NAAQS. See Appendix N for details, but in general the $PM_{2.5}$ annual NAAQS design value is the average of three consecutive years annual arithmetic mean concentrations, and the $PM_{2.5}$ 24-hour NAAQS design value is the average of three consecutive years of the annual 98^{th} percentile of 24-hour values.

EPA notes that Sierra Club's modeling scenarios were based on both boilers at Limestone or the three boilers at Martin Lake having MSS emissions at the same time. Those scenarios may not be expected to occur often, but the scenario is not limited by the current SIP revision or AOs, nor by the MSS permits. The modeling for some of the operating scenarios was sufficiently above the NAAQS such that additional modeling may show that not all the boilers at a facility must have MSS emissions at the same time for modeled violations to occur.

Overall, EPA's review indicates that while there are some uncertainties regarding what potential maximum (worst case) MSS emission rates should be modeled and that a higher background monitor DVs should have been used, the Sierra Club's modeling is informative and indicates that $PM_{2.5}$ MSS emissions allowed under the 2020 SIP revision and AOs could result in modeled values above the 24-hour $PM_{2.5}$ NAAQS and the annual $PM_{2.5}$ NAAQS. This modeling also suggests that a similar modeling analysis of maximum MSS emissions from the other power plant facilities at issue here could possibly result in violations of the NAAQS because these other facilities are similar in the general magnitude of potential hourly MSS emissions and have somewhat similar stack parameters (stack velocity, temperature and height).

J. Other

1. Change in Facility Operations

Comment: The commenter (TCEQ) states that four plants (Gibbons Creek Steam Electric Station, Pirkey Power Plant, Oklaunion Power Station, and Harrington Station) have either ceased burning coal, shut down, or converted to natural gas for power generation; therefore, making these AOs and their approval into the SIP unnecessary. The commenter also states that EPA should approve the other four AOs (Lower Colorado River Authority's Sam Seymour Fayette Power Project (order no. 2020-0077-SIP); Luminant Generation Company, LLC's Martin Lake Steam Electric Station (order no. 2020-0076-

SIP); NRG Texas Power LLC's Limestone Electric Generation Station (order no. 2020-0075-SIP); and San Miguel Electric Cooperative, Inc.'s San Miguel Electric Plant (order no. 2020-0074-SIP) into the SIP.

Response: TCEQ can formally withdraw the AOs (i.e., a partial withdrawal of its submitted SIP revision) that TCEQ believes are no longer necessary to be included as part of the Texas SIP. As long as the SIP revision is before us, we are legally obligated to act on that submission, either by approving or disapproving it. Moreover, we must act on the entire SIP revision and cannot parse out pieces and take no action. For the reasons described in this final rule and responses to other comments, EPA is disapproving Texas's 2020 SIP revision, including the accompanying AOs.

2. EPA Comments on the State's Proposed SIP

Comment: The commenter states that EPA failed to raise concerns regarding 'legal and practical enforceability,' continuity of the limitations, or compliance with AEL guidance during the commission's public comment period on the proposed AOs and the 2020 SIP revision. The commenter then states that EPA's failure to raise concerns about legal and practical enforceability, continuity of the limits, or failure to meet certain factors from their AEL guidance indicates EPA agreed with TCEQ's assessment that the AOs should be incorporated into the SIP.

Response: EPA disagrees with the commenter's assertion that EPA not providing comments during TCEQ's public comment period on its proposed SIP regarding concerns about legal and practical enforceability, continuity of the limits, or failure to consider certain factors from their AEL guidance indicates that EPA agreed with TCEQ's assessment that the AOs should be incorporated into the SIP. EPA must follow CAA requirements and conduct a formal review of the submitted SIP revision, regardless of

whether particular objections were raised during a proceeding before the SIP was submitted to the Agency.

3. EPA Interpretation of 30 TAC 111

Comment: The commenters state that EPA repeatedly acknowledged TCEQ's interpretation and characterization of its rules in 30 TAC 111, including that limits on opacity and PM do not apply during periods of SSM for these specific units.

Response: The commenters misconstrue EPA's statements on TCEQ's interpretation and characterization of its rules in 30 TAC 111 as acceptance and agreement of its interpretation and characterization. While EPA acknowledged TCEQ's interpretation in the proposal, we also acknowledged that there is no textual evidence in the rule to provide evidence of TCEQ's interpretation. We also point out in other comments that this is the first time in a SIP revision that TCEQ has put forward this interpretation. The stated goal of this SIP revision was to provide continuous federally enforceable emission limitations under TCEQ's interpretation that the rules in Chapter 111 do not apply during MSS for coal fired electric generating units using ESPs. Without adding provisions to the SIP to address time periods of MSS, the requirements during MSS and more importantly the duration of time when the chapter 111 rules would not apply under the TCEQ interpretation will continue to be unclear.

4. Misconception of Action as a SIP Call

Comment: The commenter states that the proposal indicates that Texas provisions were previously approved and incorporated into operating permits. The commenter cites to CAA section 110(k), stating that the CAA imposes a heavy burden of proof for EPA disapproval of an already approved SIP revision. The commenter states that EPA has a heavy burden of proof to show that previously approved SIP provisions are "substantially inadequate" to meet the relevant provisions of the Act and must be revised, and EPA failed meet this burden and therefore must approve the provisions at issue here.

Response: The commenter appears to mistakenly be stating that EPA is proposing disapproval of already approved provisions in the SIP or issuing a SIP call under CAA section 110(k)(5). However, the commenter also states later that EPA must approve the provisions at issue here. EPA is clarifying that (1) EPA did not propose disapproval of an already approved SIP revision or propose to find an approved SIP provision to be "substantially inadequate" and (2) CAA section 110(k)(5) is not applicable in this context, neither in the proposal or this final rule. TCEQ submitted a SIP revision and after our evaluation, we proposed disapproval of that SIP revision and its provisions as not meeting the requirements of the Act.

III. Final Action

We are disapproving a revision to the Texas SIP submitted by TCEQ on August 20, 2020 (concerning opacity and PM emissions during planned MSS activities for certain EGU sources equipped with ESPs as the PM control device). These EGUs are the Southwestern Electric Power Company (SWEPCO) H.W. Pirkey Power Plant; the Lower Colorado River Authority (LCRA) Sam Seymour Fayette Power Project; the Luminant Generation Company, LLC Martin Lake Steam Electric Station; the NRG Texas Power, LLC Limestone Electric Generating Station; the San Miguel Electric Cooperative, Inc. San Miguel Plant; the Southwestern Public Service Company (SPS) Harrington Station; the Texas Municipal Power Agency (TMPA) Gibbons Creek Steam Electric Station; and the Public Service Company of Oklahoma (PSCO) Oklaunion Power Station.

The Agreed Orders will not be incorporated into the SIP. There will be no sanctions or FIP clocks as a result of this action.

IV. Environmental Justice Considerations

Information on Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR

7629, February 16, 1994), Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All, 88 FR 25251, April 26, 2023), and how EPA defines environmental justice (EJ) can be found in the section below titled "Statutory and Executive Order Reviews." For informational and transparency purposes only, EPA included in its proposal additional analysis of EJ associated with this proposed action for the purpose of providing information to the public (89 FR 71237).

Communities in close proximity to and/or downwind of these EGUs may be subject to environmental impacts of emissions. Short- and/or long-term exposure to air pollution has been associated with a wide range of human health effects including increased respiratory symptoms, hospitalization for heart or lung diseases, and even premature death.[52] Emissions during planned MSS may be higher than emissions under normal steady-state operations. The EPA believes that the human health or environmental risk addressed by this action will not likely have disproportionately high and adverse human health or environmental effects on communities with EJ concerns. This action merely disapproves a SIP revision as not meeting the CAA requirements. We therefore determine that this rulemaking action will not have disproportionately high or adverse human health or environmental effects on communities with EJ concerns.

V. Statutory and Executive Order Reviews

Under the Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations.[53] Thus, in reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the Act. Accordingly, this action disapproves Texas's 2020 SIP revision as not meeting applicable requirements of the CAA.

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[52] See *https://www.epa.gov/air-quality-management-process/managing-air-quality-human-health-environmental-and-economic#what* (accessed dated 02/05/2024).
[53] 42 U.S.C. 7410(k); 40 CFR 52.02(a).

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

A. Executive Order 12866: Regulatory Planning and Review, Executive Order 13563: Improving Regulation and Regulatory Review, and Executive Order 14094: Modernizing Regulatory Review

This action is not a significant regulatory action as defined in Executive Order 12866 (58 FR 51735, October 4, 1993), as amended by Executive Order 14094 (88 FR 21879, April 11, 2023), and was therefore not subject to a requirement for Executive Order 12866 review.

B. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the PRA (44 U.S.C. 3501 *et seq.*) because it does not contain any information collection activities.

C. Regulatory Flexibility Act (RFA)

This action is certified to not have a significant economic impact on a substantial number of small entities under the RFA (5 U.S.C. 601 *et seq*.). This action will not impose any requirements on small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any State, local, or Tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). 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: Coordination with Indian Tribal Governments

This action has no Tribal implications as specified in E.O. 13175 (65 FR 67249, November 9, 2000). This action will neither impose substantial direct compliance costs on federally recognized Tribal governments, nor preempt Tribal law. This action will not impose substantial direct compliance costs on federally recognized Tribal governments because no actions will be required of Tribal governments. This action will also not preempt Tribal law as it does not have applicable or related Tribal laws.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definitions of "covered regulatory action" in section 2–202 of the Executive Order. Therefore, this action is not subject to Executive Order 13045 because it merely disapproves a SIP revision. Furthermore, the EPA's Policy on Children's Health does not apply to this action.

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

This action is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

Section 12(d) of the NTTAA directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. This action is not subject to the requirements of section

12(d) of the NTTAA (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

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

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 communities with environmental justice (EJ) concerns to the greatest extent practicable and permitted by law. Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All, 88 FR 25251, April 26, 2023) builds on and supplements EO 12898 and defines EJ as, among other things, "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, or Tribal affiliation, or disability in agency decision-making and other Federal activities that affect human health and the environment."

The air agency did not evaluate environmental justice considerations as part of its 2020 SIP revision; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. The EPA performed an environmental justice analysis, as is described above in the section titled, "Environmental Justice Considerations." The analysis was done for the purpose of providing additional context and information about this rulemaking to the public, not as a basis of the action. Due to the nature of the action being taken here, this action is expected to have no impact on the air quality of the affected area. In addition, there is no information in the record upon which this decision is based inconsistent with the stated goal of E.O. 12898 of achieving environmental justice for communities with EJ concerns.

This action is subject to the Congressional Review Act, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

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 section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Particulate matter, Sulfur dioxide, Reporting and recordkeeping requirements, Volatile organic compounds.

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

Dated: December 12, 2024.

Earthea Nance,
Regional Administrator, Region 6.
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