## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

**[EPA–R06–OAR–2025–0197; FRL–12217–01–R6]**

# Air Plan Approval; Texas and Oklahoma; Texas Regional Haze Plans for the First and Second Implementation Periods and Five-Year Progress Report; Oklahoma Regional Haze Plan for the First Implementation Period

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule and withdrawal of proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve regional haze State Implementation Plan (SIP) revisions submitted by the Texas Commission on Environmental Quality (TCEQ), dated March 20, 2014, and July 20, 2021, as satisfying applicable requirements under the Clean Air Act (CAA or Act) and EPA's Regional Haze Rule (RHR). Additionally, the EPA is proposing to approve portions of the 2009 Texas Regional Haze SIP submission and portions of the 2010 Oklahoma Regional Haze SIP submission that relate to reasonable progress requirements for the first planning period from 2007 through 2018. Finally, the EPA is also withdrawing its 2023 proposed disapprovals regarding Texas's and Oklahoma's first planning period SIPs and its 2024 proposed action regarding Texas's second planning period SIP. The EPA is taking this action pursuant to sections 110 and 169A of the Act.

**DATES:** Written comments must be received on or before June 23, 2025.

*Withdrawal:* As of May 23, 2025, the proposed rule published October 15, 2024, at 89 FR 83338 is withdrawn, and the proposed disapprovals for portions of Texas and Oklahoma SIPs included as part of the proposed rule published on July 26, 2023, at 88 FR 48152 are withdrawn.

**ADDRESSES:** Submit your comments, identified by Docket No. EPA–R06–OAR–2025–0197, at *https://www.regulations.gov.* Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov.* The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, please contact Michael Feldman, 214–665–9793, *Feldman.Michael@epa.gov.* For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

*Docket:* The index to the docket for this action is available electronically at *www.regulations.gov.* While all documents in the docket are listed in the index, some information may not be publicly available due to docket file size restrictions or content (*e.g.,* CBI).

**FOR FURTHER INFORMATION CONTACT:** Michael Feldman, U.S. Environmental Protection Agency, Region 6, Air and Radiation Division, $SO_2$ and Regional Haze Section (ARSH), 1201 Elm Street, Suite 500, Dallas, Texas 75270, 214–665–9793, *Feldman.Michael@epa.gov.* We encourage the public to submit comments via *https://www.regulations.gov.* Please call or email the contact listed above if you need alternative access to material indexed but not provided in the docket.

**SUPPLEMENTARY INFORMATION:** Throughout this document wherever ''we,'' ''us,'' or ''our'' is used, we mean the EPA.

## I. What action is EPA proposing?

On March 19, 2009, Texas submitted a revision to its SIP to address regional haze for the first planning period (2009 Plan). Texas made this SIP submission to satisfy the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and 40 CFR 51.308. The EPA is proposing to approve the portions of Texas's 2009 Plan which the EPA previously disapproved related to certain reasonable progress requirements under 40 CFR 51.308(d)(1) through (3).[1] The disapproval was subsequently vacated by the Fifth Circuit. The EPA is also proposing to approve the portions of Oklahoma's first planning period SIP that the State submitted in 2010 (2010 Plan) that address certain requirements under 40 CFR 51.308(d)(1). EPA's disapproval of these portions of the Oklahoma plan was also vacated by the Fifth Circuit as part of the same action that vacated portions of our disapproval of Texas's 2009 Plan.

On March 20, 2014, Texas submitted its five-year progress report as a SIP revision (2014 Plan) to satisfy the requirements of 40 CFR 51.308(g) and (h). The EPA is proposing to approve Texas's 2014 Plan.

On July 20, 2021, Texas submitted a revision to its SIP to address regional haze for the second planning period (2021 Plan). Texas made this SIP submission to satisfy the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and 40 CFR 51.308. The EPA is proposing to approve the 2021 Plan.

## II. Background and Regional Haze Rule Requirements

In the 1977 CAA Amendments, Congress created a program for protecting visibility in the nation's mandatory Class I Federal areas, which include certain national parks and wilderness areas.[2] The CAA establishes as a national goal the ''prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution.'' [3]

Regional haze is visibility impairment that is produced by a multitude of anthropogenic sources and activities which are located across a broad geographic area and that emit pollutants that impair visibility. Visibility impairing pollutants include fine and coarse particulate matter (PM) (*e.g.,* sulfates, nitrates, organic carbon, elemental carbon, and soil dust) and their precursors (*e.g.,* sulfur dioxide ($SO_2$), nitrogen oxides ($NO_X$), and, in some cases, volatile organic compounds (VOC) and ammonia ($NH_3$)). Fine particle precursors react in the atmosphere to form fine particulate matter ($PM_{2.5}$), which impairs visibility by scattering and absorbing light. Visibility impairment reduces the

[1] The BART requirements for EGUs were disapproved in a separate action in 2012. See 77 FR 33642 (June 7, 2012). EPA promulgated a Federal Implementation Plan (FIP) to address these requirements in 2017 and revised it in 2020. See 82 FR 48324 (October 17, 2017) and 85 FR 49170 (Aug.12, 2020) As such this action does not address BART for EGUs in Texas.

[2] CAA section 169A. Areas statutorily designated as mandatory Class I Federal areas consist of national parks exceeding 6,000 acres, wilderness areas and national memorial parks exceeding 5,000 acres, and all international parks that were in existence on August 7, 1977. CAA section 162(a). There are 156 mandatory Class I areas. The list of areas to which the requirements of the visibility protection program apply is in 40 CFR part 81, subpart D.

[3] CAA section 169A.

perception of clarity and color, as well as visible distance.[4]

To address regional haze visibility impairment, the 1999 RHR established an iterative planning process that requires both States in which Class I areas are located and states ''the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility'' in a Class I area to periodically submit SIP revisions to address such impairment. CAA section 169A(b)(2);[5] see also 40 CFR 51.308(b) and (f) (establishing submission dates for iterative regional haze SIP revisions); 64 FR 35714, 35768 (July 1, 1999).

*A. Regional Haze Rule Requirements for the First Planning Period*

Much of the focus in the first implementation period of the regional haze program, which ran from 2007 through 2018, was on satisfying States' Best Available Retrofit Technology (BART) obligations. First implementation period SIPs were additionally required to contain long-term strategies for making reasonable progress toward the national visibility goal, of which BART is one component. The core required elements for the first implementation period SIPs (other than BART) are laid out in 40 CFR 51.308(d). Those provisions required that States containing Class I areas establish reasonable progress goals (RPGs) that are measured in deciviews and reflect the anticipated visibility conditions at the end of the implementation period including from implementation of States' long-term strategies. The first planning period RPGs were required to provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period. In establishing the RPGs for any Class I area in a State, the State was required to consider four statutory factors: the costs of compliance, the time necessary for compliance, the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources.[6]

States were also required to calculate baseline (using the five year period of 2000–2004) and natural visibility conditions (*i.e.,* visibility conditions without anthropogenic visibility impairment) for each Class I area, and to calculate the linear rate of progress needed to attain natural visibility conditions, assuming a starting point of baseline visibility conditions in 2004 and ending with natural conditions in 2064. This linear interpolation is known as the uniform rate of progress (URP) and is used as a tracking metric to help States assess the amount of progress they are making towards the national visibility goal over time in each Class I area.[7] The 1999 RHR also provided that States' long-term strategies must include the ''enforceable emissions limitations, compliance, schedules, and other measures as necessary to achieve the reasonable progress goals.'' [8] In establishing their long-term strategies, States are required to consult with other States that also contribute to visibility impairment in a given Class I area and include all measures necessary to obtain their shares of the emission reductions needed to meet the RPGs.[9] Section 51.308(d) also contains seven additional factors States must consider in formulating their long-term strategies, 40 CFR 51.308(d)(3)(v), as well as provisions governing monitoring and other implementation plan requirements.[10]

Finally, the 1999 RHR required States to submit periodic progress reports—SIP revisions due every five years that contain information on States' implementation of their regional haze plans and an assessment of whether anything additional is needed to make reasonable progress, see 40 CFR 51.308(g) and (h)—and to consult with the Federal Land Manager(s) [11] (FLMs) responsible for each Class I area according to the requirements in CAA section 169A(d) and 40 CFR 51.308(i).

*B. Regional Haze Rule Requirements for the Second Planning Period*

On January 10, 2017, the EPA promulgated revisions to the RHR, (82 FR 3078, January 10, 2017), that apply for the second and subsequent implementation periods. The reasonable progress requirements as revised in the 2017 rulemaking (referred to here as the 2017 RHR Revisions) are codified at 40 CFR 51.308(f). For additional background on the 2017 RHR revisions, please refer to section III of the preamble to the 2017 RHR revisions.[12] The following is an abbreviated history and background of the regional haze program and 2017 Regional Haze Rule as it applies to the current action.

Under the CAA and EPA's regulations, all 50 States, the District of Columbia, and the U.S. Virgin Islands are required to submit regional haze SIPs satisfying the applicable requirements for the second implementation period of the regional haze program by July 31, 2021. Each State's SIP must contain a long-term strategy for making reasonable progress toward meeting the national goal of remedying any existing and preventing any future anthropogenic visibility impairment in Class I areas.[13] To this end, 40 CFR 51.308(f) lays out the process by which States determine what constitutes their long-term strategies, with the order of the requirements in 40 CFR 51.308(f)(1) through (3) generally mirroring the order of the steps in the reasonable progress analysis [14] and

[4] There are several ways to measure the amount of visibility impairment, *i.e.,* haze. One such measurement is the deciview, which is the principal metric used by the RHR. Under many circumstances, a change in one deciview will be perceived by the human eye to be the same on both clear and hazy days. The deciview is unitless. It is proportional to the logarithm of the atmospheric extinction of light, which is the perceived dimming of light due to its being scattered and absorbed as it passes through the atmosphere. Atmospheric light extinction ($b^{ext}$) is a metric used for expressing visibility and is measured in inverse megameters ($Mm^{-1}$). Light extinction can be simpler to use in calculations than deciviews, since it is not a logarithmic function. The formula for the deciview is 10 ln ($b^{ext}$)/10 $Mm^{-1}$). 40 CFR 51.301.

[5] The RHR expresses the statutory requirement for States to submit plans addressing out-of-State Class I areas by providing that States must address visibility impairment ''in each mandatory Class I Federal area located outside the State that may be affected by emissions from within the State.'' 40 CFR 51.308(d) and (f).

[6] CAA section 169A(g)(1); 40 CFR 51.308(d)(1).

[7] 40 CFR 51.308(d)(1)(i)(B) and (d)(2). The EPA established the URP framework in the 1999 RHR to provide ''an equitable analytical approach'' to assessing the rate of visibility improvement at Class I areas across the country. The starting point for the URP analysis is 2004 and the endpoint was calculated based on the amount of visibility improvement that was anticipated to result from implementation of existing CAA programs over the period from the mid-1990s to approximately 2005. Assuming this rate of progress would continue into the future, the EPA determined that natural visibility conditions would be reached in 60 years, or 2064 (60 years from the baseline starting point of 2004). However, the EPA did not establish 2064 as the year by which the national goal *must* be reached. 64 FR 35714, 35731–32 (July 1, 1999). That is, the URP and the 2064 date are not enforceable targets but are rather tools that ''allow for analytical comparisons between the rate of progress that would be achieved by the State's chosen set of control measures and the URP.'' 82 FR 3078, 3084 (January 10, 2017).

[8] 40 CFR 51.308(d)(3).

[9] 40 CFR 51.308(d)(3)(i) and (ii).

[10] 40 CFR 51.308(d)(4).

[11] The EPA's regulations define ''Federal Land Manager'' as ''the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.'' 40 CFR 51.301.

[12] Section III of the 2017 RHR is titled ''Overview of Visibility Protection Statutory Authority, Regulation, and Implementation'' 82 FR 3078, 3081, January 10, 2017.

[13] CAA section 169A(b)(2)(B).

[14] The EPA explained in the 2017 RHR Revisions that we were adopting new regulatory language in 40 CFR 51.308(f) that, unlike the structure in 51.308(d), ''tracked the actual planning sequence.'' (82 FR 3078, 3091, January 10, 2017).

paragraphs (f)(4) through (6) containing additional, related requirements.

Broadly speaking, a State first must identify the Class I areas within the State and determine the Class I areas outside the State in which visibility may be affected by emissions from the State. These are the Class I areas that must be addressed in the State's long-term strategy.[15] For each Class I area within its borders, a State must then calculate the baseline (five-year average period of 2000–2004), current, and natural visibility conditions (*i.e.,* visibility conditions without anthropogenic visibility impairment) for that area, as well as the visibility improvement made to date and the ''uniform rate of progress'' (URP).

The URP is the linear rate of progress needed to attain natural visibility conditions, assuming a starting point of baseline visibility conditions in 2004 and ending with natural conditions in 2064. This linear interpolation is used as a tracking metric to help States assess the amount of progress they are making towards the national visibility goal over time in each Class I area.[16] Each State having a Class I area and/or emissions that may affect visibility in a Class I area must then develop a long-term strategy that includes the enforceable emission limitations, compliance schedules, and other measures that are necessary to make reasonable progress in such areas. A reasonable progress determination is based on applying the four factors in CAA section 169A(g)(1) to sources of visibility impairing pollutants that the State has selected to assess for controls for the second implementation period. Additionally, as further explained below, the RHR at 40 CFR 51.3108(f)(2)(iv) separately provides five ''additional factors'' [17] that States must consider in developing their long-term strategies.[18]

A State evaluates potential emission reduction measures for those selected sources and determines which are necessary to make reasonable progress. Those measures are then incorporated into the State's long-term strategy. After a State has developed its long-term strategy, it then establishes RPGs for each Class I area within its borders by modeling the visibility impacts of all reasonable progress controls at the end of the second implementation period, *i.e.,* in 2028, as well as the impacts of other requirements of the CAA. The RPGs include reasonable progress controls not only for sources in the State in which the Class I area is located, but also for sources in other States that contribute to visibility impairment in that area. The RPGs are then compared to the baseline visibility conditions and the URP to ensure that progress is being made towards the statutory goal of preventing any future and remedying any existing anthropogenic visibility impairment in Class I areas.[19] There are additional requirements in the rule, including FLM consultation, that apply to all visibility protection SIPs and SIP revisions.[20]

While States have discretion to choose any source selection methodology that is reasonable, whatever choices they make should be reasonably explained. To this end, 40 CFR 51.308(f)(2)(i) requires that a State's SIP submission include ''a description of the criteria it used to determine which sources or groups of sources it evaluated.'' The technical basis for source selection, which may include methods for quantifying potential visibility impacts such as emissions divided by distance metrics, trajectory analyses, residence time analyses, and/or photochemical modeling, must also be appropriately documented, as required by 40 CFR 51.308(f)(2)(iii). Once a State has selected the set of sources, the next step is to determine the emissions reduction measures for those sources that are necessary to make reasonable progress for the second implementation period.[21] This is accomplished by considering the four factors—''the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements.'' [22] The EPA has explained that the four-factor analysis is an assessment of potential emission reduction measures (*i.e.,* control options) for sources; ''use of the terms 'compliance' and 'subject to such requirements' in section 169A(g)(1) strongly indicates that Congress intended the relevant determination to be the requirements with which sources would have to comply to satisfy the CAA's reasonable progress mandate.'' [23] Thus, for each source it has selected for four-factor analysis,[24] a State must consider a ''meaningful set'' of technically feasible control options for reducing emissions of visibility impairing pollutants.[25] The EPA has also explained that, in addition to the four statutory factors, States have flexibility under the CAA and RHR to reasonably consider visibility benefits as an additional factor alongside the four statutory factors.[26] Ultimately, while States have discretion to reasonably weigh the factors and to determine what level of control is needed, 40 CFR 51.308(f)(2)(i) provides that a State ''must include in its implementation plan a description of . . . how the four factors were taken into consideration in selecting the measure for inclusion in its long-term strategy.''

As explained above, 40 CFR 51.308(f)(2)(i) requires States to determine the emission reduction measures for sources that are necessary to make reasonable progress by considering the four factors. Pursuant to 40 CFR 51.308(f)(2), measures that are necessary to make reasonable progress towards the national visibility goal must be included in a State's long-term strategy and in its SIP. If the outcome of a four-factor analysis is that an emissions reduction measure is necessary to make reasonable progress towards remedying existing or preventing future anthropogenic visibility impairment, that measure must be included in the SIP.

The characterization of information on each of the factors is also subject to the documentation requirement in 40 CFR 51.308(f)(2)(iii). The reasonable progress analysis is a technically complex exercise, and also a flexible one that provides States with bounded discretion to design and implement approaches appropriate to their circumstances. Given this flexibility,

[15] See 40 CFR 51.308(f) and (f)(2).

[16] See 40 CFR 51.308(f)(1).

[17] The five ''additional factors'' for consideration in 40 CFR51.308(f)(2)(iv) are distinct from the four factors listed in CAA section 169A(g)(1) and 40 CFR 51.308(f)(2)(i) that States must consider and apply to sources in determining reasonable progress.

[18] See 40 CFR 51.308(f)(2).

[19] 40 CFR 51.308(f)(2) and (3).

[20] *See e.g.,* 40 CFR 51.308(i).

[21] The CAA provides that, ''[i]n determining reasonable progress there shall be taken into consideration'' the four statutory factors. CAA section 169A(g)(1). However, in addition to four-factor analyses for selected sources, groups of sources, or source categories, a State may also consider additional emission reduction measures for inclusion in its long-term strategy, *e.g.,* from other newly adopted, on-the-books, or on-the-way rules and measures for sources not selected for four-factor analysis for the second planning period.

[22] CAA section 169A(g)(1).

[23] 82 FR 3078, 3091 (January 10, 2017).

[24] ''Each source'' or ''particular source'' is used here as shorthand. While a source-specific analysis is one way of applying the four factors, neither the statute nor the RHR requires States to evaluate individual sources. Rather, States have ''the flexibility to conduct four-factor analyses for specific sources, groups of sources or even entire source categories, depending on State policy preferences and the specific circumstances of each State.'' 82 FR 3078, 3088 (January 10, 2017).

[25] *Id.* at 3088.

[26] See, *e.g.,* ''Responses to Comments on Protection of Visibility: Amendments to Requirements for State Plans; Proposed Rule'' (December 2016), Docket Number EPA–HQ–OAR–2015–0531, U.S. Environmental Protection Agency at 186.

40 CFR 51.308(f)(2)(iii) plays an important function in requiring a State to document the technical basis for its decision making so that the public and the EPA can comprehend and evaluate the information and analysis the State relied upon to determine what emission reduction measures must be in place to make reasonable progress. The technical documentation must include the modeling, monitoring, cost, engineering, and emissions information on which the State relied to determine the measures necessary to make reasonable progress. Additionally, the RHR at 40 CFR 51.3108(f)(2)(iv) separately provides five ''additional factors'' [27] that States must consider in developing their long-term strategies: (1) emission reductions due to ongoing air pollution control programs, including measures to address reasonably attributable visibility impairment; (2) measures to reduce the impacts of construction activities; (3) source retirement and replacement schedules; (4) basic smoke management practices for prescribed fire used for agricultural and wildland vegetation management purposes and smoke management programs; and (5) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy.

Because the air pollution that causes regional haze crosses State boundaries, 40 CFR 51.308(f)(2)(ii) requires a State to consult with other States that also have emissions that are reasonably anticipated to contribute to visibility impairment in a given Class I area. If a State, pursuant to consultation, agrees that certain measures (*e.g.,* a certain emission limitation) are necessary to make reasonable progress at a Class I area, it must include those measures in its SIP.[28] Additionally, the RHR requires that States that contribute to visibility impairment at the same Class I area consider the emission reduction measures the other contributing States have identified as being necessary to make reasonable progress for their own sources.[29] If a State has been asked to consider or adopt certain emission reduction measures, but ultimately determines those measures are not necessary to make reasonable progress, that State must document in its SIP the actions taken to resolve the disagreement.[30] Under all circumstances, a State must document in its SIP submission all substantive consultations with other contributing States.[31]

Reasonable progress goals ''measure the progress that is projected to be achieved by the control measures States have determined are necessary to make reasonable progress based on a four-factor analysis.'' [32] For the second implementation period, the RPGs are set for 2028. Reasonable progress goals are not enforceable targets, 40 CFR 51.308(f)(3)(iii). While States are not legally obligated to achieve the visibility conditions described in their RPGs, 40 CFR 51.308(f)(3)(i) requires that ''[t]he long-term strategy and the reasonable progress goals must provide for an improvement in visibility for the most impaired days since the baseline period and ensure no degradation in visibility for the clearest days since the baseline period.''

RPGs may also serve as a metric for assessing the amount of progress a State is making towards the national visibility goal. To support this approach, the RHR requires States with Class I areas to compare the 2028 RPG for the most impaired days to the corresponding point on the URP line (representing visibility conditions in 2028 if visibility were to improve at a linear rate from conditions in the baseline period of 2000–2004 to natural visibility conditions in 2064). If the most impaired days RPG in 2028 is above the URP (*i.e.,* if visibility conditions are improving more slowly than the rate described by the URP), each State that contributes to visibility impairment in the Class I area must demonstrate, based on the four-factor analysis required under 40 CFR 51.308(f)(2)(i), that no additional emission reduction measures would be reasonable to include in its long-term strategy.[33] To this end, section 51.308(f)(3)(ii) requires that each State contributing to visibility impairment in a Class I area that is projected to improve more slowly than the URP provide ''a robust demonstration, including documenting the criteria used to determine which sources or groups [of] sources were evaluated and how the four factors required by paragraph (f)(2)(i) were taken into consideration in selecting the measures for inclusion in its long-term strategy.''

Section 51.308(f)(6) requires States to have certain strategies and elements in place for assessing and reporting on visibility. Individual requirements under this section apply either to States with Class I areas within their borders, States with no Class I areas but that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area, or both. Compliance with the monitoring strategy requirement may be met through a State's participation in the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network, which is used to measure visibility impairment caused by air pollution at the 156 Class I areas covered by the visibility program.[34] All States' SIPs must provide for procedures by which monitoring data and other information are used to determine the contribution of emissions from within the State to regional haze visibility impairment in affected Class I areas, as well as a statewide inventory documenting such emissions.[35] All States' SIPs must also provide for any other elements, including reporting, recordkeeping, and other measures, that are necessary for States to assess and report on visibility.[36]

Section 51.308(f)(5) requires a State's regional haze SIP revision to address the requirements of paragraphs 40 CFR 51.308(g)(1) through (5) so that the plan revision due in 2021 will serve also as a progress report addressing the period since submission of the progress report for the first implementation period. The regional haze progress report requirement is designed to inform the public and the EPA about a State's implementation of its existing long-term strategy and whether such implementation is in fact resulting in the expected visibility improvement.[37] To this end, every State's SIP revision for the second implementation period is required to assess changes in visibility conditions and describe the status of implementation of all measures included in the State's long-term strategy, including BART and reasonable progress emission reduction measures from the first implementation period, and the resulting emissions reductions.[38]

Clean Air Act section 169A(d) requires that before a State holds a public hearing on a proposed regional haze SIP revision, it must consult with the appropriate FLM or FLMs; pursuant to that consultation, the State must include a summary of the FLMs' conclusions and recommendations in

[27] The five ''additional factors'' for consideration in 40 CFR 51.308(f)(2)(iv) are distinct from the four factors listed in CAA section 169A(g)(1) and 40 CFR 51.308(f)(2)(i) that States must consider and apply to sources in determining reasonable progress.

[28] 40 CFR 51.308(f)(2)(ii)(A).

[29] 40 CFR 51.308(f)(2)(ii)(B).

[30] 40 CFR 51.308(f)(2)(ii)(C).

[31] 40 CFR 51.308(f)(2)(ii)(C).

[32] 82 FR 3078, 3091 (January 10, 2017).

[33] 40 CFR 51.308(f)(3)(ii).

[34] 40 CFR 51.308(f)(6), (f)(6)(i) and (iv).

[35] 40 CFR 51.308(f)(6)(ii), (iii), and (v).

[36] 40 CFR 51.308(f)(6)(vi).

[37] See 81 FR 26942, 26950 (May 4, 2016), 82 FR 3078, 3119 (January 10, 2017).

[38] 40 CFR 51.308(g)(1) and (2).

the notice to the public. Consistent with this statutory requirement, the RHR also requires that States ''provide the [FLM] with an opportunity for consultation, in person and at a point early enough in the State's policy analyses of its long-term strategy emission reduction obligation so that information and recommendations provided by the [FLM] can meaningfully inform the State's decisions on the long-term strategy.'' [39] For the EPA to evaluate whether FLM consultation meeting the requirements of the RHR has occurred, the SIP submission should include documentation of the timing and content of such consultation. The SIP revision submitted to the EPA must also describe how the State addressed any comments provided by the FLMs.[40] Finally, a SIP revision must provide procedures for continuing consultation between the State and FLMs regarding the State's visibility protection program, including development and review of SIP revisions, five-year progress reports, and the implementation of other programs having the potential to contribute to impairment of visibility in Class I areas.[41]

## III. What regional haze SIPs are being addressed in this proposal?

### *A. Texas's First Planning Period SIP and Five-Year Progress Report SIP*

Texas submitted its regional haze SIP for the first implementation period to the EPA on March 31, 2009 (2009 Plan). The EPA issued a limited disapproval of Texas's 2009 Plan on June 7, 2012, due to its reliance on the Clean Air Interstate Rule (CAIR) to address BART requirements for Texas electric generating units (EGUs).[42] Two years later, the EPA proposed a rule to partially approve and partially disapprove Texas's 2009 Plan on December 16, 2014;[43] however, due to a related ruling from the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit),[44] the EPA could not finalize the December 2014 proposal in its entirety. As such, the EPA's obligations for the first implementation period for Texas's regional haze SIP were addressed in two separate actions.[45]

One action, finalized on January 5, 2016, addressed the first planning period regional haze requirements in Texas except for BART requirements for EGUs (2016 Final Rule).[46] The 2016 Final Rule partially approved and partially disapproved Texas's 2009 Plan. Specifically, we disapproved the following requirements:

- Section 51.308(d)(1)(i)(A), regarding Texas's reasonable progress four factor analysis.
- Section 51.308(d)(1)(i)(B), regarding Texas's calculation of the emission reductions needed to achieve the URPs for the Guadalupe Mountains and Big Bend National Parks.
- Section 51.308(d)(1)(ii), regarding Texas's RPGs for the Guadalupe Mountains and Big Bend National Parks.
- Section 51.308(d)(2)(iii), regarding Texas's calculation of the natural visibility conditions for the Guadalupe Mountains and Big Bend National Parks.
- Section 51.308(d)(2)(iv)(A) regarding Texas's calculation of natural visibility impairment.
- Section 51.308(d)(3)(i) regarding Texas's long-term strategy consultation.
- Section 51.308(d)(3)(ii) regarding Texas securing its share of reductions in other States' RPGs.
- Section 51.308(d)(3)(iii) regarding Texas's technical basis for its long-term strategy.
- Section 51.308(d)(3)(v)(C), regarding Texas's emissions limitations and schedules for compliance to achieve the RPGs.

We approved the 2009 Plan as to the other regional haze rule requirements under 40 CFR 51.308(d)(1) through (4), 40 CFR 51.308(i), as well as Texas's BART determinations and BART rules for non-EGUs as required under 40 CFR 51.308(e). As discussed in more detail in section III.B of this document, we also addressed an outstanding portion of Oklahoma's first planning period SIP (2010 Plan) related to the requirements under 40 CFR 51.308(d)(1) due to potential impacts from Texas sources on Oklahoma's Class I area. Specifically, we disapproved the portion of Oklahoma's 2010 Plan that addressed 40 CFR 51.308(d)(1), with the exception of the minimum progress requirement under 40 CFR 51.308(d)(1)(vi), which we approved. To address the deficiencies in the SIPs, we also promulgated a FIP as part of the 2016 Final Rule that, among other things, established $SO_2$ emission limits for 15 EGUs located at eight coal-fired power plants in Texas.

The 2016 Final Rule was challenged in the U.S. Court of Appeals for the Fifth Circuit (Fifth Circuit), and was stayed by the court on July 15, 2016.[47] In the court's published stay opinion, the court determined that the Petitioners in that case showed a likelihood of success on the merits that the EPA acted arbitrarily and capriciously in both its disapproval of a portion of Texas's 2009 Plan and also in promulgating a FIP to address said deficiencies, which included $SO_2$ emission limits on 15 units at eight coal-fired power plants in Texas. Considering the stay, the EPA requested a partial voluntary remand of the 2016 Final Rule, which was granted by the Fifth Circuit on March 22, 2017.[48] On July 26, 2023, the EPA proposed a rule to address the remanded 2016 Final Rule (2023 RP Proposal).[49] In the 2023 RP Proposal, the EPA proposed to disapprove the same portions of the Texas and Oklahoma SIPs which had been previously disapproved in the 2016 Final Rule, in certain instances supplementing and clarifying our rationale for disapproval and, in others, incorporating our original bases for disapproval.[50] Additionally, in the 2023 RP Proposal, the EPA proposed to amend the FIP portion of the 2016 Final Rule, by rescinding the control measures it previously promulgated for 15 EGUs in Texas.[51]

During remand proceedings, notably while working to respond to the public comments received on the 2023 Proposals, the EPA became aware that key documents in the administrative record of the 2016 Final Rule were no longer in the EPA's possession. As such, on September 3, 2024, the EPA filed a motion for voluntary vacatur, acknowledging that the administrative record no longer contained information required by the Federal Rules of Appellate Procedure and the Clean Air Act for judicial review of the EPA's partial SIP disapprovals and FIPs.[52] The Fifth Circuit granted the EPA's motion for partial voluntary vacatur on December 17, 2024, vacating the SIP disapproval and FIP portions of the 2016 Final Rule.[53]

[39] 40 CFR 51.308(i)(2).

[40] 40 CFR 51.308(i)(3).

[41] 40 CFR 51.308(i)(4).

[42] 77 FR 33642 (June 7, 2012).

[43] 79 FR 74818 (December 16, 2014).

[44] *EME Homer City Generation, L.P* v. *EPA,* 795 F.3d 118 (D.C. Cir. 2015).

[45] 81 FR 296 (January 5, 2016); 82 FR 48324 (October 17, 2017), affirmed and supplemented in 85 FR 49170 (August 12, 2020).

[46] 81 FR 296 (January 5, 2016). In July 2016, the 5th Circuit Court of Appeals issued a stay of the action. *Texas* v. *EPA,* 829 F.3d 405 (5th Cir. 2016). Subsequent to the stay opinion, the EPA requested and the court granted EPA's motion for a partial voluntary remand.

[47] *Texas* v. *EPA,* 829 F.3d 405, 411 (5th Cir. 2016).

[48] *Texas* v. *EPA,* Case No. 16–60118, Order (March 22, 2017).

[49] 88 FR 48152 (July 26, 2023).

[50] 88 FR 48152, 48159 (July 26, 2023).

[51] 88 FR 48152, 48159 (July 26, 2023).

[52] Respondents' Motion for Voluntary Vacatur, *Texas* v. *EPA,* Case No. 16–60118 (September 3, 2024).

[53] *Texas* v. *EPA,* Case No. 16–60118, Order (December 17, 2024). Because the EPA's motion for vacatur was specific to the SIP disapprovals and the FIPs and the Fifth Circuit granted this motion, the court vacated the disapproval and FIP portions of the 2016 Final Rule, leaving the approvals intact. Thus, we are leaving our prior approvals in place and not reconsidering or reopening those determinations in this action.

The second action, finalized on October 17, 2017, and affirmed and supplemented on August 12, 2020, promulgated a FIP to address the BART requirements for Texas EGUs for which we disapproved back in 2012.[54] The FIP established an intrastate $SO_2$ Trading Program that served to satisfy $SO_2$ BART requirements for Texas EGUs and relied on CSAPR participation as a $NO_X$ BART alternative for Texas EGUs. The EPA is not addressing BART requirements for Texas EGUs in this action.[55]

On March 24, 2014, Texas submitted its five-year progress report as a SIP revision (2014 Plan) under 40 CFR 51.308(g) and (h). The EPA is subject to a consent decree deadline of December 15, 2026, to act on Texas's 2014 Plan.[56]

*B. Oklahoma's First Planning Period SIP*

Oklahoma submitted its regional haze SIP revision on February 19, 2010 (2010 Plan). We finalized a partial approval and partial disapproval of that submittal on December 28, 2011, but did not act on the portions of the SIP that addressed reasonable progress as required by 40 CFR 51.308(d)(1). We deferred consideration of the reasonable progress requirements because to properly assess whether Oklahoma had satisfied these requirements, we first needed to evaluate and act upon the regional haze SIP revision submitted by the State of Texas.[57] On December 16, 2014, we proposed to disapprove the portion of the Oklahoma regional haze SIP that addressed 40 CFR 51.308(d)(1), with the exception of the minimum progress requirement under 40 CFR 51.308(d)(1)(vi), which we approved.[58] The disapproval stemmed from consideration of impacts from Texas sources in establishing the reasonable progress goals for Wichita Mountains. In that same proposed action, we proposed a FIP for both Texas and Oklahoma. Specific to Oklahoma, the FIP proposed to reset Oklahoma's RPGs based on our proposed finding that the controls we proposed for the Texas FIP also served to cure the defects in these sections of Oklahoma's regional haze SIP as well, thus satisfying the FIP obligation stemming from our proposed disapproval of portions of the Oklahoma SIP. The proposed partial disapproval and FIP for Oklahoma were finalized with our concurrent FIP for Texas (2016 Final Rule).[59]

However, as discussed in section III.A. of this document, the Fifth Circuit granted the EPA's motion for voluntary vacatur on December 17, 2024, vacating the SIP disapprovals and FIP portions of the 2016 Final Rule for Oklahoma and Texas.[60] Because the EPA's 2016 Final Rule SIP disapprovals and FIPs were vacated, the EPA now has an outstanding obligation to act on those portions of Oklahoma's first planning period SIP that address 40 CFR 51.308(d)(1), with the exception of 40 CFR 51.308(d)(1)(vi) which we previously approved. We provide our evaluation of those requirements in section V.B of this document.

*C. Texas's Second Planning Period SIP*

In accordance with CAA sections 169A and the RHR at 40 CFR 51.308(f) and (i), on July 20, 2021, Texas submitted a SIP revision to address its regional haze obligations for the second implementation period, which runs through 2028 (2021 Plan). Texas made its 2021 Plan available for public comment on October 9, 2020. Texas received and responded to public comments and included the comments and responses to those comments in their submission.

## IV. Withdrawal of the 2023 RP Proposed Disapprovals

As previously discussed, EPA's 2016 Final Rule SIP disapprovals and FIPs were vacated by the Fifth Circuit. Therefore, the EPA now has an outstanding obligation to act on those portions of Texas's first planning period SIP, which we are proposing to act on in this action. The 2016 Final Rule also disapproved Oklahoma's RPGs for the Wichita Mountains and disapproved the portions of the Oklahoma SIP addressing the requirements of section 51.308(d)(1) regarding setting RPGs, with the exception of section 51.308(d)(1)(iv). Because the Fifth Circuit's order vacated the SIP disapprovals and FIPs, the EPA's 2023 RP Proposal can no longer stand, as that proposed action either relied upon the 2016 Final Rule or proposed to modify portions of the rule that have since been vacated by the court. As such, the EPA is now proposing to withdraw the 2023 proposed disapprovals. Commenters who would like the EPA to consider any comments submitted on the 2023 RP Proposal, 88 FR 48152 (July 26, 2023), must resubmit such comments during the comment period for this proposed action.[61]

## V. The EPA's Evaluation and Proposed Action on The First Planning Period Regional Haze SIPs

In this action, we are proposing to approve those portions of the Texas and Oklahoma first planning period SIPs that were vacated by the Fifth Circuit. Specifically, the EPA is now acting on the portions of the Texas 2009 Plan SIP addressing the following requirements:

- Section 51.308(d)(1)(i)(A) and 51.308(d)(1)(ii), regarding Texas's consideration of the four statutory factors in establishing its reasonable progress goals for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(1)(i)(B), regarding Texas's calculation of the emission reductions needed to achieve the uniform rates of progress for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(2)(iii), regarding Texas's calculation of natural visibility conditions for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(2)(iv)(A), regarding Texas's calculation of the number of deciviews by which baseline conditions exceed natural visibility conditions for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(3)(i), regarding consultation requirements with other States where emissions from Texas are reasonably anticipated to contribute to visibility impairment in any Class I area located in another State or States;
- Section 51.308(d)(3)(ii), regarding Texas securing its share of reductions necessary to achieve the reasonable progress goals at impacted Class I areas in other States;
- Section 51.308(d)(3)(iii), regarding Texas's documentation of its technical basis for which it is relying on to determine its apportionment of emission reductions necessary for those Class I areas in other States for which it affects; and
- Section 51.308(d)(3)(v)(C), regarding Texas's emission limitations and schedules for compliance to achieve the reasonable progress goals.

Similarly, we are also addressing the portion of Oklahoma's first planning period SIP addressing section

[54] *See* 82 FR 48324 (October 17, 2017); 85 FR 49170 (August 12, 2020).

[55] In 2023, the EPA proposed to reconsider its 2020 BART FIP for EGUs. *See* 88 FR 28918 (May 4, 2023). The proposed 2023 has not been finalized and the 2020 final FIP is still in place.

[56] *Our Children's Earth Foundation* v. *Regan,* Case 1:23–CV–02848, Consent Decree (May 31, 2024).

[57] 76 FR 81728 (December 28, 2011). In this earlier action, we also disapproved the $SO_2$ BART determinations for six EGUs at three power plants in Oklahoma and promulgated a FIP that established $SO_2$ emission limits for these EGUs. Subsequently, we approved a SIP revision from Oklahoma addressing the BART requirements for two EGUs at one power plant and removed the FIP requirements for this facility. 79 FR 12944 (March 7, 2014).

[58] 79 FR 74818 (December 16, 2014).

[59] 81 FR 296 (January 5, 2016).

[60] *Texas* v. *EPA,* Case No. 16–60118, Order (December 17, 2024).

[61] The rulemaking docket for the now withdrawn action is available under Docket ID EPA–R06–OAR–2014–0754 at *www.regulations.gov.*

51.308(d)(1)[62] which we previously disapproved.[63]

In support of this proposed action, the EPA's evaluation takes into account the requirements of the CAA and RHR, and the published stay opinion from the Fifth Circuit which outlined that Petitioners had a strong likelihood of success on the merits in showing that EPA was arbitrary and capricious and exceeded its statutory authority in partially disapproving the Texas and Oklahoma plans and replacing portions of them with a FIP. Because Texas considered the four factors and otherwise met the outstanding first planning period rule requirements contained in section 51.308(d), we are now proposing approval of Texas's 2009 Plan. Approval of the 2009 SIP is further warranted due to BART obligations for EGUs that have been addressed since 2017 and affirmed in 2020.[64] The EPA also notes that emission reductions and improvements in visibility have far exceeded the reductions and improvements contemplated in the 2009 Plan and that the Fifth Circuit weighed the improvements in monitored visibility exceeding the goals in its 2016 stay opinion. Finally, because our previous disapproval of portions of Oklahoma's 2010 Plan were largely contingent on our disapproval of portions of Texas's 2009 Plan, we are also proposing to approve the portion of Oklahoma's 2010 Plan that addresses section 51.308(d)(1).[65]

*A. Texas's 2009 Plan*

1. Calculations of Natural Visibility Conditions and Uniform Rate of Progress

As required by section 51.308(d)(2)(i) and (iii) of the Regional Haze Rule, and in accordance with EPA's 2003 Natural Visibility Guidance,[66] Texas calculated baseline (which were current at the time)[67] and natural visibility conditions for its two Class I areas, Big Bend National Park (Big Bend) and Guadalupe Mountains National Park (Guadalupe Mountains), on the most impaired and least impaired days. The EPA previously found that Texas satisfied the requirement under 40 CFR 51.308(d)(2)(i) to calculate baseline visibility conditions, and as stated earlier in this action, we are not reconsidering or reopening that determination. The EPA is now proposing to approve Texas's 2009 Plan, including the requirement to calculate natural visibility conditions under 40 CFR 51.308(d)(2)(iii). Additionally, and stemming from the approval of Texas's calculation of natural visibility conditions, the EPA is proposing to find that Texas satisfied the requirements of 40 CFR 51.308(d)(2)(iv)(A)[68] with respect to the calculation of natural visibility impairment at Big Bend and Guadalupe Mountains and 40 CFR 51.308(d)(1)(i)(B) for calculating the uniform rate of improvement (URP) for Big Bend and Guadalupe Mountains.

Under 40 CFR 51.308(d)(2)(iii), States must determine natural visibility conditions for the most impaired and least impaired days for the Class I areas located in the State. While the Regional Haze Rule requires States to calculate natural visibility conditions for those Class I areas located in the State, the rule does not require that natural visibility conditions be calculated in a specific manner, thus providing States with discretion so long as that discretion is reasonable. The rule simply requires that States base such calculations on available monitoring information and appropriate data analysis techniques. To assist States in calculating natural visibility conditions, the EPA issued guidance that provided default natural conditions for the 20% most impaired and 20% least impaired days for each Class I area based on the original IMPROVE equation. However, the guidance also explained that States are allowed to use a ''refined'' approach or alternative approaches to the guidance defaults to estimate the values that characterize the natural visibility conditions of their Class I areas.[69] The default natural conditions in our 2003 guidance were updated by the Natural Haze Levels II Committee utilizing the new IMPROVE equation and included some refinements to the estimates for the PM components.[70] These estimates are referred to as the ''NC II'' default natural visibility conditions. Texas started with this refined version of default natural visibility conditions, but altered the parameters concerning the contributions of coarse mass and fine soil by assuming that 100% of the fine soil and coarse mass concentrations in the baseline period should be attributed to natural causes and that the corresponding estimates in the NC II values should be replaced.[71] For the 20% most impaired days, the TCEQ calculated natural visibility conditions for Big Bend and the Guadalupe Mountains of 10.09 dv and 12.26 dv, respectively. For the 20% least impaired days, the TCEQ calculated that natural visibility conditions for Big Bend and the Guadalupe Mountains of 2.19 dv, and 2.10 dv, respectively.[72]

Texas's 2009 Plan included an appendix with technical documents to support its decision to assume that 100% of the fine soil and coarse mass concentrations should be attributed to natural sources. These robust technical documents provided a detailed analysis and explanation of the land cover of the surrounding desert landscape, which consists primarily of highly erodible soils; the prevalence of dust storms; the general lack of potential anthropogenic sources of coarse mass and soil in the area surrounding the Class I areas; and the fact that the monitors, especially the Big Bend monitor, are located in areas that have restrictions in place to minimize human impact on its desert environment.[73] For these reasons, we propose to find that Texas's refined calculation of natural visibility conditions for both Big Bend and Guadalupe Mountains was reasonable and well within the discretion afforded to States in developing SIPs.[74] Furthermore, Texas points out that, consistent with the approach followed for the first planning period—which focused on the 20% haziest days rather than the 20% of days with the greatest anthropogenic visibility impairment as EPA now requires for second planning period and subsequent SIPs—the 20% haziest days may involve days in which natural sources of visibility impairment play a large factor.[75] Thus, it is not

[62] Excluding the portion addressing section 51.308(d)(1)(vi), which we previously approved.

[63] 79 FR 74818 (December 16, 2014).

[64] *See* 82 FR 48324 (October 17, 2017); 85 FR 49170 (August 12, 2020).

[65] Excluding the portion addressing section 51.308(d)(1)(vi), which we previously approved.

[66] Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule, EPA–454/B–03–005, September 2003.

[67] Because this was the first planning period of the regional haze program, baseline visibility conditions and current visibility conditions were the same.

[68] In the 2017 RHR Revision, the EPA modified the regulation containing the requirement for States to calculate natural visibility conditions. The requirement under 40 CFR 51.308(d)(2)(iv)(A) is now found at 40 CFR 51.308(d)(2)(iv).

[69] Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule, EPA–454/B–03–005, September 2003).

[70] This information is included in our docket for this action and is also available at *https://vista.cira.colostate.edu/Improve/rhr-archived-data/*.

[71] 2009 Texas Regional Haze Plan, at 5–5—5–6.

[72] 2009 Texas Regional Haze Plan, at 5–3—5–6.

[73] See Texas's 2009 Plan, appendix 5–2.

[74] Texas's 2009 Plan also notes that to the extent its approach over-estimates the percentage of coarse mass and fine soil that is natural, the approach it relied on to estimate organic carbon is likely an underestimation and thus more than compensate for any over-estimation in coarse mass or fine soil. See 2009 Plan, appendix 5–2.

[75] As explained in the 2017 revisions to the RHR, the approach followed for the first implementation period involved selecting the least and most impaired days as the monitored days with the lowest and highest actual deciview levels regardless of the source of the particulate matter causing the

unreasonable for Texas to assume that given the surrounding desert landscape and scarcity of anthropogenic sources that natural sources of fine soil and coarse mass dominated visibility impairment. Accordingly, we are proposing to approve Texas's calculation of natural visibility conditions as required by 40 CFR 51.308(d)(2)(iii).

Section 51.308(d)(2)(iv)(A) requires States to calculate the number of dv by which baseline conditions exceed natural visibility conditions for the most impaired and least impaired days for each Class I area located within the State. The natural visibility impairment is calculated by subtracting the natural visibility calculation from the baseline visibility calculation. In Chapter 5 of the 2009 Plan, Texas calculated the number of dv by which baseline conditions exceed natural visibility conditions for the most impaired and least impaired days and at Big Bend and the Guadalupe Mountains. This information is summarized below:

TABLE 1—TEXAS CLASS I AREAS NATURAL AND BASELINE VISIBILITY IMPAIRMENT

| Class I Area | Haze index (deciviews) | |
|---|---|---|
| | Most impaired | Least impaired |
| **Estimate of Natural Visibility Conditions** | | |
| Big Bend | 10.09 | 2.19 |
| Guadalupe Mountains | 12.26 | 2.10 |
| **Baseline Visibility Conditions (2000–2004)** | | |
| Big Bend | 17.30 | 5.78 |
| Guadalupe Mountains | 17.19 | 5.95 |
| **Estimate of Extent Baseline Exceeds Natural Visibility Conditions** | | |
| Big Bend | 7.21 | 3.59 |
| Guadalupe Mountains | 4.93 | 3.85 |

Because we are proposing to approve the calculation of natural visibility conditions and we previously approved Texas's calculation of baseline visibility conditions, we are proposing to approve Texas's calculation of the number of deciviews by which baseline conditions exceed natural conditions for the most impaired and least impaired days at the Texas Class I areas, under 40 CFR 51.308(d)(2)(iv)(A).

Section 51.308(d)(1)(i)(B) requires that States analyze and determine the rate of progress needed to attain natural visibility conditions by the year 2064. Also, in establishing its RPGs, States must consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve it for the period covered by the SIP. To calculate this rate of progress, the State must compare baseline visibility conditions to natural visibility conditions in the mandatory Federal Class I area and determine the uniform rate of visibility improvement (measured in deciviews) that would need to be maintained during each implementation period to attain natural visibility conditions by 2064. The TCEQ analyzed and determined the URP needed to reach natural visibility conditions by the year 2064. Also, in establishing its RPGs, the TCEQ considered the uniform rate of improvement in visibility and the emission reduction measures needed to achieve this rate for the period covered by the SIP. In Chapter 10 of the 2009 Plan, Texas compared the baseline visibility conditions to the natural visibility conditions for Big Bend and the Guadalupe Mountains, and determined the URP needed to attain natural visibility conditions by 2064.[76] The TCEQ constructed the URP by plotting a straight graphical line from the baseline level of visibility impairment to the level of visibility conditions representing natural conditions in 2064 for both Big Bend and the Guadalupe Mountains.[77] The first benchmark year is 2018 and the calculated improvement required to attain the desired rate of progress is 1.7 dv for Big Bend and 1.2 dv for Guadalupe Mountains.[78] Using the baseline visibility values and natural visibility values discussed above, the TCEQ calculated the URP for Big Bend to be 0.12 dv/year, and that for the Guadalupe Mountains to be 0.08 dv/yr.[79] The information is summarized in the table below:

visibility impairment. While the EPA approved SIPs using this approach for the first implementation period, the 2017 revisions to the RHR explained that for the most impaired days an approach focusing on anthropogenic impairment is more appropriate because it will more effectively track whether states are making progress in controlling anthropogenic sources. Because the 1999 RHR rule text already refers to the 20 percent most impaired days, we did not propose to change that wording. In the preamble to the proposal, we made clear that going forward, we would interpret ''most impaired days'' to mean those with the greatest anthropogenic visibility impairment, as opposed to the 20 percent haziest days. 82 FR 3078, 3101 (January 10, 2017).

[76] 2009 Plan, at 10–1—10–3.

[77] 2009 Plan, at 10–1—10–3

[78] 2009 Plan, at 10–1—10–3.

[79] 2009 Plan, at 10–1—10–3.

TABLE 2—TEXAS SUMMARY OF UNIFORM RATE OF PROGRESS

| Visibility metric | Big bend (dv) | Guadalupe mountains (dv) |
|---|---|---|
| Baseline Conditions | 17.30 | 17.19 |
| Natural Visibility | 10.09 | 12.26 |
| Total Improvement by 2064 | 7.21 | 4.93 |
| Uniform Rate of Progress (dv/year) | 0.12 | 0.08 |
| Improvement Needed by 2018 | 1.7 | 1.2 |

The EPA finds Texas's analysis to be reasonable. Therefore, because Texas correctly followed the procedures for analyzing and determining the rate of progress needed to attain natural visibility conditions by the year 2064 consistent with the requirements of the Regional Haze Rule, the EPA is proposing to approve Texas's calculation of the rate of progress needed to attain natural visibility conditions by the year 2064 as required by 40 CFR 51.308(d)(1)(i)(B).

Additionally, in Chapter 10 of the 2009 Plan, Texas provided a table showing the additional improvement needed to meet the uniform rate of progress for the planning period covered and the estimated emission reductions necessary to achieve it.[80]

Because we find Texas's consideration of the uniform rate of improvement and the emission reduction measures needed to achieve it for period covered the by SIP as required by RHR reasonable, we are proposing to approve Texas's 2009 Plan as to the requirements in 40 CFR 51.308(d)(1)(i)(B).

2. RPGs and Visibility Improvements

Under 40 CFR 51.308(d)(1), States with Class I areas are required to establish goals that provide for reasonable progress toward achieving natural visibility conditions. In establishing an RPG, a State must consider the four statutory factors outlined in CAA Section 169(A)(g)(1), ''the costs of compliance, the time necessary for compliance, the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources,'' and include a demonstration showing how these factors were taken into consideration in selecting the goal.'' The reasonable progress goals established by the State must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the for least impaired days over the same period.

As required by 40 CFR 51.308(d)(1), Texas established reasonable progress goals (RPGs) for its two Class I areas, Big Bend and Guadalupe Mountains. In Chapter 10 of its SIP, Texas explained that its RPGs were derived from the CENRAP[81] modeling and reflect emissions reductions programs already in place, including assumed reductions under the Clean Air Interstate Rule (CAIR)[82] and additional refinery $SO_2$ reductions as a result of EPA's refinery consent decrees. The following tables summarize the RPGs Texas established for its two Class I areas.[83]

TABLE 3—TEXAS CLASS I AREAS 20 PERCENT WORST DAYS

| Class I Area | Baseline (dv) | RPG for 2018 (dv) | Improvement in visibility (dv) |
|---|---|---|---|
| Big Bend | 17.3 | 16.6 | 0.7 |
| Guadalupe Mountains | 17.2 | 16.3 | 0.9 |

TABLE 4—TEXAS CLASS I AREAS 20 PERCENT LEAST IMPAIRED DAYS

| Class I Area | Baseline (dv) | RPG for 2018 (dv) | Improvement in visibility (dv) |
|---|---|---|---|
| Big Bend | 5.8 | 5.6 | 0.2 |
| Guadalupe Mountains | 5.9 | 5.7 | 0.2 |

[80] 2009 Plan, at 10–10. We note that the table provided in Texas's 2009 Plan appears to reflect estimates of visibility benefits from an earlier draft of the Texas Regional Haze SIP. In that draft SIP, the TCEQ estimated the visibility benefit from a certain set of controls to be 0.05 dv at each Class I area. Updating these calculations with TCEQ's final estimation of the visibility benefit from the TCEQ control set of 0.16 dv at Big Bend and 0.22 dv at Guadalupe Mountains yields revised amounts of 1,100,000 tons of $SO_2$ and $NO_X$ reductions at a cost of $2,000,000,000 for Big Bend, and 250,000 tons of $SO_2$ and $NO_X$ reductions at a cost of $440,000,000 for Guadalupe Mountains. 2009 Plan, at 10–6, 10–9 to 10–10. *See also, https://wayback.archive-it.org/414/20210529054132/https://www.tceq.texas.gov/assets/public/implementation/air/sip/haze/4HazeSIPcompare_rev.pdf.*

[81] The Central States Air Resource Agencies (CenSARA) is a regional planning organization (RPO) that was created in 1995 and currently includes as members the States of Texas, Oklahoma, Louisiana, Arkansas, Missouri, Kansas, Nebraska, and Iowa, as well as the federally recognized tribes within the boundaries of these States. CenSARA created the Central Regional Air Planning Association (CENRAP) to coordinate activities associated with the management of regional haze issues within the member States and tribes. However, CENRAP has since been abolished and CenSARA currently conducts regional haze and other air quality planning activities for the CenSARA States. Since CENRAP was the entity which conducted technical analyses during the first planning period, this notice references CENRAP when discussing Texas's 2009 Plan and Oklahoma's 2010 Plan.

[82] CAIR required certain States, including Texas, to reduce emissions of $SO_2$ and $NO_X$ that significantly contribute to downwind nonattainment of the 1997 NAAQS for fine particulate matter and ozone. See 70 FR 25152 (May 12, 2005).

[83] 2009 Plan, at 10–1—10–4.

Based on the results of Texas's required reasonable progress four-factor analysis (described in the following paragraph), and the results of the CENRAP modeling, the TCEQ adopted the CENRAP modeled 2018 visibility conditions as the RPGs for the Big Bend and Guadalupe Mountains Class I areas. The TCEQ established a RPG of 16.6 dv for Big Bend and 16.3 dv for Guadalupe Mountains for the 20% most impaired days for 2018. This represents a 0.7 dv and 0.9 dv improvement in visibility over the baseline conditions at Big Bend and Guadalupe Mountains, respectively.

As part of establishing the RPGs for Big Bend and Guadalupe Mountains in its first planning period SIP revision, Texas conducted a control strategy analysis to inform its consideration of the four statutory factors. As part of its analysis, Texas assessed the costs of potential controls and reductions for Texas point sources at ten Class I areas, including the two Texas Class I areas and those in nearby States, such as the Wichita Mountains Wilderness Area (Wichita Mountains) in Oklahoma. Texas focused its control strategy analysis on emissions of $SO_2$ and $NO_X$ from point sources. Texas focused on point sources of $SO_2$ and $NO_X$ as these sources are the main anthropogenic pollutants that affect visibility at Class I areas in Texas based on source apportionment modeling conducted by CENRAP.[84] Having narrowed the scope of the control analysis to emissions of $SO_2$ and $NO_X$ from point sources, Texas then developed a list of potential controls and costs associated with those controls to inform the four-factor analysis, using the CENRAP control strategy analysis as the starting point.[85] Texas adjusted CENRAP's analysis for Texas sources based on additional information and past experience. Texas also added some additional carbon black sources, which were not included in the CENRAP analysis. This work resulted in a list of potential add-on controls for reducing $SO_2$ and $NO_X$ at Texas point sources. Sources with potential control strategy costs greater than $2,700 per ton $SO_2$ or $NO_X$ were initially screened out to limit the population to potential sources with relatively cost-effective control strategies. Then, to better capture the point sources that the State believed were likely to contribute to visibility impairment at Class I areas, Texas screened out potential controls and sources using several different methods including a Q/d [86] (using estimated projected 2018 base annual emissions) of less than five, an area of influence (AOI) analysis, and any source with predicted 2018 emissions of less than 100 tons per year.[87] The final list of sources and potential controls resulted in the evaluation of $SO_2$ controls at 13 facilities [88] and $NO_X$ controls at 15 facilities.[89] Further information about the types of controls considered, as well as the associated emission reductions and costs are detailed in appendix 10–1 of Texas's 2009 Plan.

Texas then calculated the total cost of $SO_2$ and $NO_X$ controls and the resulting emission reductions by summing the individual costs of the identified controls. Texas's control set for $SO_2$ had an estimated cost of approximately $270,800,000 and a projected reduction of 155,873 tpy. Texas's control set for $NO_X$ point sources had an estimated cost of $53,500,000 and a projected reduction of 27,132 tpy. Using CENRAP's modeling as a starting point, Texas also estimated the additional visibility benefit that would result in 2018 from controlling the sources it identified. The additional visibility benefit considered by Texas was beyond that already accounted for in the CENRAP modeling for 2018, which included the on-the-books controls, including CAIR/BART, for each State in the CENRAP region.

Using the above control strategy analysis, Texas then considered and weighed the four statutory factors in determining the reasonableness of additional controls and selecting the RPGs for Big Bend and Guadalupe Mountains. As part of the four-factor analysis, Texas identified the cost of compliance as the key factor.[90] With respect to the cost of compliance, Texas found that at a total estimated cost of over $300 million and with no perceptible visibility benefit, it was not reasonable to implement any additional controls.[91] While visibility is not an explicitly listed factor to consider when determining whether additional controls are reasonable, the purpose of the four-factor analysis is to determine what degree of progress toward natural visibility conditions is reasonable. Texas noted that the time necessary for compliance was not a critical factor for the determination of applicable additional controls for Texas sources, and that to the extent energy impacts were quantifiable for a particular control, they were included in its cost estimates.[92] Additionally, Texas did not assume any limited useful equipment life.[93]

The RPGs established by Texas provided for an improvement in visibility conditions for the most impaired days over the first planning period and ensured no degradation in visibility for the least impaired days over the same period. Additionally, Texas's SIP included a demonstration showing how these factors were taken into consideration in selecting the goal. As outlined in the Fifth Circuit's 2016 stay opinion, the court determined that Petitioners had a likelihood of success on the merits in demonstrating that the EPA's prior disapproval of Texas's 2009 Plan and the EPA's FIP was unreasonable and thus arbitrary and capricious. We therefore find Texas's decision to focus the analysis of the four statutory factors on emissions of $NO_X$ and $SO_2$ from point sources to be reasonable, as the CENRAP modeling results and the TCEQ's analysis in Chapter 11 and appendix 10–1 of the Texas 2009 Plan indicate that the predominant anthropogenic pollutants that affect Texas Class I areas are largely due to sulfate and nitrate, primarily from point sources. We also find that TCEQ adequately considered the four factors. Neither the CAA nor the RHR rule specify the specific amount of progress that States are required to make as part of establishing their reasonable progress goal. Rather, the purpose of the statute and RHR simply requires States to achieve ''reasonable'' progress, not maximal progress, toward Congress's natural visibility goal. Additionally, we find that Texas was reasonable in determining that no further emission

[84] 2009 Plan, at 10–2; appendix 10–1.

[85] 2009 Plan, at 10–4.; 2009 Plan, appendix 10–1. CENRAP contracted with Alpine Geophysics to conduct an evaluation of possible additional point-source add-on controls for sources in CENRAP States. The Alpine Geophysics evaluation relied on AirControl NET, a database tool the EPA released in 2006 to enable cost benefit analyses of potential emissions control measures and strategies. Alpine Geophysics prepared cost estimates for potential add-on controls for $NO_X$ and $SO_2$ reductions in 2005 dollars for point sources in CENRAP States.

[86] Q/d is the ratio of annual emissions of a given pollutant over distance to a Class I area and can be used to identify those sources with the largest potential to impact visibility.

[87] Texas also excluded additional $NO_X$ controls on cement kilns from consideration, as it concluded it had already required all the measures it had determined reasonable to control $NO_X$ emissions from these sources in the latest Dallas-Fort Worth ozone SIP revision.

[88] $SO_2$ sources considered were Sommers Deely Spruce, Bryans Mill Plant, Big Brown, Coleto Creek Plant, Chemical Manufacturing, Deer Park Plant, Houston Plant, Como Plant, Waha Plant, Monticello, and three carbon black facilities (Big Spring, Borger, and Echo).

[89] $NO_X$ sources considered were Sommers Deely Spruce, Texarkana Mill, Guadalupe Compressor Station, Fayette Power Project, Big Brown, Pampa Plant, Chemical Manufacturing, Tolk, Limestone, Sandow, Guardian Industries, Harrington Station, Martin Lake, Monticello, and Works No. 4.

[90] 2009 Plan, at 10–7.

[91] 2009 Plan, at 10–7.

[92] 2009 Plan, at 10–8.

[93] 2009 Plan, at 10–8.

reductions were necessary beyond what was accounted for in the CENRAP modeling, which included the emission reductions which were anticipated under the CAIR program (or its replacement). As discussed in the following paragraphs, Texas $SO_2$ Trading Program and the CSAPR $NO_X$ Program serve as replacements for the reductions anticipated from the CAIR program.

Texas's 2009 Plan sought to satisfy $SO_2$ and $NO_X$ BART requirements for EGUs, by relying on the finding in place at the time that CAIR was better than BART, and that participation in CAIR would satisfy these BART requirements for participating EGUs.[94] Chapter 10.5 of Texas's 2009 Plan discusses the emission reductions that CAIR or its replacement will bring about during the first planning period in terms of EGU emissions. Due to the uncertainty in the amount of reductions that CAIR would bring about, Texas relied on the Integrated Planning Model (IPM) projection. The IPM projection estimated that Texas $SO_2$ emissions in 2018 would be 350,000 tpy. Texas estimated that CAIR would bring about over 200,000 tpy of $SO_2$ reductions over the course of the first planning period.[95] These reductions are reflected in the projected 2018 visibility improvement in the CENRAP modeling relied upon to establish the RPGs.

In promulgating the Texas $SO_2$ Trading Program as a BART alternative that satisfies the $SO_2$ BART requirements for certain Texas EGUs, the EPA modeled it after the EPA's CSAPR $SO_2$ Group 2 Trading Program.[96] The CSAPR trading programs were promulgated to replace CAIR. Because it was modeled after the CSAPR $SO_2$ Group 2 Trading Program, the Texas $SO_2$ Trading Program established a stringency level comparable to CSAPR in Texas. Specifically, Texas's EGUs under CSAPR were estimated to be around 317,100 tons per year whereas the Texas $SO_2$ Trading Program created an assurance level set at 255,083 tons.[97] In addition, in our action promulgating the Texas $SO_2$ Trading Program, the EPA also relied on CSAPR participation as a $NO_X$ BART alternative for Texas EGUs.[98] Thus, the current FIP in place that satisfies BART requirements for EGUs in Texas is consistent with the approach in the Texas's 2009 Plan that relied on emission reductions under CAIR and ensures that the EGU emissions are kept below a specified assurance level.

Therefore, because Texas considered the four statutory factors in establishing its reasonable progress goals for Big Bend and Guadalupe Mountains National Park, the EPA is proposing that Texas's 2009 Plan has met the requirements of 40 CFR 51.308(d)(1)(i)(A).

40 CFR 51.308(d)(1)(ii)

Additionally, under 40 CFR 51.308(d)(1)(ii), if the State establishes an RPG that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, the State must demonstrate, based on the four factors, that the rate of progress to attain natural conditions by 2064 is not reasonable, and that the RPG adopted by the State is reasonable. The State must also provide an assessment of the number of years it would take to attain natural conditions if visibility improvement continues at the rate of progress selected by the State as reasonable.

Texas's RPGs for the 20% worst days established a slower rate of progress than the URP for Big Bend and the Guadalupe Mountains. Texas calculated that under the rate of progress it selected as reasonable, natural visibility conditions (as calculated by Texas) would not be attained at Big Bend until 2155 and at the Guadalupe Mountains until 2081.[99]

Texas submitted that the RPGs it established for Big Bend and the Guadalupe Mountains on the 20% worst days were reasonable, and that it was not reasonable to achieve the glide path in 2018. In support of this conclusion, Texas reiterated the over $300 million cost of compliance figure it calculated and the lack of visibility benefits it estimated as part of its four-factor analysis. Texas also took other factors into consideration in determining that it is not reasonable to achieve the glide paths in 2018 and that the RPGs adopted by the State were reasonable. Among these other factors, Texas specifically indicated that the ability to meet the URP or make additional progress towards reaching natural visibility conditions was impeded primarily by the significant contribution of emissions from Mexico and other international sources. As support, Texas included a discussion of the pollutant contributions and the sources of visibility impairment at these Class I areas (see section 10.6. and Chapter 11 of the 2009 Plan). This discussion showed that based on Particulate Matter Source Apportionment Technology (PSAT) analysis conducted by CENRAP, 52 percent of the impairment at Big Bend and 25 percent of the impairment at Guadalupe Mountains was from Mexico and areas further south.[100]

In our prior disapproval of Texas's RPGs, we expressed concerns with how Texas weighed the four factors, primarily as it related to consideration of costs and visibility benefits. As mentioned previously, the Fifth Circuit determined that the EPA's disapprovals would likely be found to be arbitrary and capricious. The court also determined that the Petitioners had a likelihood of success on the merits of demonstrating that the EPA's FIP was unreasonable and likely arbitrary and capricious. Specifically, the court noted that the EPA's FIP would require a number of costly control measures to be installed though the visibility conditions at the time were already better than Texas's RPGs and the RPGs the EPA established in the FIP. Therefore, the EPA is proposing to approve the portion of Texas's 2009 Plan addressing the requirements of 40 CFR 51.308(d)(1)(ii).

Additionally, we agree with the TCEQ that emissions and transport from Mexico and other international sources will limit the rate of progress achievable on the 20% worst days and that efforts to meet the goal of natural visibility by 2064 would require further emissions reductions not only within Texas, but also large emission reductions from international sources.[101]

EPA also notes that there has been an overall reduction in emissions from the group of sources that Texas selected for evaluation as part of its 2009 Plan. $SO_2$ emissions from this group in 2018 were at least 80,000 tons less than what was

[94] As mentioned earlier, because CAIR was vacated, the EPA issued a limited disapproval of Texas's 2009 Plan on June 7, 2012, due to its reliance on the Clean Air Interstate Rule (CAIR) to address BART requirements for Texas EGUs.

[95] Chapter 10.5 of Texas's 2009 Plan discusses the emission reductions that CAIR or its replacement will bring about during the first planning period in terms of EGU emissions.

[96] 85 FR 49170, 49181, 49184 (August 12, 2020).

[97] 85 FR 49170, 49184 (August 12, 2020).

[98] 82 FR 48328 (October 17, 2017).

[99] Texas also included calculations based on the EPA's default natural conditions, estimating attainment of natural visibility conditions at the Big Bend in 2215 and Guadalupe Mountains in 2167 in appendix 10–3 of its regional haze SIP.

[100] 2009 Plan, at 10–10.

[101] Given the impacts from international emissions and the fact that the RHR did not allow States to adjust how the URP was calculated to account for international emissions for the first planning period, it was not reasonable at the time for Texas to establish a reasonable progress goal consistent with the rate of visibility improvement that would be needed to attain natural conditions by 2064. Furthermore, the approach followed in the first planning period for determining the URP for the most impaired days involved selecting the most impaired days as the monitored days with the highest actual deciview levels regardless of the source of the particulate matter causing the visibility impairment.

projected. Overall, emissions in Texas were lower than projected for 2018 and consequently, monitored visibility data shows visibility improvement exceeding what had been originally projected for 2018.[102]

3. Requirements Related to the Long-Term Strategy

Section 51.308(d)(3) provides that Texas's long-term strategy include enforceable emissions limitations, compliance schedules, and other measures necessary to achieve the reasonable progress goals established by States having mandatory Class I areas. There are a number of requirements a State must meet when establishing its long-term strategy. These requirements include: (1) States must consult with downwind States to develop coordinated management strategies that address regional haze visibility impairment; [103] (2) where multiple States cause or contribute to visibility impairment in a Class I area, each State must demonstrate that it has put all measures necessary to obtain its share of emission reductions needed to meet the progress goal for the Class I area; [104] (3) each State must provide and document the technical basis on which the State is relying to determine its share of emission reductions necessary to achieve reasonable progress for each Class I area it affects; [105] and (4) in formulating their long-term strategies, States also have to consider the emissions limitations and schedule for compliance to achieve the reasonable progress goal.[106]

Section 51.308(d)(3)(i) requires that where Texas has emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I area located in another State or States, it must consult with the other State(s) in order to develop coordinated emission management strategies. In the 2009 Plan, Texas reviewed the CENRAP modeling to assess which Class I areas in other States would be impacted by Texas's emissions.[107] Modeling indicated potential impacts to several out of State Class I areas from Texas sources. As evidenced in Chapter 4 and appendix 4 of Texas's 2009 Plan, Texas conducted the requisite consultation with these States. Texas included documentation of its calls and correspondence with the relevant States from 2007 to 2008, prior to submitting its SIP in 2009. Texas's consultation documentation confirms that no States disagreed with Texas's approach to its long-term strategy. During consultation, Louisiana determined that emissions from Texas do not contribute to visibility impairment at the Breton Wilderness Class I area. Colorado confirmed during consultation that the projected emissions reductions in Texas's 2009 Plan would be adequate to meet Texas's apportioned part of reductions necessary for Colorado to meet the RPGs for the Colorado Class I areas. Based on the 2018 CENRAP projections, Missouri and Arkansas established RPGs for their Class I areas that provide for a slightly greater rate of improvement in visibility than needed to attain the URP and determined that the projected emission reductions from Texas sources included in the model were adequate for the States to meet their respective RPGs. Regarding Oklahoma, Texas and Oklahoma engaged in multiple conversations regarding Texas's potential impacts to the Wichita Mountains Class I area. Stemming from those discussions, Oklahoma requested that it be able to comment on best available control technology (BACT) determinations for PSD sources that significantly impact Wichita Mountains. Texas agreed to notify Oklahoma and the relevant FLM whenever modeling indicated that a proposed source significantly impacts Wichita Mountains. Throughout the consultation process, Oklahoma did not request any additional reductions from Texas and established a reasonable progress goal for Wichita Mountains that did not anticipate further emission reductions beyond those contemplated in Texas's 2009 Plan. For these reasons, as well as those reasons articulated in section V.B, we propose to find that Texas has satisfied the requirements of 40 CFR 51.308(d)(3)(i).

Section 51.308(d)(3)(ii) requires that if Texas emissions cause or contribute to impairment in another State's Class I area, it must demonstrate that it has included in its regional haze SIP all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for that Class I area. Section 51.308(d)(3)(ii) also requires that since Texas participated in a regional planning process, it must ensure it has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process. As discussed in the previous paragraphs, Texas consulted with the States that it identified for which emissions from Texas are reasonably anticipated to cause or contribute to visibility impairment at a Class I area located in that State. Through these consultation processes, none of the potentially impacted States requested that Texas include any additional measures in its 2009 Plan, and each State established RPGs that did not anticipate any additional emissions reductions from Texas sources beyond those reflected in the CENRAP modeling. For these reasons, we are proposing that Texas has met the requirements of 40 CFR 51.308(d)(3)(ii).

Section 51.308(d)(3)(iii) requires that Texas document the technical basis, including modeling, monitoring and emissions information, on which it is relying to determine its apportionment of emission reduction obligations necessary for achieving reasonable progress in each mandatory Class I area it affects. It may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all State participants. Texas relied on technical analyses developed by CENRAP and approved by all State participants, but it also performed additional technical analyses, based on Texas's expertise and knowledge of specific Texas related information. These additional analyses thus built upon the work of the regional planning organization in order to evaluate additional controls. Additionally, Texas's 2009 Plan included emissions inventory information as detailed in Chapter 7 and appendix 7–1. Texas's 2009 Plan also included a modeling assessment as detailed in Chapters 8 and appendix 8–1 of its 2009 Plan. Given the extensive technical, modeling, and monitoring information included and relied upon in Texas's 2009 Plan, we are proposing that Texas has met the requirements of 40 CFR 51.308(d)(3)(iii).

Section 51.308(d)(3)(v)(C) requires that, in developing its long-term strategy, Texas consider emissions limitations and schedules of compliance to achieve the RPGs. Texas determined that implementation of existing and ongoing control measures was adequate to achieve the RPGs established by it and other CENRAP States. As such, and for the reasons articulated in section V.A of this document to support our proposed approval of Texas's RPGs, we are proposing that Texas has met the requirements of 40 CFR 51.308(d)(3)(v)(C), finding that additional measures for Texas's long-

[102] Monitoring of Protected Visual Environments (IMPROVE), *https://vista.cira.colostate.edu/Improve/rhr-summary-data/*.

[103] 40 CFR 51.308(d)(3)(i).

[104] 40 CFR 51.308(d)(3)(ii).

[105] 40 CFR 51.308(d)(3)(iii) and (iv).

[106] 40 CFR 51.308(d)(3)(v)(C).

[107] Texas First Planning Period Regional Haze SIP, page 4–2. The relevant States are Colorado, Louisiana, New Mexico, Missouri, Arkansas, and Oklahoma.

term strategy are unnecessary for this planning period.

4. Proposed Action

The regional haze program is made up of discrete planning periods with the ultimate goal of eventually achieving natural visibility in Class I areas. For each planning period, States must submit SIPs to demonstrate that progress is being made towards the goal of natural visibility, including a long-term strategy that contains measures that are necessary to make reasonable progress. As previously stated, the first planning period SIPs were due in 2007, and the planning period ended in 2018. Given Texas's consideration of the statutory factors and the explanation and justification outlined in the previous sections, we are proposing to approve the portions of Texas's 2009 Plan addressing the following requirements:

- Section 51.308(d)(1)(i)(A) and (d)(1)(ii), regarding Texas's consideration of the four statutory factors in establishing its reasonable progress goals for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(1)(i)(B), regarding Texas's calculation of the emission reductions needed to achieve the uniform rates of progress for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(2)(iii), regarding Texas's calculation of natural visibility conditions for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(2)(iv)(A), regarding Texas's calculation of the number of deciviews by which baseline conditions exceed natural visibility conditions for the Guadalupe Mountains and Big Bend National Parks;
- Section 51.308(d)(3)(i), regarding consultation requirements with other States where emissions from Texas are reasonably anticipated to contribute to visibility impairment in any Class I area located in another State or States;
- Section 51.308(d)(3)(ii), regarding Texas securing its share of reductions necessary to achieve the reasonable progress goals at impacted Class I areas in other States;
- Section 51.308(d)(3)(iii), regarding Texas's documentation of its technical basis for which it is relying on to determine its apportionment of emission reductions necessary for those Class I areas in other States for which it affects; and
- Section 51.308(d)(3)(v)(C), regarding Texas's emission limitations and schedules for compliance to achieve the reasonable progress goals.

*B. Oklahoma's 2010 Plan*

As discussed in section III.B. of this document, the EPA finalized a disapproval of the portions of Oklahoma's 2010 Plan addressing the reasonable progress requirements of 40 CFR 51.308(d)(1) in our 2016 Final Rule. Because the SIP disapprovals and FIP portions of the 2016 Final Rule were vacated, the EPA now has an outstanding obligation to evaluate and act on this portion of Oklahoma's 2010 Plan.

1. Establishment of RPGs and Visibility Improvement

For each mandatory Class I Federal area located within the State, Oklahoma must establish goals (expressed in deciviews) that provide for reasonable progress towards achieving natural visibility conditions.[108] The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the SIP and ensure no degradation in visibility for the least impaired days over the same period.[109]

CENRAP modeling projected visibility conditions anticipated at the Wichita Mountains in 2018.[110] This was based on the emissions reductions resulting from federal and State control programs that were either in effect at the time or with mandated future-year emission reduction schedules that predated 2018.[111] Based on the results of the four-factor analysis (discussed in the following paragraphs), the results of the CENRAP modeling, and additional information developed by CENRAP or obtained through direct consultations with States anticipated to impact visibility at Wichita Mountains, the ODEQ decided to adopt the CENRAP modeled 2018 visibility conditions as the RPGs for the Wichita Mountains Class I area.[112] The ODEQ established an RPG of 21.47 dv for the Wichita Mountains for 2018 for the 20% worst days.[113] This represents a 2.33 dv improvement in visibility over a baseline of 23.81 dv.[114] The ODEQ's RPG for the 20 percent worst days and 20 percent least impaired days are shown in Tables 5 and 6, which are based on information from Tables IX–2 through IX–4 of Oklahoma's 2010 Plan.

TABLE 5—OKLAHOMA CLASS I AREA REASONABLE PROGRESS GOALS ON 20% WORST DAYS

| Oklahoma Class I area | Baseline conditions (dv) | Projected 2018 visibility (RPG) (dv) | Improvement projected by 2018 using RPG (dv) |
|---|---|---|---|
| Wichita Mountains | 23.81 | 21.47 | 2.33 |

TABLE 6—OKLAHOMA CLASS I AREA COMPARISON OF REASONABLE PROGRESS GOAL TO BASELINE CONDITIONS ON 20% LEAST IMPAIRED DAYS

| Oklahoma Class I area | Baseline visibility conditions (dv) | Projected 2018 visibility (dv) |
|---|---|---|
| Wichita Mountains | 9.78 | 9.23 |

As shown in Tables 5 and 6 of this document, the ODEQ's modeled RPG for the 20% worst days shows an improvement in visibility of 2.33 dv at the Wichita Mountains in 2018 and the modeled RPG for the 20% least impaired days shows an improvement of 0.54 dv from the baseline period.

In establishing a reasonable progress goal for any mandatory Class I area, the State must consider four statutory factors. These factors are the costs of compliance, the time necessary for compliance, the energy and nonair quality environmental impacts of

[108] 40 CFR 51.308(d)(1).
[109] 40 CFR 51.308(d)(1).
[110] 2010 Plan, at 104.
[111] 2010 Plan, at 104.
[112] 2010 Plan, at 104–107.
[113] 2010 Plan, at 104–106.
[114] 2010 Plan, at 104–106.

compliance, and the remaining useful life of any potentially affected sources. The State must then demonstrate how these factors were taken into consideration in selecting the goal.

In its 2010 Plan, the ODEQ determined that sulfate and nitrate were the primary pollutants contributing to visibility impairment within Oklahoma, and that a large portion of these pollutants would come from point sources.[115] As such, Oklahoma evaluated potential control measures for point sources of $SO_2$ and $NO_X$. To evaluate any additional control measures necessary for reasonable progress, the ODEQ initially relied on the same CENRAP analysis that Texas in part relied on. In considering the CENRAP analysis, Oklahoma found that it included certain controls that were already installed, prohibitively costly, technically infeasible, or otherwise unreasonable. As a result, the ODEQ conducted its own analysis that refined the CENRAP analysis for certain sources within Oklahoma. The full list of sources considered can be found in Table IX–5 of Oklahoma's 2010 Plan.

In considering the cost of compliance, the ODEQ relied on the control analysis performed by CENRAP as well as its knowledge of particular facilities and experience with implementing ozone reduction strategies.[116] In considering the time necessary for compliance, the ODEQ determined that any such controls would have to be installed and in operation by 2018.[117] It did not identify any detrimental nonair quality environmental impacts associated with any controls considered, and any energy impacts were factored into the cost of controls.[118] In considering the remaining useful life of any potentially affected sources, the ODEQ stated that none of the sources considered for additional emission reductions had indicated plans to shut down.[119] Based on the above analysis of the four factors, the ODEQ concluded that retrofitting the identified point sources of $NO_X$ and $SO_2$ would impose unreasonable costs for negligible visibility improvement.[120] The ODEQ reasoned that most of the largest sources of $SO_2$ and $NO_X$ were already being controlled through BART, consent decrees or other regulatory mechanisms; already had adequate controls in place; or are located too far from the Wichita Mountains, and therefore, have too little visibility impact to justify the cost of additional controls.[121]

The RPGs established by Oklahoma provided for an improvement in visibility conditions for the most impaired days over the first planning period and ensured no degradation in visibility for the least impaired days over the same period. Thus, the ODEQ's RPGs for Wichita Mountains are consistent with the requirement in the RHR that they provide for an improvement in visibility for the most impaired days over the period of the SIP and ensure no degradation in visibility for the least impaired days over the same period. Additionally, Oklahoma's 2010 Plan included a demonstration showing how these factors were taken into consideration in selecting the goal. As outlined in the Fifth Circuit's 2016 stay opinion, the court stated that the EPA's prior disapproval of Oklahoma's 2010 Plan stemmed in large part from concerns that the EPA had with Texas's analysis in establishing its RPGs—concerns that the Court said were likely arbitrary and capricious. Because we are now proposing to approve Texas's 2009 Plan, we therefore propose to approve the RPGs established by Oklahoma. Specifically, we find that Oklahoma's decision to focus the analysis of the four statutory factors on emissions of $NO_X$ and $SO_2$ from point sources to be reasonable, as the CENRAP modeling results and the ODEQ's analysis in sections V.F and VIII of the Oklahoma's 2010 Plan indicate that sulfate and nitrate are the predominant pollutants that affects the visibility on the worst 20% days at the Wichita Mountains, and comes primarily from point sources. Oklahoma considered the four statutory factors as required by 40 CFR 51.308(d)(1)(i)(A) in evaluating the major point sources of both $SO_2$ and $NO_X$. The ODEQ analyzed the cost of compliance by reviewing the cost information previously developed by CENRAP and made changes to the cost information based on its knowledge of the facilities. Oklahoma focused on moderate cost controls for sources likely to contribute to visibility impairment at the Wichita Mountains. In considering the time necessary for compliance, the ODEQ determined that any such controls would have to be installed and in operation by 2018. It did not identify any detrimental nonair quality environmental impacts associated with any controls considered, and any energy impacts were factored into the cost of controls. In considering the remaining useful life of any potentially affected sources, the ODEQ stated that none of the sources considered for additional emission reductions had indicated plans to shut down. Furthermore, the ODEQ also considered the CENRAP modeling results, which indicated that Oklahoma point sources contribute only approximately 3.0 $Mm^{-1}$ of the total 86.56 $Mm^{-1}$ of light extinction projected at Wichita Mountains in 2018.[122] Based on the 2016 Stay Opinion, the fact that Oklahoma considered the four factors, the relative lack of visibility impact from in-State point sources, and the fact that emissions from point sources were also being reduced through satisfying BART requirements, we agree with the ODEQ's conclusion that additional control measures are unnecessary, and therefore, propose that the requirements of 40 CFR 51.308(d)(1)(i)(A) have been met.

2. Uniform Rate of Progress and Analysis of RPGs

In establishing a reasonable progress goal for any mandatory Class I Federal area within the State, Oklahoma must analyze and determine the rate of progress needed to attain natural visibility conditions by the year 2064.[123] To calculate this rate of progress (URP), Oklahoma must compare baseline visibility conditions to natural visibility conditions in the mandatory Federal Class I area and determine the uniform rate of visibility improvement (measured in deciviews) that would need to be maintained during each implementation period in order to attain natural visibility conditions by 2064. In our previous final rulemaking in 2011, we found that the ODEQ appropriately calculated the URP for Wichita Mountains.[124] Therefore, the only portion of 40 CFR 51.308(d)(1)(i)(B) that we address is Oklahoma's requirement to consider the emission reduction measures needed to achieve the URP when establishing the RPG for Wichita Mountains. Section 51.308(d)(1)(ii) provides that for the period of the SIP, if Oklahoma establishes a RPG that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, it must demonstrate based on the factors in section 51.308(d)(1)(i)(A) that the rate of progress for the SIP to attain natural conditions by 2064 is not reasonable; and that the progress goal it adopted is reasonable.

[115] 2010 Plan, 94–97; 107–114; appendix 4–2 of 2010 Plan.

[116] 2010 Plan, 109–113; appendix 4–2 of 2010 Plan.

[117] 2010 Plan, 109–113.

[118] 2010 Plan, 109–113.

[119] 2010 Plan, 109–113.

[120] 2010 Plan, 109–113.

[121] 2010 Plan, 109–113.

[122] 2010 Plan, 96–100.

[123] 40 CFR 51.308(d)(1)(i)(B).

[124] 76 FR 81728 (December 28, 2011).

To calculate the URP, the ODEQ compared baseline visibility conditions to natural visibility conditions at the Wichita Mountains Class I area and determined the linear rate of visibility improvement (in deciviews) that would have to be maintained during each implementation period in order to attain natural visibility conditions by 2064. Using a baseline of 23.81 dv and a natural visibility value of 7.53 dv for the 20 percent worst days, the ODEQ calculated the URP to be 16.28 dv, as depicted by Table 7 of this document, which is adapted from Table III–9 of the SIP:

TABLE 7—WICHITA MOUNTAINS VISIBILITY IMPROVEMENT CALCULATIONS

| | |
|---|---|
| Baseline Conditions | 23.81 dv. |
| Natural Visibility | 7.53 dv. |
| Total Improvement by 2064 | 16.28 dv. |
| Improvement by 2018 at Uniform Rate of Progress | 3.80 dv. |
| Uniform Rate of Progress | 0.27 dv/year. |
| 2018 RPG | 21.47 dv. |
| Improvement by 2018 under Oklahoma's RPG | 2.33 dv. |
| URP in 2018 | 20.01 dv. |
| Improvement Projected by 2018 Using 2018 RPG | 2.33 dv. |

After considering the URP, the results of the CENRAP modeling and the four reasonable progress factors, the ODEQ determined that meeting the URP goal for 2018 was not reasonable.[125] In its 2010 Plan, the ODEQ explained that the CENRAP control case sensitivity evaluation projected that visibility at Wichita Mountains would be improved by an additional 0.75 dv on the worst 20% days over what the ODEQ projected as its RPG of 21.47 dv for 2018, if controls were implemented at the sources that met CENRAP's combination of baseline emissions, potential for cost-effective add-on controls, and location (21.47 − 20.72 = 0.75).[126] This projected improvement would not be sufficient to meet the URP. Furthermore, the ODEQ noted that most of the improvement projected by the CENRAP analysis would come from controls on sources outside of Oklahoma. As such, Oklahoma adopted the 2018 projected visibility conditions from the CENRAP photochemical modeling as the RPGs for the 20% best days and 20% worst days for the Wichita Mountains. The ODEQ calculated that under the selected rate of progress, Wichita Mountains would attain natural visibility conditions in 2102.

We propose to approve the ODEQ's demonstration that it is not reasonable to meet the URP for Wichita Mountains for this planning period based on its reliance on the CENRAP analysis and modeling projections. As explained earlier in our discussion of 40 CFR 51.308(d)(1)(i)(A), Oklahoma considered the four statutory factors and established RPGs that provided for visibility improvement at Wichita Mountains over the course of the first planning period. Neither the CAA nor the RHR rule specify the specific amount of progress that States are required to make as part of establishing their reasonable progress goal. In our prior disapproval of Oklahoma's 2010 Plan, while we agreed that further emissions reductions from Oklahoma sources beyond BART were not necessary to make reasonable progress, we expressed the concern that the consultation process with Texas failed to provide Oklahoma with the information necessary to determine the reasonable reductions from its sources given the anticipated impacts from Texas sources at Wichita Mountains. This resulted in Oklahoma being unable to consider all the emission reductions needed to meet or approach the URP. As mentioned previously, the Fifth Circuit determined that the EPA's disapproval as to this point would likely be found to be arbitrary and capricious. Specifically, the 2016 Stay Opinion highlighted that neither RHR nor the Clean Air Act explicitly require upwind States to provide downwind States with specific types of information. Given the volume of analysis produced by CENRAP, and the fact that the EPA has never before disapproved the consultation between States under the Regional Haze Rule, the court determined that the Petitioners had a likelihood of success on the merits of demonstrating that EPA's disapproval of the RPGs that Oklahoma established was arbitrary and capricious. As previously discussed, Oklahoma considered the four statutory factors in establishing its RPGs for Wichita Mountains, which provided for improvements in visibility over the course of the first planning period based on emission reductions due to BART requirements from Oklahoma sources as well as emission reductions from Texas sources that were included in the CENRAP modeling as discussed in section V.A of this document. Oklahoma showed that further emission reductions from Oklahoma sources was not projected to achieve the URP, and after extensive consultation with Texas, Oklahoma determined that additional emission reductions from Texas sources were not necessary to meet the RPG it established. For these reasons, we are proposing that the requirements of 40 CFR 51.308(d)(1)(i)(B) and 51.308(d)(1)(ii) have been met.

Additionally, the EPA notes that there has been an overall reduction in emissions from the group of sources that Texas selected for evaluation as part of its 2009 Plan. Overall, Texas emissions were lower than projected for 2018 and consequently, monitored visibility data shows visibility improvement exceeding what had been originally projected for 2018.

3. Reasonable Progress Consultation

In developing the reasonable progress goal for Wichita Mountains, Oklahoma must consult with those States which may reasonably be anticipated to cause or contribute to visibility impairment in the Class I area.[127] In any situation in which Oklahoma cannot agree with another such State or group of States that a goal provides for reasonable progress, Oklahoma must describe in its submittal the actions taken to resolve the disagreement.[128] In reviewing Oklahoma's SIP submittal, the Administrator will take this information into account in determining whether its goal for visibility improvement provides for reasonable progress towards natural visibility conditions.[129]

[125] 2010 Plan, 107–114.

[126] 2010 Plan, 109. ODEQ mistakenly referred to an estimated visibility of 20.97 dv for the control scenario instead of the correct value of 20.72 dv. *See* correspondence from ODEQ (Lee Warden) to EPA (Michael Feldman) on 7/14/2014.

[127] 40 CFR 51.308(d)(1)(iv).

[128] 40 CFR 51.308(d)(1)(iv).

[129] 40 CFR 51.308(d)(1)(iv).

In its 2010 Plan, the ODEQ identified several States that were projected through visibility modeling to contribute more than 1 Mm-1 of light extinction at the Wichita Mountains in 2018 and invited these States to consult. It conducted four consultations.[130] It directed its first consultation to the tribal leaders in Oklahoma and their environmental managers, on August 14, 2007.[131] The ODEQ held the next three consultations as conference calls with representatives from CENRAP, the EPA, the U.S. Fish and Wildlife Service, Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, and Texas.[132] The ODEQ received written responses from the Arkansas Department of Environmental Quality, the TCEQ, and the Missouri Department of Natural Resources.[133]

In terms of the consultation process between Texas and Oklahoma specifically, the States exchanged a series of letters in 2007 and 2008.[134] On August 3, 2007, the ODEQ sent a letter to the TCEQ in which it noted that despite significant planned reductions in $SO_2$ and $NO_X$ emissions from sources in Oklahoma and Texas, the Wichita Mountains was not projected to meet the URP. The ODEQ requested that the TCEQ require new and modified PSD sources to conduct analyses of their impacts on visibility at the Wichita Mountains and that the ODEQ be given an opportunity to review and comment on BACT determinations for proposed projects likely to have a certain impact on visibility at the Wichita Mountains. On October 15, 2007, the TCEQ sent a response to the ODEQ, agreeing that modeling showed emissions from Texas to be a significant source of visibility impairment at the Wichita Mountains. The TCEQ also noted, however, that significant reductions from Texas will be realized in the next several years. In response to the ODEQ's specific request for the opportunity to comment on BACT for new and modified major sources, the TCEQ stated that it welcomed comment during the public review and comment period and would notify FLMs and the ODEQ if modeling were to indicate that a proposed source might significantly impact the Wichita Mountains.

Several months after this initial exchange of letters, the two States again exchanged letters. On March 25, 2008, following comments made by us and the federal land managers on Texas's draft Regional Haze SIP, the TCEQ sent a letter to the ODEQ regarding emissions that affect the Wichita Mountains. The TCEQ provided a copy of the PSAT modeling results developed by CENRAP indicating the contribution for each source area to visibility impairment at the Wichita Mountains. The TCEQ stated in the letter that PSAT modeling indicated that the probable impacts of Texas sources at the Wichita Mountains will be reduced by 2018 due to expected emission reductions from current and planned controls. The TCEQ then requested concurrence from Oklahoma on this assessment and a verification that Oklahoma was not depending on any additional reductions from Texas sources in order to meet the RPG for the Wichita Mountains. On May 12, 2008, the ODEQ sent a response to the TCEQ in which it noted that it concurred with the information the TCEQ had provided. The ODEQ stated that it had developed its RPG for the worst 20% days for the Wichita Mountains through the CENRAP deliberations and that its RPG did not anticipate emission reductions beyond those that Texas already planned to implement and upon which CENRAP modeling studies have relied.

We agree with the ODEQ's approach for identifying those States with sources that may impact visibility at the Wichita Mountains and its decision to invite those States to consult. Through the consultation process, the ODEQ was able to gain additional information regarding the potential impacts from nearby States. We also find that Oklahoma reasonably determined that additional reductions from Arkansas, Louisiana, Missouri, and Iowa were not necessary for reasonable progress based on the projected impacts from those States as demonstrated by the CENRAP modeling results.[135]

In terms of its consultation with Texas, as discussed earlier in this document, the 2016 Stay Opinion explained that the Petitioners had a likelihood of success on the merits in determining that our disapproval of the 2010 Plan based on the consultation with Texas was arbitrary and capricious. We note that the States engaged in extensive discussions regarding impacts from Texas sources at Wichita Mountains.[136] The RHR does not specify what is required of States during the consultation process or dictate a specific outcome in terms of agreeing upon a reasonable progress goal. Rather, it explains the steps States must take in the event that States disagree over whether a goal established for a particular Class I area does not provide for reasonable progress. In such situations, a State must describe in its submittal the actions taken to resolve the disagreement. As described above, the ODEQ ultimately established an RPG that did not anticipate additional reductions from Texas sources. As such, there was not a disagreement between the States. While both states agreed that there would be impacts from Texas sources at Wichita Mountains, they also agreed that there would be emission reductions from both Texas and Oklahoma sources and improvement in visibility at Wichita Mountains.[137] Because Texas and Oklahoma engaged in consultation and agreed on the RPG established by Oklahoma for Wichita Mountains, we find that Oklahoma's consultation process with Texas was adequate. For these reasons, we propose that the requirements of 40 CFR 51.308(d)(1)(iv) have been met.

4. Impact on Areas of Indian Country

Following the U.S. Supreme Court decision in *McGirt* v. *Oklahoma,* 140 S. Ct. 2452 (2020), the Governor of the State of Oklahoma requested approval under section 10211(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005: A Legacy for Users, Public Law 109–59, 119 Stat. 1144, 1937 (August 10, 2005) (''SAFETEA''), to administer in certain areas of Indian country (as defined at 18 U.S.C. 1151) the State's environmental regulatory programs that were previously approved by the EPA outside of Indian country. The State's request excluded certain areas of Indian country further described below. In addition, the State only sought approval to the extent that such approval was necessary for the State to administer a program in light of *Oklahoma Dept. of Environmental Quality* v. *EPA,* 740 F.3d 185 (D.C. Cir. 2014).[138]

The EPA has approved Oklahoma's SAFETEA request to administer all of the State's EPA-approved environmental regulatory programs in the requested areas of Indian country. As requested by Oklahoma, the EPA's approval under SAFETEA does not include Indian country lands, including rights-of-way running through the same, that: (1) qualify as Indian allotments, the Indian

[130] 2010 Plan, 115, appendix 10–1.

[131] 2010 Plan, 115, appendix 10–1.

[132] 2010 Plan, 115, appendix 10–1.

[133] Copies of these letters can be found in appendix 10–1 of the 2010 Plan.

[134] Appendix 10–1 of the 2010 Plan.

[135] 2010 Plan, Table VIII–10.

[136] Appendix 10–1 of the 2010 Plan.

[137] Appendix 10–1 of the 2010 Plan.

[138] In *ODEQ* v. *EPA,* the D.C. Circuit held that under the CAA, States have the authority to implement a SIP in non-reservation areas of Indian country in the State, unless there has been a demonstration of tribal jurisdiction. Under the D.C. Circuit's decision, the CAA does not provide authority to States to implement SIPs in Indian reservations.

titles to which have not been extinguished, under 18 U.S.C. 1151(c); (2) are held in trust by the United States on behalf of an individual Indian or Tribe; or (3) are owned in fee by a Tribe, if the Tribe (a) acquired that fee title to such land, or an area that included such land, in accordance with a treaty with the United States to which such Tribe was a party, and (b) never allotted the land to a member or citizen of the Tribe (collectively ''excluded Indian country lands'').

The EPA's approval under SAFETEA expressly provided that to the extent the EPA's prior approvals of Oklahoma's environmental programs excluded Indian country, any such exclusions are superseded for the geographic areas of Indian country covered by the EPA's approval of Oklahoma's SAFETEA request.[139] The approval also provided that future revisions or amendments to Oklahoma's approved environmental regulatory programs would extend to the covered areas of Indian country (without any further need for additional requests under SAFETEA).

As explained above, the EPA is proposing to approve portions of the Oklahoma 2010 Plan that relate to reasonable progress requirements for the first planning period from 2007 through 2018, which will apply statewide. Consistent with the D.C. Circuit's decision in *ODEQ* v. *EPA* and with the EPA's SAFETEA approval, these SIP revisions will apply to areas of Indian country as follows: (1) pursuant to the SAFETEA approval, the SIP revisions will apply to all Indian country In the State of Oklahoma other than the excluded Indian country lands as described above; and (2) pursuant to the D.C. Circuit's decision in *ODEQ* v. *EPA,* the SIP revisions will also apply to any Indian allotments or dependent Indian communities that are located outside of any Indian reservation and over which there has been no demonstration of tribal authority.

5. Proposed Action

For the reasons described in sections V.A and V.B, we are proposing to approve the portion of the Oklahoma regional haze SIP that addressed the requirements of 40 CFR 51.308(d)(1)(i) through (v).

[139] The EPA's prior approvals relating to Oklahoma's SIP frequently noted that the SIP was not approved to apply in areas of Indian country (except as explained in the D.C. Circuit's decision in *ODEQ* v. *EPA*) located in the State. Such prior expressed limitations are superseded by the EPA's approval of Oklahoma's SAFETEA request.

*C. Texas's 2014 Progress Report SIP Revision (2014 Plan)*

Each State is required to submit a progress report that evaluates progress towards the RPGs for each Class I area within the State and for each Class I area outside the State which may be affected by emissions from within the State. 40 CFR 51.308(g). In addition, the provisions of 40 CFR 51.308(h) require States to submit, at the same time as the progress report, a determination of the adequacy of the State's existing regional haze implementation plan.[140] The progress report for the first planning period is due five years after submittal of the initial regional haze SIP and must take the form of a SIP revision. Texas submitted its first periodic progress report SIP on March 24, 2014 (2014 Plan). The 2014 Plan assessed visibility progress toward the 2018 RPGs for two Class I areas in Texas: Big Bend and Guadalupe Mountains National Parks. The 2014 Plan also assessed visibility progress for 12 other Class I areas in six other States that may be affected by emissions from within Texas through collaboration with the Central Regional Air Planning Association (CENRAP):[141] Caney Creek and Upper Buffalo Wilderness Areas in Arkansas; Great Sand Dunes Wilderness Area in Colorado; Breton Wilderness Area in Louisiana; Carlsbad Caverns National Park, Bosque del Apache, Salt Creek, Wheeler Peak, and White Mountain Wilderness Areas in New Mexico; Hercules Glades and Mingo Wilderness Areas in Missouri; and Wichita Mountains Wilderness Area in Oklahoma.

1. Control Measures

Section 51.308(g)(1) requires a description of the status of implementation of control measures included in the first planning period regional haze SIP for achieving reasonable progress goals for Class I areas both within and outside the State. Section 51.308(g)(2) requires a summary of the emissions reductions achieved from implementing the control measures in the first planning period regional haze SIP. Chapter 2 of Texas's 2014 Plan provides a summary of control measures and emissions reductions that were achieved from implementing those control measures included in their first planning period SIP.

As discussed previously in this document, Texas relied on participation in CAIR to satisfy the $NO_X$ and $SO_2$ BART requirements for BART-eligible EGUs.[142] In the 2014 Plan and its associated appendix E,[143] Texas provides information on emission allowances under CAIR compared to annual EGU emissions. The 2014 Plan also outlined the status of other measures mentioned in its 2009 Plan including the status of EGU controls for Texas ozone nonattainment areas, and the Mass Emissions Cap-and-Trade (MECT) Program in the Houston-Galveston-Brazoria ozone nonattainment area. The EPA proposes that the requirements regarding reporting the status of implementation of measures and estimation of emissions reductions from implementation of those measures for the first implementation period have been met.

2. Visibility Conditions and Changes

Section 51.308(g)(3) requires, for each Class I area within a State, an assessment of the following visibility conditions and changes, with values for most impaired and least impaired days expressed in terms of five-year averages of these annual values: current visibility conditions for the most and least impaired days; difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions; and, change in visibility impairment for the most impaired and least impaired days over the past five years. Texas provided this information in Chapter 3 of its 2014 Plan. Texas reported the annual average visibility from the 2011 IMPROVE report for the 20 percent best (least

[140] The Regional Haze Rule requires States to provide in the progress report an assessment of whether the current ''implementation plan'' is sufficient to enable the States to meet all established RPGs under 40 CFR 51.308(g). The term ''implementation plan'' is defined for purposes of the Regional Haze Rule to mean any SIP, FIP, or Tribal Implementation Plan. As such, the Agency may consider measures in any issued FIP as well as those in a State's regional haze plan in assessing the adequacy of the ''existing implementation plan'' under 40 CFR 51.308(g) and (h).

[141] The CENRAP is a collaborative effort of tribal governments, State governments and various federal agencies representing the central States (Texas, Oklahoma, Louisiana, Arkansas, Kansas, Missouri, Nebraska, Iowa, Minnesota; and tribal governments included in these States) that provided technical and policy tools for the central States and tribes to comply with the EPA's Regional Haze regulations. Due to lack of funding, CENRAP subsequently ceased to function, and States now communicate through the Central States Air Resource Agencies (CenSARA) with the other States that were part of CENRAP.

[142] CAIR was subsequently remanded and replaced by CSAPR, which led to EPA issuing a limited disapproval of Texas's 2009 Regional Haze SIP due to its reliance on CAIR. However, at the time that Texas submitted the progress report in 2014, all sources that were covered by CAIR continued to comply with the requirements of the program as CSAPR was vacated and subject to pending legal challenges.

[143] See Table 2–6 in Texas's 2014 Plan (page 2–7).

impaired) and 20 percent worst (most impaired) days at Big Bend and Guadalupe Mountains National Parks.[144] The State calculated the change in visibility between five-year average baseline visibility conditions from 2000–2004 and the five-year average visibility conditions for 2007–2011 (the most recent period at the time of the progress report). The results were tabulated for the 20 percent best and worst days and then compared to the 2018 RPGs to determine the amount of visibility improvement achieved.[145]

The TCEQ reported that Big Bend and Guadalupe Mountains showed improved visibility from the 2000–2004 baseline to the most recent period available (2007–2011) at the time of the 2014 Plan's submittal during the 20 percent worst days.[146] Both Class I areas also showed improvement from the baseline period on the 20 percent best days and satisfied the goal of no visibility degradation for the first implementation period. The progress report showed that the visibility at Big Bend and Guadalupe Mountains during the 2007–2011 period were 0.6 and 1.9 dv, respectively, below the 2000–2004 baseline for the 20 percent worst days and 0.2 and 1.0 dv, respectively, below the baseline for the 20 percent best days as reflected in Tables 8 and 9.[147]

TABLE 8—VISIBILITY AT TEXAS CLASS I AREAS FOR THE 20 PERCENT WORST DAYS

[Five-year avg.]

| Class I area | Baseline (2000–2004) (dv) | (2007–2011) (dv) | Most recent minus baseline (dv) |
|---|---|---|---|
| Big Bend National Park | 17.3 | 16.7 | −0.6 |
| Guadalupe Mountains National Park | 17.2 | 15.3 | −1.9 |

* A negative sign indicates a reduction from the baseline.

TABLE 9—VISIBILITY AT TEXAS CLASS I AREAS FOR THE 20 PERCENT BEST DAYS

[Five-year avg.]

| Class I area | Baseline (2000–2004) (dv) | Most recent (2007–2011) (dv) | Most recent minus baseline (dv) |
|---|---|---|---|
| Big Bend National Park | 5.8 | 5.6 | −0.2 |
| Guadalupe Mountains National Park | 5.9 | 4.9 | −1.0 |

* A negative sign indicates a reduction from the baseline

When comparing the 2018 RPGs with the observed 2007–2011 five-year visibility trends for the 20 percent worst days in the progress report, both national parks are achieving the visibility improvement needed to meet the 2018 RPGs established in the Texas 2009 Plan. Big Bend's visibility improved to almost match its 2018 RPG of 16.6 dv and Guadalupe Mountains already realized more visibility improvement than needed to meet its 2018 RPG of 16.3 dv. The EPA thus proposes to conclude that the State has adequately addressed the applicable provisions under 40 CFR 51.308(g)(3) with respect to the visibility conditions at Texas Class I areas.

3. Emissions Tracking

Section 51.308(g)(4) requires an analysis tracking the change for the previous five years in emissions of pollutants, identified by type of source or activity, contributing to visibility impairment from all sources and activities within the State. In Chapter 4 of its 2014 Plan, Texas provides statewide emissions summaries for several source categories for inventory years 2005 (updated), 2008, and 2011.[148] Texas evaluated statewide trends in total emissions for $NO_X$, $SO_2$, and $PM_{2.5}$ as compared to the modeled projections for 2018. Figure 4–1 of the 2014 Plan shows a graphic comparison of these inventory years against the modeled projections. For all pollutants, actual emissions remained below the model projections (determined by a straight line between 2002 and 2018). The EPA proposes to conclude that the State has adequately addressed the applicable provisions under 40 CFR 51.308(g)(4) regarding emissions tracking because the State compared the most recent updated emission inventory data for key visibility impairing pollutants across Texas available at the time of progress report development with the baseline emissions used in the modeling for the regional haze plan.

4. Assessment of Anthropogenic Changes Impeding Visibility Progress

Section 51.308(g)(5) requires an assessment of any significant changes in anthropogenic emissions that have occurred over the past five years that have limited or impeded progress in reducing pollutant emissions and improving visibility. The State indicated in its 2014 Plan [149] that there were no significant changes in anthropogenic emissions within or outside the state that limited or impeded progress in reducing pollutant emissions and improving visibility at Big Bend or Guadalupe Mountains National Parks. Both national parks showed overall downward trends in visibility impairment on the worst days. The

[144] The *most and least impaired days* in the RHR for the first planning period refers to the average visibility impairment (measured in dv) for the 20 percent of monitored days in a calendar year with the highest and lowest amount of visibility impairment, respectively, averaged over a five-year period (see 40 CFR 51.301). In this notice, when we refer to ''best days'' we mean ''least impaired'' and when we refer to ''worst days'' we mean ''most impaired.''

[145] See Figures 5–1 and 5–2 of the 2014 Plan (pages 5–2 and 5–3).

[146] Progress reports for the first implementation period used specific terms to describe time-periods. ''Baseline visibility conditions'' refers to conditions during the 2000 to 2004 time-period. ''Current visibility conditions'' refers to the most recent five-year average data available at the time the State submitted its progress report for public review. ''Past five years'' refers to the five-year average previous to the five years used for ''current visibility conditions.''

[147] See Figures 3–1 and 3–2 of the 2014 Plan (pages 3–3 to 3–4).

[148] 2014 Progress Report SIP Tables 4–1 through 4–3.

[149] See Page 5–9 of the 2014 Plan.

State's analysis of categorized emission inventories from 2005 to 2011 presented in the progress report show that no significant increases in emissions within the state are occurring to impede visibility improvement or adversely affect the two Class I areas in Texas. In the 2014 Plan, Texas identifies that visibility at both Texas Class I areas is impacted by emissions from Mexico and that no recent information is available to assess changes in international emissions. Texas also requested that the EPA initiate efforts to secure international emission reductions to further improve visibility at the Texas Class I areas. The State also reported that no significant anthropogenic emission changes occurred in other States over the past five years to limit or impede visibility in Texas. As evidence to support this, the TCEQ reported that the IMPROVE sites at Class I areas in the States of New Mexico, Colorado, and Wyoming, east to the Atlantic Ocean (except for sites near the Canadian border) show reductions in visibility impairment on the 20 percent most impaired days. The TCEQ reported these downward trends in visibility impairment as proof that sources which contribute to visibility impairment in Texas were absent of major changes in emissions that would otherwise limit or impede visibility in Texas Class I areas. The EPA agrees with Texas's conclusion that there have been no significant changes in emissions of visibility impairing pollutants which have limited or impeded progress in reducing emissions and improving visibility in Class I areas during the first planning period pursuant to 40 CFR 51.308(g)(5).

5. Assessment of Current Strategy To Meet RPGs

Section 51.308(g)(6) requires an assessment of whether the implementation plan elements and strategies are sufficient to enable Texas, or other states with Class I areas affected by emissions from Texas, to meet all their established RPGs for the first planning period. The EPA views this requirement as a qualitative assessment, in light of emissions and visibility trends and other readily available information, as to whether Class I areas affected by the state were on track to meet their 2018 RPGs. In its 2014 Plan, the TCEQ determined that the strategies outlined in the 2009 Plan were sufficient to enable Texas and other states with Class I areas affected by emissions from Texas to meet all established RPGs. The evaluation set forth in the 2014 Plan for the Class I areas in Texas was based on the controls and RPGs established in the 2009 Plan. The TCEQ assessed the strategies in the 2009 Plan based upon projected emissions and modeling results. The 2014 Plan showed that the 2005–2011 emission trends for $SO_2$, $NO_X$, and PM, which are the main contributing pollutants to regional haze in Texas, decreased by 261,003 tpy $SO_2$, 212,107 tpy $NO_X$, and 29,335 tpy $PM_{2.5}$, and 215,716 tpy $PM_{10}$. Based on available monitored data at the time, comparing the Texas 2018 RPGs with the observed five-year 2007–2011 visibility trends for the 20 percent worst days indicated that both Texas Class I areas had, or nearly had, achieved the visibility improvement needed to meet the 2018 RPGs established in the 2009 SIP.[150] In the 2014 Plan, the TCEQ identified that sources in Texas also impact 12 other Class I areas in six other states.[151] The TCEQ compared the 2018 RPGs to the monitored visibility at these areas on the 20 percent worst days for the five-year average trends from the 2000–2004 baseline, 2002–2006, and 2007–2011 periods.[152] The EPA proposes to find that the State adequately addressed the applicable provisions under 40 CFR 51.308(g)(6) regarding the strategy assessment. In its 2014 Plan, Texas describes the improving visibility trends and provides an overview of emission reductions to support the determination that the regional haze plan is sufficient to meet the 2018 RPGs for Class I areas in the State and Class I areas in other States impacted by Texas emissions.

6. Review of Visibility Monitoring Strategy

Section 51.308(g)(7) requires that States conduct a review of the current visibility monitoring strategy and make any modifications to the strategy as necessary. The monitoring strategy for regional haze in Texas relies upon participation in the IMPROVE[153] network, which is the primary monitoring network for regional haze nationwide. The IMPROVE network provides a long-term record for tracking visibility improvement or degradation. As discussed in the 2014 Plan, Texas currently relies on data collected through the IMPROVE network to satisfy the regional haze monitoring requirements. The TCEQ reported observed visibility data annually for Big Bend and Guadalupe Mountains National Parks to the EPA from the IMPROVE dataset and tracked the annual visibility index at both Class I areas for comparison of baseline, current, and natural conditions. The TCEQ continues to track these visibility trends at these sites and identified no future changes in this network. The EPA proposes to conclude that the State has adequately addressed the applicable provision under 40 CFR 51.308(g)(7) for a visibility monitoring strategy.

7. Determination of Adequacy of Existing Implementation Plan

At the same time a State is required to submit a progress report to the EPA under 40 CFR 51.308(g), States must also make a declaration of adequacy regarding the existing implementation plan under 40 CFR 51.308(h). Pursuant to 40 CFR 51.308(h), Texas provided a negative declaration under 40 CFR 51.308(h)(1) stating that no additional controls were necessary during the first implementation period and that the existing 2009 Plan is adequate for continued progress toward the established RPGs for the Class I areas in Texas and for Class I areas in other States impacted by Texas emissions. Texas made this determination based on the analysis conducted showing the emission reductions and visibility improvement trends as detailed in the preceding sections. For the reasons discussed in section V.A of this document, we are proposing to approve Texas's 2009 Plan. In section V.A of this document, we explain why Texas's conclusion that additional measures are not necessary to meet the 2018 goals. Therefore, we are proposing to approve Texas's negative declaration that no further revisions to the 2009 Plan are necessary under 40 CFR 51.308(h)(1).

8. Consultation With Federal Land Managers

Section 40 CFR 51.308(i) requires the State to provide the designated FLMs with an opportunity for in-person consultation at least sixty days prior to holding any public hearings on a SIP revision for the first implementation period. Texas consulted with FLMs on June 19, 2013. The FLM comment period was from June 19, 2013, to August 20, 2013, and comments were posted to the TCEQ website in August 2013. Texas held a public hearing on

[150] 2014 Progress Report, Chapter 5.

[151] Data was marked as unavailable for Breton Wilderness in Louisiana by TCEQ.

[152] 2014 Progress Report (pages 5–5 to 5–8).

[153] See 64 FR 35714, 35715 (July 1, 1999). Data from IMPROVE show that visibility impairment caused by air pollution occurs virtually all the time at most national parks and wilderness areas. The average visual range in many Class I areas (*i.e.,* national parks and memorial parks, wilderness areas, and international parks meeting certain size criteria) in the western United States is 100–150 km, or about one-half to two-thirds of the visual range that would exist without anthropogenic air pollution. In most of the eastern Class I areas of the United States, the average visual range is less than 30 km, or about one-fifth of the visual range that would exist under natural conditions.

September 24, 2013. Texas considered and responded to all comments from FLMs, the EPA, and the public. The EPA proposes to conclude that Texas has adequately satisfied the applicable FLM consultation provisions under 40 CFR 51.308(i).

9. Proposed Action

For the reasons set forth in section V.C of this document, the EPA is proposing to approve Texas's 2014 Plan as satisfying the progress report SIP requirements for the first planning period contained in 40 CFR 51.308(g), (h), and (i).

## VI. Withdrawal of 2024 Proposed Partial Approval and Partial Disapproval

On July 20, 2021, the TCEQ submitted the 2021 Plan to address the State's regional haze obligations for the second planning period, which runs through 2028, in accordance with CAA sections 169A and the RHR at 40 CFR 51.308(f). On October 15, 2024, the EPA proposed to partially approve and partially disapprove the 2021 Plan under the CAA and the RHR for the program's second implementation period. In that action, the EPA proposed to find that Texas's 2021 Plan did not meet all the Regional Haze requirements for the second planning period. Specifically, the EPA proposed to disapprove the elements of the 2021 Plan related to requirements contained in 40 CFR 51.308(f)(2), (f)(3), and (i). The EPA proposed to approve the elements of the 2021 Plan related to requirements contained in 40 CFR 51.308(f)(1), (f)(4), (f)(5) [154] and (f)(6). The action received several adverse comments. In this notice of proposed rulemaking, the EPA is withdrawing our October 16, 2024, proposed partial approval and partial disapproval of Texas's 2021 Plan.[155] We are now proposing to fully approve Texas's 2021 Plan, based on a change in policy as first articulated in the recent second planning period action for West Virginia [156] as discussed in section VII.A of this document. Commenters who would like the EPA to consider any comments submitted on the October 16, 2024, proposed rule must resubmit such comments during the comment period for this proposed action.[157]

[154] 40 CFR 51.308(f)(5) requires that the second planning period SIP revision address the requirements listed in paragraphs (g)(1) through (5).

[155] 89 FR 83338 (October 15, 2024).

[156] 90 FR 16478 (April 18, 2025).

[157] The rulemaking docket for the now withdrawn action is available under Docket ID EPA–R06–OAR–2021–0539 at *www.regulations.gov.*

## VII. The EPA's Evaluation and Proposed Action on Texas's 2021 Plan

### *A. The EPA's Rationale for Proposing Approval*

The EPA is proposing to approve Texas's submission because we have determined that Texas's 2021 Plan for the second planning period meets the applicable statutory and regulatory requirements. In this proposed action, the EPA notes that it is the Agency's policy, as announced in the EPA's recent proposed approval of the West Virginia Regional Haze SIP,[158] that where visibility conditions for a Class I area impacted by a State are projected to be below the URP in 2028, and the State has considered the four statutory factors, the State has presumptively demonstrated reasonable progress for the second implementation period for that area. The EPA acknowledges that this reflects a change in policy as to how the URP should be used in the evaluation of regional haze second planning period SIPs. However, the EPA finds that this policy better aligns with the purpose of the statute and RHR, which is achieving ''reasonable'' progress, not maximal progress, toward Congress's natural visibility goal.

In developing the regulations required by CAA section 169A(b), the EPA established the concept of the uniform rate of progress, or URP, for each Class I area. The URP is determined by drawing a straight line from the measured 2000–2004 baseline conditions (in deciviews) for the 20% most impaired days at each Class I area to the estimated 20% most impaired days natural conditions (in deciviews) in 2064. From this calculation, a URP value can be calculated for each year between 2004 and 2064. For each Class I area, there is a regulatory requirement to compare the projected visibility impairment (represented by the reasonable progress goal, or ''RPG'') at the end of each planning period to the URP (*e.g.,* in 2028 for the second planning period).[159] 40 CFR 51.308(f)(1)(vi). If the projected RPG is above the URP, then an additional ''robust demonstration'' requirement is triggered for each state that contributes to that Class I area.[160]

In this proposed action, the EPA is proposing to approve Texas's 2021 Plan because the State evaluated potential additional measures, considered the four statutory factors, and the visibility conditions for affected Class I areas are anticipated to be below the 2028 URP, thus supporting the State's decision regarding reasonable progress for the second planning period.

The EPA has the discretion and authority to change policy. In *FCC* v. *Fox Television Stations, Inc.,* the U.S. Supreme Court plainly stated that an agency is free to change a prior policy and ''need not demonstrate . . . that the reasons for the new policy are better than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better.'' 566 U.S. 502, 515 (2009) (referencing Motor *Vehicle Mfrs. Ass'n of United States, Inc.* v. *State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29 (1983)). *See also Perez* v. *Mortgage Bankers Assn.,* 135 S. Ct. 1199 (2015). As stated above, the EPA believes that its new policy here better aligns with the purpose of the statute and RHR, which is achieving ''reasonable'' progress, not maximal progress, toward Congress's natural visibility goal.

In the 2017 RHR Revisions, the EPA addressed the role of the URP as it relates to a State's development of its second planning period SIP.[161] Specifically, in response to comments suggesting that the URP should be considered a ''safe harbor'' and relieve States of any obligation to consider the four statutory factors, the EPA explained that the URP was not intended to be such a safe harbor.[162] The EPA summarized such comments as follows:

Some commenters stated a desire for corresponding rule text dealing with situations where RPGs are equal to (''on'') or better than (''below'') the URP or glidepath. Several commenters stated that the URP or glidepath should be a ''safe harbor,'' opining that states should be permitted to analyze whether projected visibility conditions for the end of the implementation period will be on or below the glidepath based on on-the-books or on-the-way control measures, and that in such cases a four-factor analysis should not be required.'' *Id.*

Other comments indicated a similar approach, such as ''a somewhat

[158] 90 FR 16478 (April 18, 2025).

[159] We note that RPGs are a regulatory construct that we developed to address statutory mandate in section 169B(e)(1), which required our regulations to include ''criteria for measuring 'reasonable progress' toward the national goal.'' Under 40 CFR 51.308(f)(3)(ii), RPGs measure the progress that is projected to be achieved by the control measures a State has determined are necessary to make reasonable progress. Consistent with the 1999 RHR, the RPGs are unenforceable, though they create a benchmark that allows for analytical comparisons to the URP and mid-implementation-period course corrections if necessary. 82 FR 3091–3092 (January 10, 2017).

[160] 40 CFR 51.308(f)(3)(ii).

[161] 82 FR 3078 (January 10, 2017).

[162] 82 FR 3078, 3099 (January 10, 2017).

narrower entrance to a 'safe harbor,' by suggesting that if current visibility conditions are already below the end-of-planning-period point on the URP line, a four-factor analysis should not be required.'' *Id.* The EPA was clear in its response: ''We do not agree with either of these recommendations.'' The EPA explained its position as follows: ''The CAA requires that each SIP revision contain long-term strategies for making reasonable progress, and that in determining reasonable progress states must consider the four statutory factors. Treating the URP as a safe harbor would be inconsistent with the statutory requirement that states assess the potential to make further reasonable progress towards natural visibility goal in every implementation period.'' *Id.* (footnote omitted).

However, so long as a State considers the four factors, neither the CAA nor the RHR prohibit the presumption that a Class I area below the URP is achieving reasonable progress. Indeed, we think such a policy better aligns with the statutory goal while recognizing the considerable improvements in visibility impairment that have been made by a wide variety of State and federal programs in recent decades.

The EPA's determinations are described in more detail in following portions of section VII of this document.

*B. Identification of Class I Areas*

Section 169A(b)(2) of the CAA requires each state in which any Class I area is located or ''the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility'' in a Class I area to have a plan for making reasonable progress toward the national visibility goal. The RHR implements this statutory requirement at 40 CFR 51.308(f), which provides that each state's plan ''must address regional haze in each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State that may be affected by emissions from within the State,'' and paragraph (f)(2), which requires each state's plan to include a long-term strategy that addresses regional haze in such Class I areas.

The EPA concluded in the 1999 RHR that ''all [s]tates contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area,'' [163] and this determination was not changed in the 2017 RHR. Critically, the statute and regulation both require that the cause-or-contribute assessment consider all emissions of visibility impairing pollutants from a state, as opposed to emissions of a particular pollutant or emissions from a certain set of sources.

To address 40 CFR 51.308(f), Texas identified the two mandatory Class I areas within its borders, Big Bend National Park (Big Bend) and Guadalupe Mountains National Park (Guadalupe Mountains). Both parks are located in west Texas. Big Bend National Park (Big Bend) is in Brewster County and borders the Rio Grande and Mexico. Guadalupe Mountains National Park (Guadalupe Mountains) is in Culberson County and borders New Mexico. Both are managed by the National Park Service.

In addition to the two Class I areas in Texas, the TCEQ conducted area of influence analyses (AOIs) paired with emissions-over-distance (Q/d) analyses for 11 Class I areas in other states including Louisiana, Arkansas, Colorado, Missouri, Oklahoma, and New Mexico. The AOIs were generated using ammonium sulfate and ammonium nitrate extinction-weighted residence times (EWRT).[164] The Class I areas included in the analysis from Texas and neighboring states are presented in Table 10, which is taken from Table 7–3: *Class I Areas included in AOI Analyses* of the 2021 Texas Regional Haze Plan.[165]

TABLE 10—CLASS I AREAS INCLUDED IN AOI ANALYSES OF THE 2021 TEXAS REGIONAL HAZE PLAN

| Site | Code | State | County | Latitude | Longitude |
|---|---|---|---|---|---|
| Big Bend National Park | BIBE1 | TX | 48043 | 29.3027 | −103.178 |
| Breton Island | BRIS1 | LA | 22075 | 30.10863 | −89.76168 |
| Caney Creek | CACR1 | AR | 05113 | 34.4544 | −94.1429 |
| Great Sand Dunes | GRSA1 | CO | 08003 | 37.7249 | −105.5185 |
| Guadalupe Mountains National Park | GUMO | TX | 48109 | 31.833 | −104.8094 |
| Hercules-Glades | HEG1 | MO | 29213 | 36.6138 | −92.9221 |
| Mingo | MING1 | MO | 29207 | 36.9717 | −90.1432 |
| Rocky Mountain National Park | ROMO1 | CO | 08069 | 40.2783 | −105.5457 |
| Salt Creek | SACR1 | NM | 35005 | 33.4598 | −104.4042 |
| Upper Buffalo Wilderness | UPBO1 | AR | 05101 | 35.8258 | −93.203 |
| Wheeler Peak | WHPE1 | NM | 35055 | 36.5854 | −105.42 |
| White Mountain | WHIT1 | NM | 35027 | 33.4687 | −105.5349 |
| Wichita Mountains | WIMO1 | OK | 40031 | 34.7323 | −98.713 |

The EPA finds that Texas's identification of out of state Class I areas Texas sources potentially affect was reasonable. While we previously raised some concerns in our now-withdrawn 2024 proposal about Texas not specifically identifying the Bosque del Apache (BOAP) Class I area in New Mexico, Texas's 2021 Plan did identify multiple Class I areas in New Mexico, including the Salt Creek Wilderness Area and the White Mountain Wilderness Area. BOAP is further west than the Class I areas Texas considered, and further from Texas, resulting in larger distance (d) from Texas sources and lower Q/d values that would not have resulted in any additional sources being selected for further evaluation using the four statutory factors. Upon further review of Texas's 2021 Plan, the EPA is proposing that Texas adequately addressed the elements of 40 CFR 51.308(f) and (f)(2) regarding identification of Class I areas within the State and outside the State that may be affected by emission from within Texas.

[163] 64 FR 35714, 35721 (July 1, 1999).

[164] 2021 Plan at 7–6. Extinction-weighted residence time is calculated from the time that a particular back-trajectory from a Class I area spent in the grid square containing the individual emission source of interest (residence time) weighted by the extinction coefficient for the visibility precursor (sulfate and nitrate).

[165] For the purposes of the AOI analysis, Carlsbad Caverns was represented by data from the Guadalupe Mountains National Park monitor. *See* 2021 Texas Regional Haze Plan at 1–5.

*C. Calculations of Baseline, Current, and Natural Visibility Conditions; Progress to Date; and the Uniform Rate of Progress*

Section 51.308(f)(1) requires states to determine the following for ''each mandatory Class I Federal area located within the State'': baseline visibility conditions for the most impaired and clearest days, natural visibility conditions for the most impaired and clearest days, progress to date for the most impaired and clearest days, the differences between current visibility conditions and natural visibility conditions, and the URP. This section also provides the option for states to propose adjustments to the URP line for a Class I area to account for visibility impacts from anthropogenic sources outside the United States and/or the impacts from wildland prescribed fires that were conducted for certain, specified objectives.[166]

In Chapter 4 of the 2021 Texas Regional Haze Plan, Texas determines and presents the baseline, natural, and current visibility conditions for both the 20 percent most anthropogenically impaired days and the 20 percent clearest days for the State's two Class I Areas consistent with the EPA's RHR and guidance. In the 2021 Texas Regional Haze Plan, Texas used visibility data from IMPROVE monitoring sites to calculate baseline visibility conditions. Consistent with the RHR, Texas calculated baseline visibility based on data from 2000–2004. For Big Bend specifically, baseline visibility conditions are based on valid data for 2001 through 2004 because 2000 did not meet completeness criteria.[167] Baseline visibility indices for Big Bend and Guadalupe Mountains are presented in the 2021 Texas Regional Haze Plan in Table 4–4. In our review, we identified that the information provided by Texas in Chapter 4 of its 2021 Regional Haze Plan as to the baseline and current conditions on the 20 percent clearest days is inconsistent with the IMPROVE monitoring data and information presented in Chapter 8. Based on the information in Table 8–42 of the 2021 Regional Haze Plan, Texas identifies the correct data set for where this information is located but presents the incorrect data in Chapter 4. Based on the data source that Texas identified in Chapter 8, we present information in Tables 11–13 consistent with information in Chapter 8 of its Plan and the IMPROVE monitoring data.[168]

TABLE 11—ESTIMATE OF BASELINE VISIBILITY CONDITIONS (2000–2004) FOR CLASS I AREAS IN TEXAS

| Class I area | Most impaired haze index (dv) | Clearest haze index (dv) |
|---|---|---|
| Big Bend | 15.57 | 5.78 |
| Guadalupe Mountains | 14.60 | 5.92 |

Using the revised IMPROVE algorithm [169] and the methodology described in the 2018 Visibility Tracking Guidance, Texas determined natural visibility conditions for Big Bend and Guadalupe Mountains, presented in Table 4–3 of the 2021 Plan, and included in the following Table 12.

TABLE 12—ESTIMATE OF NATURAL VISIBILITY CONDITIONS FOR CLASS I AREAS IN TEXAS

| Class I area | Most impaired haze index (dv) | Clearest haze index (dv) |
|---|---|---|
| Big Bend | 5.33 | 1.62 |
| Guadalupe Mountains | 4.83 | 0.99 |

The current visibility conditions, which are based on 2014–2018 monitoring data, are presented in the 2021 Plan in Table 4–5 with corrected values included in the following Table 13.

TABLE 13—ESTIMATE OF CURRENT VISIBILITY CONDITIONS (2014–2018) FOR CLASS I AREAS IN TEXAS

| Class I area | Most impaired haze index (dv) | Clearest haze index (dv) |
|---|---|---|
| Big Bend | 14.06 | 5.17 |
| Guadalupe Mountains | 12.64 | 4.73 |

While the 2021 Plan does not specifically present the differences between current visibility conditions and natural visibility conditions as well as the progress to date, we include these calculations using the corrected information in the following Tables 14 and 15.

[166] 40 CFR 51.308(f)(1)(vi)(B).

[167] *See* 2021 Texas Regional Haze Plan at 4–4.

[168] *https://views.cira.colostate.edu/fed/. See also* 2020 Data Completeness Memo, Table 1.

[169] Marc Pitchford et al., *Revised Algorithm for Estimating Light Extinction from IMPROVE Particle Speciation Data, J. Air & Waste Mgmt. Ass'n* 1326, 1326–1336 (2007), *https://doi.org/10.3155/1047-3289.57.11.1326.*

TABLE 14—PROGRESS TO DATE (DIFFERENCES BETWEEN BASELINE AND 2014–2018 CURRENT CONDITIONS) FOR CLASS I AREAS IN TEXAS

| Class I area | Most impaired (dv) | Clearest haze (dv) |
|---|---|---|
| Big Bend | 1.51 | 0.61 |
| Guadalupe Mountains | 1.96 | 1.19 |

TABLE 15—DIFFERENCES BETWEEN 2014–2018 CURRENT AND NATURAL CONDITIONS FOR CLASS I AREAS IN TEXAS

| Class I area | Most impaired (dv) | Clearest haze (dv) |
|---|---|---|
| Big Bend | 8.73 | 3.55 |
| Guadalupe Mountains | 7.81 | 3.74 |

The RHR allows states the option to adjust the 2064 glidepath endpoint to account for both international anthropogenic and certain prescribed fire impacts at Class I areas. EPA's 2018 Visibility Tracking Guidance [170] provides recommendations to assist states in satisfying their obligations under 40 CFR 51.308(f)(1); specifically, in developing information on baseline, current, and natural visibility conditions, and in making optional adjustments to the URP to account for the impacts of international anthropogenic emissions and prescribed fires.[171]

Texas used its own CAMx modeling to adjust the URP to account for international anthropogenic emissions consistent with one of the approaches identified in EPA's 2018 Visibility Tracking Guidance.[172] Specifically, Texas performed a brute force ''zero-out'' model run in combination with other model runs. As explained in greater detail in the 2020 Ramboll modeling report, this approach generally involves at least two or three model runs: one ''base case'' run (2016 in this case) with all emissions, one future base case run (2028 in this case) with all the future case emissions, and one with anthropogenic emissions from outside of the U.S. removed from the future base case simulation ''zero-out''.[173] The difference between these simulations provides an estimate of the air quality impact due to the international anthropogenic emissions.[174] Texas's adjusted URP for Big Bend and Guadalupe Mountains are presented in Figures 8–28 and 8–29 of its 2021 Texas Regional Haze Plan. Texas's adjusted URP in 2028 on the 20% most impaired visibility days is 14.38 deciviews for Big Bend and 12.81 for Guadalupe Mountains.[175] In the EPA's September 2019 Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling memorandum [176] (EPA 2019 Modeling TSD), the EPA used 2028 modeling results to quantify the international impacts at Class I areas on the 20% most anthropogenically impaired days. The results for Big Bend and Guadalupe Mountains provided for in Texas's modeling are within the range of 2028 adjusted glidepath values provided for in the EPA 2019 Modeling TSD.[177]

The EPA finds that the visibility condition calculations for the two Texas Class I Areas meet the requirements of 40 CFR 51.308(f)(1). Therefore, the EPA proposes to approve the portions of the 2021 Texas Regional Haze Plan relating to 40 CFR 51.308(f)(1).

### *D. Long-Term Strategy for Regional Haze*

#### 1. Four Factor Analysis

Each state having a Class I area within its borders or emissions that may affect visibility in a Class I area must develop a long-term strategy for making reasonable progress towards the national visibility goal.[178] The long-term strategy ''must include the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress, as determined pursuant to (f)(2)(i) through (iv).'' [179] The amount of progress that is ''reasonable progress'' is based on consideration of the four statutory factors in CAA section 169A(g)(1) in an evaluation of potential control options for sources of visibility impairing pollutants, which is referred to as a ''four-factor'' analysis. After considering the four statutory factors, all measures that are determined to be necessary to make reasonable progress must be in the long-term strategy.

Section 51.308(f)(2)(i) provides the requirements for the four-factor analysis. The first step of this analysis entails selecting the sources to be evaluated for emission reduction measures. The RHR provides states flexibility in selecting sources, and to that end, 40 CFR 51.308(f)(2)(i) requires States to provide a description of the criteria it used to determine which sources or groups of sources it will consider for potential four-factor control analysis. A threshold question at this step is which visibility impairing pollutants will be analyzed. Texas focused on $NO_X$ and $SO_2$ emissions from point sources in its control strategy analysis for the second planning period. Texas explained these are the main anthropogenic pollutants that affect visibility at Class I areas in Texas and Class I areas in neighboring states. Texas further stated that, ''on an individual basis, point sources are the largest contributors to $SO_2$ and $NO_X$,'' and thus

[170] The 2018 Visibility Tracking Guidance references and relies on parts of the 2003 Tracking Guidance: ''Guidance for Tracking Progress Under the Regional Haze Rule,'' which can be found at *https://www3.epa.gov/ttnamti1/files/ambient/visible/tracking.pdf*.

[171] *See* 82 FR 3078, 3103–05 (January 10, 2017).

[172] 2018 Visibility Tracking Guidance at pg. 20.

[173] Ramboll Final Report: Regional Haze Modeling to Evaluate Progress in Improving Visibility (June 25, 2020).

[174] 2018 Visibility Tracking Guidance at pg. 20; Ramboll Final Report: Regional Haze Modeling to Evaluate Progress in Improving Visibility (June 25, 2020), pg. 27.

[175] 2021 Texas Regional Haze Plan, Table 8–43 at 8–59 and Table 8–46 at 8–67.

[176] Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling. *https://www.epa.gov/visibility/technical-support-document-epas-updated-2028-regional-haze-modeling*. The EPA Office of Air Quality Planning and Standards, Research Triangle Park (September 19, 2019).

[177] EPA 2019 Modeling TSD at 54, 56, and Table 5–2 at 59.

[178] CAA section 169A(b)(2)(B).

[179] 40 CFR 51.308(f)(2).

Texas elected to focus on point sources in this planning period.[180]

To determine the necessary emission reductions measures, a state must first select the sources to evaluate. Texas's source selection methodology relied on a two-step approach. As the first step for source selection, Texas developed $NO_X$ and $SO_2$ areas of influence (AOIs) for thirteen [181] Class I areas (in Texas and nearby states) to identify areas that may contain sources of $NO_X$ and $SO_2$ that were expected to contribute to visibility impairment at these areas. The AOIs are graphical representations of the extinction weighted residence time (EWRT), which combines air flow patterns with ammonium sulfate and ammonium nitrate extinction measured at IMPROVE monitors at the Class I areas on the 20% most impaired days. At the second step, Texas then applied a Q/d threshold for $NO_X$ and for $SO_2$ of greater than or equal to five to point sources located within the geographical area of the selected AOI threshold.[182] Following this methodology, Texas selected 18 sources for further analysis of controls for either $NO_X$ emissions, $SO_2$ emissions, or both depending on whether the source had a Q/d over 5 for either $NO_X$ or $SO_2$ and was within the relevant AOI.[183] Put another way, if a source was within the AOI and above the Q/d threshold for $NO_X$, this triggered analysis for potential control retrofit or production changes for that pollutant. If an emissions unit triggered analysis for both $NO_X$ and $SO_2$, control strategies for both pollutants were analyzed separately and concurrently.

Texas conducted analyses that evaluated potential emission reduction measures using the four statutory factors for 15 out of the 18 selected sources.[184] For EGUs, Texas considered and evaluated dry sorbent injection (DSI) at a 90% control efficiency, spray dryer absorber (SDA) at a 95% control efficiency, and wet limestone scrubbing systems (wet FGD) at a 98% control efficiency as potential $SO_2$ control options, and selective catalytic reduction (SCR) at a 98% control efficiency and selective non-catalytic reduction (SNCR) at a 50% control efficiency as potential $NO_X$ controls.[185] For EGUs with existing $SO_2$ controls, Texas considered and evaluated upgrading the control efficiency of the existing controls to achieve a control efficiency of 95%.[186] For non-EGUs, Texas considered various $NO_X$ and $SO_2$ control options depending on the type of source and whether it had existing controls.[187] For three of the sources, the Orange Carbon Black Plant, the Oxbow Coke Calcining Plant, and the Streetman Lightweight Aggregate Plant, Texas determined that there were no technically feasible controls.[188]

In terms of the cost of compliance factor, Texas performed a cost analysis for each control option determined to be technically feasible for all selected EGUs and non-EGUs to arrive at a cost per ton of emissions reduced for controls.[189] The TCEQ estimated the capital cost of air pollution control equipment or methods using the most recent data available from Sargent and Lundy for EGUs without existing controls, data and information from previous analyses for EGUs with existing $SO_2$ controls, and cost data and information from the EPA, literature, and a vendor for non-EGUs.[190] Annual operating and maintenance costs associated with the potential control measure were estimated from the same data and information used for estimating capital costs for each source.[191] The annualized capital cost was then summed with the annual operating cost for a control measure to arrive at a final total annualized cost, for each potential control option.[192] After estimating total potential emission reductions of each $NO_X$ and $SO_2$ control option using baseline emissions for EGUs and non-EGUs, the total annualized cost was divided by the tons of pollutant emissions reduced to estimate the cost per ton of emissions reduced.

In terms of the time necessary for compliance factor, Texas generally found that the time necessary for a single source to design, build, and install $SO_2$ scrubbing technology is anticipated to be about three years.[193] Texas also found that the time needed to build and commence operation of dry sorbent injection (DSI) technology could be less given that scrubbing vessels would not need to be constructed. Texas found that the time to design, build, and install the various $NO_X$ control technologies would also be about three years.[194]

In terms of the energy and nonair quality environmental impacts of compliance factor, Texas included such impacts for a particular control measure, to the extent quantifiable, in the cost estimates.[195] In terms of the remaining useful life factor, Texas also considered this factor in as part of its cost estimates for potential control measures. Specifically, the TCEQ considered the remaining useful life in evaluating and selecting an appropriate capital recovery factor.[196] The TCEQ evaluated annualized capital costs of control, and subsequently total annualized costs and costs per ton, based on capital recovery factors of five, 15, and 30 years.[197] Texas ultimately determined that a capital life of 15 years was a reasonable 'mid-point' given that some of the selected Texas EGUs could not reasonably be expected to operate an additional 30 years and the difficulty in estimating remaining source life for non-EGUs.[198] Texas also recognized that a capital life of five years may be too short since most of the units selected for cost control analysis for this planning period could reasonably be expected to continue to operate longer than five years.[199] Additional information and detail about Texas's control strategy analysis and consideration of the four statutory factors can be found in Chapter 7 and appendix B of Texas's 2021 Plan.

After characterizing the four statutory factors, Texas weighed the costs of compliance factor and projected visibility benefits of potential controls. Although visibility impact is not one of the factors required for consideration

[180] 2021 Texas Regional Haze Plan at 7–3.

[181] As discussed previously in section IV.C. of this document, the monitor for Guadalupe Mountains also serves as the monitor for Carlsbad Caverns in New Mexico.

[182] To calculate the Q/d for point sources, the TCEQ used 2028 projected emissions (Q in tons per year) and distance from the Class I area monitor to the source (d in kilometers). For non-EGUs, Texas estimated 2028 future year emissions from 2016 reported emissions from the State of Texas Air Reporting System (STARS) coupled with growth factors developed by the consulting firm, Eastern Research Group, Inc. (ERG) *See* 2021 Texas Regional Haze Plan at 7–9. For EGUs, the TCEQ used data from the Eastern Regional Technical Advisory Committee (ERTAC) to estimate EGU projections for 2028. *See* 2021 Texas Regional Haze Plan at 7–9. Additional information that Texas used in developing its 2021 Plan is available in the docket for this action.

[183] 2021 Plan, at 7–2—7–9.

[184] For one EGU, Oak Grove Steam Electric Station, Texas determined that both units at the source already operated wet limestone scrubbers that are achieving over 98 percent control efficiency. Further information on the controls considered, and the control analysis conducted can be found in appendix B of Texas's 2021 Plan.

[185] 2021 Plan, appendix B at B–1.

[186] 2021 Plan, appendix B at B–1 and B–5 to B–6.

[187] 2021 Plan, appendix B at B–1.

[188] 2021 Plan, appendix B at B–9 to B–11.

[189] 2021 Plan, 7–11 to 7–12, appendix B. Additional information that Texas used in developing its 2021 Plan is available in the docket for this action.

[190] 2021 Plan, 7–11 to 7–12, appendix B.

[191] 2021 Plan, 7–11 to 7–12.

[192] 2021 Plan, 7–11 to 7–12.

[193] 2021 Plan at 7–13.

[194] 2021 Plan at 7–13.

[195] 2021 Plan at 7–12, 7–14.

[196] 2021 Plan at 7–12.

[197] 2021 Plan at 7–12.

[198] 2021 Plan at 7–12.

[199] 2021 Plan at 7–12.

under the CAA and the RHR, Texas opted to evaluate and consider the visibility benefits from selected control measures evaluated in the four-factor analysis by conducting photochemical sensitivity modeling.[200] Texas relied on both the total annualized costs of controls in considering the costs of compliance, which it calculated was over $200 million, and the lack of a perceptible improvement in visibility at any Class I area, in determining that it was not reasonable to include any additional control measures in its long-term strategy to make reasonable progress.[201]

In accordance with EPA's new policy discussed in section VII.A of this document, if a State has considered the four statutory factors and visibility conditions at the Class I areas to which the State contributes are below the 2028 URP, then the State has demonstrated that it has made reasonable progress for the second planning period. Further, as illustrated in Table 16 of this document, Texas's modeling projects that visibility conditions at all Class I areas except potentially one (discussed further in subsequent paragraphs) to which Texas potentially contributes will be below the URP in 2028.[202]

TABLE 16—TEXAS MODELING VISIBILITY PROJECTIONS FOR CLASS I AREAS

| Class I area (IMPROVE, ID, State) | 2028 Adjusted glidepath (dv) | Future year (2028) 20% most impaired days (dv) | Future year (2028) 20% clearest days (dv) |
|---|---|---|---|
| Big Bend National Park (BIBE, TX) | 14.4 | 14.2 | 4.9 |
| Guadalupe Mountains N.P. (GUMO, TX) | 12.8 | 12.2 | 4.5 |
| Breton Island W.A. (BRIS, LA) | 19.8 | 18.3 | 11.3 |
| Caney Creek W.A. (CACR, AR) | 18.8 | 17.1 | 7.8 |
| Great Sand Dunes W.A. (GRSA, CO) | 8.2 | 7.3 | 2.6 |
| Wichita Mountains W.A. (WIMO, OK) | 17.4 | 16.7 | 7.7 |
| White Mountain W.A. (WHIT, NM) | 10 | 9.5 | 2.2 |
| Salt Creek W.A. (SACR, NM) | 13.5 | 13.9 | 6.2 |
| Wheeler Peak W.A. (WHPE, NM) | 6.5 | 5.3 | 0.1 |
| Upper Buffalo W.A. (UPBU, AR) | 19.2 | 16.7 | 7.9 |
| Hercules-Glades W.A. (HEGL, MO) | 19.6 | 17.4 | 9.1 |
| Rocky Mountain N.P. (ROMO, CO) | 9.2 | 7.3 | 1.1 |
| Mingo W.A. (MING, MO) | 20.2 | 18.6 | 10.6 |

The purpose of the long-term strategy is to make reasonable progress toward Congress's national goal. Therefore, if the state has considered the four statutory factors and a Class I area is below the URP, it has presumptively made reasonable progress for the planning period. In this instance, because Texas presumptively made and will continue to make reasonable progress for this planning period, it thus follows that it is reasonable for Texas to conclude that additional emission measures are not necessary to make reasonable progress, and therefore, additional emission measures are not necessary for inclusion in Texas's long-term strategy for the second planning period. Overall point source inventory trends based on Texas's annual inventory also supports the idea that visibility conditions are likely to continue to improve. Table 17 of this document shows the point source emission data of $NO_X$ and $SO_2$ from 2018 to 2023.

TABLE 17—TEXAS POINT SOURCE EMISSIONS DATA ($NO_X$ AND $SO_2$)

[2018 to 2023]

| Pollutant (tpy) | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| $SO_2$ | 282,000 | 215,000 | 192,000 | 212,000 | 188,000 | 159,000 |
| $NO_X$ | 248,000 | 240,000 | 217,000 | 218,000 | 222,000 | 213,000 |

As illustrated in Table 17 of this document, $SO_2$ emissions from point sources decreased 123,000 tons over the five-year period between 2018 and 2023. Similarly, $NO_X$ emissions decreased over 30,000 tons over the same five-year period. Given that $SO_2$ and $NO_X$ are the main anthropogenic pollutants that affect visibility at Class I areas in Texas and Class I areas in neighboring states, these trends in emissions from point sources support the decision that additional emission measures are not necessary for inclusion in Texas's long-term strategy for the second planning period.

In light of these facts and EPA's new policy approach, the EPA agrees with Texas's conclusion that no additional control measures are necessary for inclusion in its long-term strategy and that emission reductions from state and federal programs already in place are sufficient to make reasonable progress during the second planning period.

2. Salt Creek Wilderness Area

In developing their second planning period SIP revisions, States relied on photochemical modeling to project future visibility conditions and evaluate the impact of identified emissions reductions on visibility in Class I areas. The TCEQ performed its own photochemical modeling with the assistance of a contractor (Ramboll). Because of the time intensive nature of photochemical modeling, the TCEQ began the modeling process well in advance of the July 31, 2021, deadline set forth in the Regional Haze Rule for states to submit SIP revisions for the

[200] 2021 Plan at 7–14 to 7–17.

[201] 2021 Plan, 7–14 to 7–17.

[202] 2021 Plan, Table 8–43.

second planning period.[203] Texas's 2021 Plan identified that the projected 2028 visibility conditions for Class I areas influenced by emissions from Texas sources are all below the adjusted uniform rate of progress (URP) except for the Salt Creek Wilderness Area in New Mexico (Salt Creek).

In addition to the modeling the TCEQ performed, there was other photochemical modeling conducted for use by States as part of their second planning period SIP revisions. For example, the Western Regional Air Partnership (WRAP) conducted modeling that was used by several member states in developing their second planning period plans, including New Mexico.[204] The EPA also conducted photochemical modeling in 2019, for states to use if they wished, that provided visibility projections for all Class I areas, including Salt Creek.[205] Similar to Texas, both WRAP and EPA began the modeling process well in advance of the July 31, 2021, deadline set forth in the Regional Haze Rule for states to submit SIP revisions for the second planning period with Texas developing and finalizing their modeling earlier than the WRAP modeling that New Mexico is utilizing. Likewise, the EPA's modeling was completed and shared in 2019 prior to the TCEQ or WRAP modeling being completed.[206] As such, the emissions inventory and anticipated reductions included in the modeling were based on information known at the time, and therefore, the modeled values for 2028 at Salt Creek are different for the Texas and WRAP/New Mexico, and EPA modeling. Thus, it is reasonable to expect that all three of these modeling analyses would have differences in visibility projections for Salt Creek in 2028 as well differences in how they adjusted the URP glidepath.

New Mexico has not finalized its second planning period SIP revision, and thus, the State has not finalized its long-term strategy, established a final visibility projection (the reasonable progress goal) for Salt Creek, or calculated the adjusted URP for 2028 for Salt Creek. To date, New Mexico has gone out for public comment on its draft regional haze plan for the second planning period and is working towards a final plan to submit to EPA.[207] Thus, at the time Texas submitted its 2021 Plan, Texas could not know for certain whether New Mexico would project that visibility conditions at Salt Creek would be above the adjusted URP glidepath in 2028 in its second planning period SIP.

While the TCEQ's modeling, the WRAP modeling that New Mexico is using, and the EPA modeling project that the visibility conditions in 2028 at Salt Creek will be above their respective adjusted glidepaths, the three models have different projected visibility conditions in 2028 as well as different adjusted URPs. As a result, the EPA has performed some additional analysis that considers the different modeling conducted by the TCEQ, WRAP, and the EPA of Salt Creek visibility conditions. In addition, EPA analyzed more recent monitoring data and trends at Salt Creek. The EPA's full analysis is presented in a technical memorandum, ''EPA's Salt Creek Supplemental Analysis Memorandum'', included in the docket for this action (EPA Salt Creek Memo).[208] We summarize our analysis in the following paragraphs. We conclude that based on consideration of recent visibility trends at Salt Creek, conservativism in the TCEQ's modeling, and additional emission reductions not captured by any of the models used to project visibility conditions in 2028, the 2028 visibility projection for Salt Creek is likely to be on or below the adjusted 2028 URP glidepath.

Because of the time intensive nature of photochemical modeling, the TCEQ began the modeling process well in advance of the July 31, 2021, deadline set forth in the RHR for States to submit SIP revisions for the second planning period. Because several years have passed since the modeling was performed, with the TCEQ's modeling using 2014–2018 monitoring data for projection to the 2028 future case (just five years from the most recent monitoring data), it is useful to consider and compare more recent monitoring data and trends with the visibility projections provided by the modeling. More recent monitoring data from the IMPROVE monitoring network indicates that visibility conditions at Salt Creek are improving at a faster rate than the modeling projected for Salt Creek. The recent IMPROVE data from Salt Creek for the latest 5-year average (2019–2023) is 14.3 dv.[209] In Table 18, we include a summary of the recent monitoring data compared to the projected visibility conditions in 2028 from the three different models mentioned above.

TABLE 18—MODELING AND MONITORING ANALYSIS OF MOST IMPAIRED DAYS AT SALT CREEK

| Analysis | 2028 Adjusted glidepath point (dv) | 2028 Projected value (dv) | 2019–2023 Avg. monitored value (dv) | 2023 Adjusted glidepath point (dv) |
|---|---|---|---|---|
| TCEQ SIP (2021) | 13.5 | 13.9 | 14.3 | 14.10 |
| WRAP Modeling | 14.0 | 14.6 | 14.3 | 14.54 |
| EPA Modeling | [210] 13.8 | 14.49 | 14.3 | 14.34 |

[203] Information on Texas's modeling can be found in Chapter 8 of its 2021 Plan, appendices D–G of its 2021 Plan, and the Ramboll Final Report: Regional Haze Modeling to Evaluate Progress in Improving Visibility (June 25, 2020). The Ramboll Final Report is included in the docket for this action.

[204] Multiple sources available on WRAP Technical Support System *https://views.cira.colostate.edu/tssv2/.* EPA downloaded IMPROVE monitoring data, modeling reports, emissions data and data sources, and source apportionment results and modeling results. *See also* WRAP Technical Support System for Regional Haze Planning: Modeling Methods, Results, and References, September 30, 2021, available in the docket for this action and at *https://views.cira.colostate.edu/tssv2/Docs/WRAP_TSS_modeling_reference_final_20210930.pdf.*

[205] ''Technical Support Document for EPA's Updated 2028 Regional Haze Modeling'', Office of Air Quality Planning and Standards United States Environmental Protection Agency, September 2019.

[206] *Id.*

[207] Information on the status of New Mexico's Second Planning Period SIP Revision can be found at *https://www.env.nm.gov/air-quality/reg-haze/.*

[208] EPA analysis of Salt Creek National Wildlife Refuge Modeling and Monitoring Data related to 2028 Uniform Rate of Progress in Review of Texas Second Regional Haze SIP, available in the docket for this action.

[209] ''SaltCreek_Monitored Visibility Data.xlsx'' is available in the docket for this action.

[210] EPA's guidance indicated a preferred approach that yields 13.8 dv in this case. Alternate methods indicated in EPA guidance result in a range of 12.68 dv to 13.98 dv. Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (December 20, 2018), and EPA, 2019. Technical Support Document for EPA's Updated 2028 Regional Haze Modeling. Office of Air Quality Planning and Standards United States Environmental Protection Agency. September.

As illustrated in Table 18 of this document, the 2019–2023 monitoring data is already 0.3 dv and 0.19 dv below the projected 2028 values of WRAP and EPA modeling respectively and on pace to be lower than expected based on Texas's modeling. In fact, the 2019–2023 monitoring value is currently below the adjusted 2023 glidepath based on two of the three modeling analyses.[211] Extrapolating the annual average most impaired days to the future, the 2028 visibility conditions are extrapolated to be 13.4 dv.[212] Based on these trends, natural conditions (as adjusted by Texas) would be reached earlier than 2064. *See* EPA's Salt Creek Memo for a figure illustrating this extrapolation. Using this extrapolation approach also shows that visibility conditions in 2028 would be below Texas's adjusted glidepath in 2028 as well as New Mexico's and EPA's 2028 adjusted glidepath. Thus, the recent monitoring data trends show that visibility conditions at Salt Creek will likely not only be better than what any of the three models projected but will also be below each of the adjusted glidepaths calculated using the TCEQ, WRAP, or EPA modeling.

While the recent monitoring data indicates Salt Creek is trending to be below the glidepath (if the monitoring trends continue), in the Salt Creek memo we also evaluated the model setup and inputs of the Texas modeling compared to the modeling conducted by WRAP and the EPA. In this document, we highlight a few important points. First, we note that while the TCEQ's modeling projected Salt Creek to be above the 2028 glidepath point, its adjustment to the 2064 endpoint was less than both the WRAP/New Mexico and the EPA's adjustments. In other words, the TCEQ's analysis includes the smallest adjustment of the three 2064 endpoints and is thus more conservative than the WRAP and EPA adjustment. As explained in the EPA's 2018 technical guidance for tracking visibility progress,[213] there are several potential ways to quantify international anthropogenic impacts in Class I areas. The simplest approach is to perform brute force ''zero-out'' model runs, which involves at least two model runs: one ''base case'' run with all emissions, and one with anthropogenic emissions from outside of the U.S. removed from the original base case simulation. The difference between these simulations provides an estimate of the air quality impact due to the international anthropogenic emissions. An alternative approach to isolating international anthropogenic impacts in photochemical grid models is ''photochemical source apportionment.'' Source apportionment can be used to directly track PM formed from international anthropogenic emissions sources in a single model run.

The EPA and WRAP used source apportionment tools to assess international emissions in the CAMx modeling domain. The TCEQ, on the other hand, did a base run and a zero-out run that set all international anthropogenic emissions within the CAMx modeling domain to zero.[214] Texas then calculated the difference between the two model runs to quantify the international anthropogenic emissions impact in the CAMx modeling domain. While both approaches are technically appropriate, the TCEQ's zero-out modeling approach of removing emissions from international sources has an impact on the amount of ammonia available to react with U.S. emissions to form visibility impairing particulate. The removal of these emissions increases the amount of ammonia available to react with the U.S. anthropogenic emissions. Because of this, it is likely that the TCEQ's zero-out approach results in more light extinction attributed to the U.S. modeled emission sources and underestimates the total contribution from international anthropogenic emissions. This would result in the 2064 adjusted endpoint being lower and a steeper adjusted glide path (and lower 2028 URP value). In other words, if Texas's modeling used source apportionment instead of zero-out, the 2028 adjusted glidepath would be higher than 13.5 dv, thus making it more likely that the TCEQ's modeling results (considering other issues mentioned elsewhere in this document) and the extrapolated monitor data would be further below the glidepath in 2028.

Second, Texas also included several conservative assumptions in the 2028 future year inventory it created that led to a conservatively (high) projection of 2028 visibility conditions at Salt Creek. Specifically, in creating its 2028 future year emissions inventory, Texas did not rely on a projection of 2028 emissions for point sources in Texas. Rather, Texas used emissions of $NO_X$ and $SO_2$ consistent with 2018 levels for EGU point sources and mostly 2016 levels for non-EGU point sources. This is different from the photochemical modeling that WRAP and the EPA conducted, which included projections of emissions for Texas point sources in 2028. Table 19 includes emission totals for Texas EGUs $NO_X$ and $SO_2$ emissions in both the base case [215] (TCEQ and EPA) and baseline (WRAP/New Mexico), and 2028 future year inventories.

TABLE 19—$NO_X$ AND $SO_2$ TEXAS EGU SECTOR ANNUAL EMISSIONS MODELED

| | Baseline (WRAP)/basecase (TCEQ) Texas EGUs | | 2028 Future year Texas EGUs | |
|---|---|---|---|---|
| | $NO_X$ (tpy) | $SO_2$ (tpy) | $NO_X$ (tpy) | $SO_2$ (tpy) |
| WRAP/NM | 103,221 | 232,284 | 73,361 | 120,502 |
| TCEQ | 100,469 | 245,469 | 99,601 | 210,686 |

[211] The 2023 adjusted glidepath point in this table is actually based on 2019–2023 data and since the modeling projections use the range of data two year prior to two years after, this monitoring data could be potentially considered to be representative of the 2021 results and glidepath point that would be higher and thus indicating that the monitoring data is even further below the glidepath.

[212] ''SaltCreek_Monitored Visibility Data.xlsx'' is available in the docket for this action. *See also* EPA's Salt Creek Memo.

[213] Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (December 20, 2018), *https://www.epa.gov/sites/default/files/2018-12/documents/technical_guidance_tracking_visibility_progress.pdf*.

[214] Ramboll Final Report: Regional Haze Modeling to Evaluate Progress in Improving Visibility (June 25, 2020), pg. 27.

[215] The TCEQ and the EPA both modeled a 2016 base case period for which they developed a base case emission inventory. The WRAP modeled 2014 as their base case period and developed a 2014 emission inventory for that modeling. The WRAP wanted to use emissions from a more recent period to use as the base period for doing projections to the future with the modeling. As a result, they modified the 2014 base case inventory to be representative of 2016 thus creating a baseline emission inventory. Using a baseline emission inventory allowed the use of monitoring data from a more recent period of 2014–2018, instead of 2012–2016, which is expected to help reduce potential errors in forecasting future year projections of emissions and visibility impairment.

TABLE 19—$NO_X$ AND $SO_2$ TEXAS EGU SECTOR ANNUAL EMISSIONS MODELED—Continued

| | Baseline (WRAP)/basecase (TCEQ) Texas EGUs | | 2028 Future year Texas EGUs | |
|---|---|---|---|---|
| | $NO_X$ (tpy) | $SO_2$ (tpy) | $NO_X$ (tpy) | $SO_2$ (tpy) |
| EPA (2019) | 111,612 | 248,158 | 86,701 | 133,234 |

As indicated in Table 19 of this document, the base case/base line emissions of $NO_X$ and $SO_2$ annual emissions for Texas EGUs was relatively similar, but there is a large difference in the future year modeled values with the TCEQ's modeling on the order of 87,000–90,000 more tons of $SO_2$ per year than the other two. This would result in larger impacts from Texas sources in the future year modeling. If emission levels similar to the WRAP/New Mexico or EPA modeled rates were used in the TCEQ's 2028 modeled projections, the TCEQ's modeling projections for 2028 would be expected to be lower.

The EPA has also looked at recent annual EGU emissions to compare with the 2028 Texas EGU modeled emissions. The EPA Clean Air Markets Division Data for 2022 through 2024 indicates Texas EGUs actual $NO_X$ emissions have ranged from 82,876 to 87,176 tpy, which is similar to 2028 modeled emission levels. However, Texas EGU $SO_2$ emissions for the same recent period have ranged from 128,344 tpy in 2022 to 88,164 tpy in 2024, which is much lower than the 2028 modeled emission totals from the WRAP/New Mexico and the EPA's modeling, and less than half of what the TCEQ modeled. Thus, the TCEQ modeled visibility projections for 2028 are conservatively high.

Finally, the modeling conducted did not factor in more recent emission reductions that have occurred in New Mexico. Specifically, operational changes at Eunice Gas Plant, Denton Gas Plant, and Saunders Gas Plant have resulted in emission reductions of over 2,300 tpy of $SO_2$ and over 900 tpy of $NO_X$.[216] These sources are located near Salt Creek in southeast New Mexico, and therefore, will have an impact on visibility conditions in Salt Creek.

In conclusion, visibility conditions in 2028 will be below the adjusted glidepaths for Salt Creek based on an extrapolation of recent monitoring data. Additionally, conservative assumptions and approaches utilized in Texas's modeling resulted in both a smaller adjustment to its URP as well as less modeled visibility improvement projected in 2028. Had Texas used similar modeling assumptions and approaches to WRAP and the EPA, the modeled result would have likely shown greater visibility improvement and a higher adjustment to the URP glidepath during the course of the planning period. Based on this information, visibility conditions in 2028 at Salt Creek are anticipated to be below the adjusted glidepath.

3. Additional Long-Term Strategy Requirements

Section 51.308(f)(2)(ii) provides that States must consult with other States that are reasonably anticipated to contribute to visibility impairment in a Class I area to develop coordinated emission management strategies containing the emission reductions measures that are necessary to make reasonable progress. Section 51.308(f)(2)(ii)(A) and (B) require States to consider the emission reduction measures identified by other States as necessary for reasonable progress and to include agreed upon measures in their SIPs. Section 51.308(f)(2)(ii)(C) requires a State to document in its SIP submission all substantive consultations with other contributing States and also speaks to what happens if States cannot agree on what measures are necessary to make reasonable progress. Texas's 2021 Plan included documentation of its consultation calls, written communications, and presentations with the other states, including Oklahoma, Arkansas, and New Mexico, which occurred from the spring of 2020 through the spring of 2021.[217] During this consultation period, no agreements with other states were made as to any control measures. To the extent that states or RPOs submitted comments or made requests to the State, Texas responded to those concerns, as evidenced in the 2021 Plan and appendix A to the 2021 Plan. Therefore, the EPA proposes to approve the portions of the 2021 Plan relating to 40 CFR 51.308(f)(2)(ii).

Section 51.308(f)(2)(iii) requires that States document the technical basis, on which they are relying on. As part of this, 40 CFR 51.038 308(f)(2)(iii) requires the emissions information considered to determine the measures that are necessary to make reasonable progress include information on emissions for the most recent year for which the state has submitted triennial emissions data to the EPA (or a more recent year), with a twelve-month exemption period for newly submitted data. As discussed earlier in this section, Texas performed cost analysis as detailed in appendix B and Chapter 7 of its 2021 Plan. Additionally, Texas performed photochemical modeling as detailed in Chapter 8 and appendices E–G of its 2021 Plan. Texas's SIP submission included 2011, 2014, and 2017 statewide NEI emission data for $NO_X$, $SO_2$, PM, VOCs and $NH_3$.[218] For the base case PSAT modeling, Texas also relied on a combination of 2016 and 2018 emissions data depending on the type of source. Additionally, the TCEQ requested regulated entities submit revisions to the 2016- or 2018-point source emission inventory by January 2019 to incorporate updates into their modeling. The TCEQ received no revisions to the EGU inventory, and the non-EGU revisions totaled less than one ton per day each of VOC and $NO_X$ emissions. Therefore, the EPA proposes to approve the portions of the 2021 Plan relating to 40 CFR 51.308(f)(2)(iii).

Section 51.308(f)(2)(iv) requires states to consider the following additional factors in developing its long-term strategy: (1) emission reductions due to ongoing air pollution control programs, including measures to address reasonably attributable visibility impairment; (2) measures to mitigate the impacts of construction activities; (3) source retirement and replacement schedules; (4) basic smoke management practices for prescribed fire used for agricultural and wildland vegetation management purposes and smoke management programs; and (5) the anticipated net effect on visibility due to

[216] See appendix C of New Mexico's draft SIP revision dated August 26, 2024. This appendix is included in the docket for this action. We are including this appendix as it shows emissions data for the relevant sources. In this action we are not evaluating or assessing the approvability of NMED's draft SIP.

[217] 2021 Plan, Chapter 3, at 3–1 and appendix A, p. A–2 through A–3.

[218] 2021 Plan, Chapter 6.

projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy. Texas reasonably considered these factors in its SIP submittal.[219] Thus, the EPA proposes to approve the portions of the 2021 Plan relating to 40 CFR 51.308(f)(2)(iv).

Based on the reasoning described in section VII.A and D in this document, EPA is proposing that Texas has met the requirements of 40 CFR 51.308(f)(2).

*E. Reasonable Progress Goals*

Section 51.308(f)(3) contains the requirements pertaining to RPGs for each Class I area. Section 51.308(f)(3)(i) requires a State in which a Class I area is located to establish RPGs—one each for the most impaired and clearest days—reflecting the visibility conditions that will be achieved at the end of the implementation period as a result of the emission limitations, compliance schedules and other measures required under paragraph (f)(2) to be in States' long-term strategies, as well as implementation of other CAA requirements. The long-term strategies as reflected by the RPGs must provide for an improvement in visibility on the most impaired days relative to the baseline period and ensure no degradation on the clearest days relative to the baseline period.

Texas identified 2028 RPGs for its two Class I areas in deciviews for the 20 percent most impaired days and the 20 percent clearest days in Chapter 8 of its 2021 Plan, respectively, which are below the 2028 URP value for each Class I area. The RPGs reflect emissions reductions from state and federal programs already in place. Table 20, in this document, summarizes the 2028 RPGs and 2028 URP for Texas's Class I areas.

TABLE 20—TEXAS CLASS I AREAS RPGS

| Class I area | 2028 RPG for 20% clearest days (dv) | 2028 RPG for 20% most impaired days (dv) | 2028 Uniform rate of progress (URP) (dv) |
|---|---|---|---|
| Big Bend National Park | 4.92 | 14.16 | 14.4 |
| Guadalupe Mountains National Park | 4.05 | 12.23 | 12.8 |

Figures 8–28 and 8–29 of Texas's 2021 Plan show the URP for the 20 percent most impaired days for Big Bend and Guadalupe Mountains. The State established 2028 RPGs (expressed in deciviews) that reflect the visibility conditions projected to be achieved by the end of the second planning period. Texas's RPGs illustrate improvement in visibility for the 20 percent most impaired days since the baseline period (2000–2004) and demonstrate that there is no degradation in visibility for the 20 percent clearest days since the baseline period. Therefore, the EPA is proposing to approve Texas's 2028 RPGs for the 20 percent most impaired days and the 20 percent clearest days as required by 40 CFR 51.308(f)(3)(i).

Section 51.308(f)(3)(ii) requires that when a State establishes an RPG for a Class I area that provides for a slower rate of improvement than the URP, each State contributing to visibility impairment in that Class I area provide ''a robust demonstration'' that additional emission reduction measures are not reasonable to include in its SIP. While Texas's modeling indicated that the Salt Creek wilderness area may be above the URP in 2028, at the time Texas submitted the SIP in 2021, New Mexico had not established an RPG for the Salt Creek Class I area. Thus, Texas had no way of knowing whether a robust demonstration would be required at the time it submitted its SIP. Texas highlighted as much in its 2021 Plan and during its consultation with New Mexico.[220]

The RHR does not specify what is required as part of a robust demonstration other than a reference that the State document how the four statutory factors were taken into consideration. In our 2019 guidance document, we explained that we did not interpret the robust demonstration requirement to mean that ''a State must weigh the four factors differently'' and the SIP submission could provide an explanation that the ''State has already conducted the source selection and control measures analysis in such a manner that addresses the requirements of 40 CFR 51.308(f)(ii).'' [221] In its SIP, Texas provided such an explanation and reiterated that its source selection methodology resulted in the selection of 18 sources and for which the State considered various different potential controls, and the associated costs and visibility improvement, before concluding that it did not consider it reasonable to require additional control measures in its long-term strategy.[222] Furthermore, as explained in more detail in the discussion of Salt Creek in our discussion of 40 CFR 51.308(f)(2) in this document, recent visibility trends from the monitor at Salt Creek, conservatism in Texas's modeling projections, plus more recent emission reductions that have occurred in New Mexico that the modeling conducted did not include, demonstrate that visibility condition in 2028 are likely to be below the URP. For these reasons, we are proposing that Texas met the applicable requirements of 40 CFR 51.308(f)(3)(ii).

*F. Reasonably Attributable Visibility Impairment (RAVI)*

The RHR contains a requirement at 40 CFR 51.308(f)(4) related to any additional monitoring that may be needed to address visibility impairment in Class I areas from a single source or a small group of sources. This is called ''reasonably attributable visibility impairment,'' [223] also known as RAVI. Under this provision, if the EPA or the FLM of an affected Class I area has advised a state that additional monitoring is needed to assess RAVI, the state must include in its SIP revision for the second implementation period an appropriate strategy for evaluating such impairment. The EPA has not advised Texas to that effect, and the FLMs for the Class I areas that Texas contributes to have not identified any RAVI from Texas sources.[224] For this reason, the EPA proposes to approve the portions of Texas's 2021 Plan relating to 40 CFR 51.308(f)(4).

[219] *See* Texas's 2021 Plan, Chapter 7, Section 7.6. Also, Texas discusses the anticipated effect of emissions reductions due to the long-term strategy on visibility, as required by 40 CFR 51.308(f)(2)(iv)(E), in Chapter 8.

[220] 2021 Plan, at 8–59 to 8–60.

[221] EPA Guidance on Regional Haze State Implementation Plans for the Second Implementation Period, August 20, 2019, pg. 50.

[222] 2021 Plan, at 7–14, 8–59 to 8–60.

[223] The EPA's visibility protection regulations define ''reasonably attributable visibility impairment'' as ''visibility impairment that is caused by the emission of air pollutants from one, or a small number of sources.'' 40 CFR 51.301.

[224] 2021 Plan at 7–17.

*G. Monitoring Strategy and Other Implementation Plan Requirements*

Section 51.308(f)(6) specifies that each comprehensive revision of a State's regional haze SIP must contain or provide for certain elements, including monitoring strategies, emissions inventories, and any reporting, recordkeeping and other measures needed to assess and report on visibility. A main requirement of this subsection is for States with Class I areas to submit monitoring strategies for measuring, characterizing, and reporting on visibility impairment. Compliance with this requirement may be met through participation in the Interagency Monitoring of Protected Visual Environments (IMPROVE) network.

Texas discusses its monitoring strategy in Chapter 5 of its 2021 Regional Haze Plan. Haze species in Texas are measured and analyzed via the Interagency Monitoring of Protected Visual Environments (IMPROVE) network.[225] Table 21 of this preamble lists the IMPROVE stations representing visibility at Texas Class I areas. Due to the close proximity of the Class I areas, Carlsbad Caverns (New Mexico) and Guadalupe Mountains (Texas) share the same IMPROVE monitor.

TABLE 21—IMPROVE STATIONS AT FEDERAL CLASS I AREAS IN TEXAS

| Monitor ID | Class I area | Sponsor | Years operated |
|---|---|---|---|
| BIBE1 | Big Bend National Park | National Parks Service | 1988–Present. |
| GUMO1 | Guadalupe Mountains National Park | National Parks Service | 1988–Present. |

Section 51.308(f)(6)(i) requires SIPs to provide for the establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address regional haze for all mandatory Class I Federal areas within the state are being achieved.

The IMPROVE program reviewed its aerosol monitoring sites in 2006 to set priorities for maintaining the sites in the event of federal budget cuts affecting the IMPROVE program.[226] This review determined that the IMPROVE aerosol samplers at Texas's two Class I areas represent conditions different from the conditions at the nearest Class I area IMPROVE monitors. Texas's two Class I IMPROVE monitors are not candidates for discontinuation since other IMPROVE monitors cannot represent conditions at Big Bend or Guadalupe Mountains.

Section 51.308(f)(6)(ii) requires SIPs to provide for procedures by which monitoring data and other information are used in determining the contribution of emissions from within the state to regional haze visibility impairment at mandatory Class I Federal areas both within and outside the state. In its 2021 Plan, Texas stated that future assessments of visibility impairment and progress in reducing visibility impairment at Texas's two Class I areas, and at Class I areas in other states that Texas's emissions may potentially affect, will use the revised IMPROVE algorithm and will use data as prescribed in the EPA's Regional Haze Rule (40 CFR part 51, subpart P—Visibility Protection). The assessment will follow, as appropriate, the EPA's guidance including the 2019 Guidance and the 2018 Visibility Tracking Guidance.

Section 51.308(f)(6)(iii) does not apply to Texas, as it has a Class I area.

Section 51.308(f)(6)(iv) requires the SIP to provide for the reporting of all visibility monitoring data to the Administrator at least annually for each Class I area in the state. As noted above, the monitoring strategy for Texas relies upon the continued availability of the IMPROVE network. The TCEQ does not directly collect or handle IMPROVE data. The TCEQ will continue to participate in the IMPROVE Visibility Information Exchange Web System (VIEWS). The TCEQ considers VIEWS to be a core part of the overall IMPROVE program. The TCEQ will report IMPROVE data from the two Class I areas in Texas to the EPA using the VIEWS web system.

If Texas collects any visibility monitoring data through the state's air quality monitoring networks, the TCEQ will report those data to the EPA as specified under the Performance Partnership Grant agreement negotiated with the EPA Region 6. All validated data and data analysis results from any TCEQ visibility-related special studies are public information. The TCEQ will continue its practice of sharing the data and information with the EPA. Texas supports the continued operation of the IMPROVE network through both state and Federal funding mechanisms.

Section 51.308(f)(6)(v) requires SIPs to provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment, including emissions for the most recent year for which data are available and estimates of future projected emissions. It also requires a commitment to update the inventory periodically. Texas provides for emissions inventories and estimates for future projected emissions by participating in the CenSARA RPO and complying with the EPA's Air Emissions Reporting Rule (AERR). In 40 CFR part 51, subpart A, the AERR requires states to submit updated emissions inventories for criteria pollutants to the EPA's Emissions Inventory System (EIS) every three years. The emission inventory data is used to develop the NEI, which provides for, among other things, a triennial state-wide inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment.

Chapter 6 of the 2021 Plan includes a discussion of the NEI data, and Section 8.3 details specific emission inventories and emissions inputs developed for the regional haze photochemical modeling conducted by the TCEQ. The source categories of the emissions inventories included are: (1) point sources, (2) area sources, (3) non-road mobile sources, (4) drilling rigs, (5) commercial marine vessels and locomotives, (6) airports and (7) on-road mobile sources. Statewide pollutant summaries by source category for the years 2011, 2014, and 2017 are provided in Tables 6–1, 6–2, and 6–3 of Texas's 2021 Plan. Summaries are for the following pollutants: $SO_2$, $NO_X$, $PM_{10}$, $PM_{2.5}$, VOCs, CO, and $NH_3$. Texas also provided a summary of anthropogenic $SO_2$ and $NO_X$ emissions for each source type for 2011, 2014, and 2017 and are presented in Tables 6–4 and 6–5 of the 2021 Plan.

[225] *See* 2021 Texas Regional Haze Plan, Chapter 5 for more information about Texas's monitoring strategy.

[226] Spatial and Seasonal Patterns and Temporal Variability of Haze and its Constituents in the United States Report IV: November 2006 available at *https://vista.cira.colostate.edu/Improve/spatial-and-seasonal-patterns-and-temporal-variability-of-haze-and-its-constituents-in-the-united-states-report-iv-november-2006/*.

Section 51.308(f)(6)(v) also requires states to include estimates of future projected emissions and include a commitment to update the inventory periodically. Texas estimated 2028 future year emissions by applying growth projections and accounting for known existing federal, state, and local controls. The development of Texas's 2028 modeling emissions for the 2021 Plan includes some methods used in previous SIP modeling for ozone, such as the Federal Tier 3 Vehicle Emission and Fuel Standards program, the MECT Program in the Houston-Galveston-Brazoria area, the Highly Reactive VOC Emission Cap-and-Trade (HECT) Program in Harris County, the Midlothian Cement Kiln caps and related agreed orders in the Dallas-Fort Worth area, and the EPA's final Cross-State Air Pollution Rule (CSAPR) update. Summaries of the primary data sources for the development of the future case modeling emissions are provided in the 2021 Plan, appendix E, Table 1–4: Summary of Future Case Point Source Emission Data Sources, Table 1–5: Summary of Future Case On-Road Mobile Source Emission Data Sources, and Table 1–6: Summary of Future Case Non-Road Mobile, Off-Road, Area, Oil-and-Gas, and Biogenic Source Emission Data Sources. The gridded photochemical modeling input files for the 2016 and 2028 emissions were provided along with the full emission processing message log files during Texas's public comment period. For point sources, Texas evaluated large stationary sources of emissions, such as electric generating units (EGUs), smelters, industrial boilers, petroleum refineries, and manufacturing facilities. Point source emissions were developed for the January 1 through December 31, 2016, annual episode with a 2028 future year projection. The data sources for development of the point source modeling emissions are summarized in the 2021 Plan, appendix E, Table 2–1: Sources of Point Source Emissions Data.

The EPA proposes to find that Texas has met the requirements of 40 CFR 51.308(f)(6) as described above, including its continued participation in the IMPROVE network and the CenSARA RPO and its on-going compliance with the AERR, and that no further elements are necessary at this time for Texas to assess and report on visibility pursuant to 40 CFR 51.308(f)(6)(vi).

In sum, for all the reasons discussed in this section, the EPA is proposing to approve Texas's 2021 Plan as meeting the requirements of 40 CFR 51.308(f)(6).

*H. Requirements for Periodic Reports Describing Progress Towards the Reasonable Progress Goals*

Section 51.308(f)(5) requires that periodic comprehensive revisions of States' regional haze plans also address the progress report requirements of 40 CFR 51.308(g)(1) through (5). The purpose of these requirements is to evaluate progress towards the applicable RPGs for each Class I area within the State and each Class I area outside the State that may be affected by emissions from within that State. 40 CFR 51.308(g)(1) and (2) apply to all States and require a description of the status of implementation of all measures included in a State's first implementation period regional haze plan and a summary of the emission reductions achieved through implementation of those measures. Section 51.308(g)(3) applies only to States with Class I areas within their borders and requires such States to assess current visibility conditions, changes in visibility relative to baseline (2000–2004) visibility conditions, and changes in visibility conditions relative to the period addressed in the first implementation period progress report. Section 51.308(g)(4) applies to all states and requires an analysis tracking changes in emissions of pollutants contributing to visibility impairment from all sources and sectors since the period addressed by the first implementation period progress report. This provision further specifies the year or years through which the analysis must extend depending on the type of source and the platform through which its emission information is reported. Finally, 40 CFR 51.308(g)(5), which also applies to all states, requires an assessment of any significant changes in anthropogenic emissions within or outside the state have occurred since the period addressed by the first implementation period progress report, including whether such changes were anticipated and whether they have limited or impeded expected progress towards reducing emissions and improving visibility.

The 2021 Plan describes the status of measures of the long-term strategy from the first implementation period to address the requirements found in 40 CFR 51.308(g)(1) and (2). Control measures to reduce emission within and outside the State are found in the 2021 Plan, Chapter 7: Long-Term Strategy to Establish Reasonable Progress Goals, section 7.4: Federal Programs that Reduce Stationary Source Emissions, section 7.5: Federal Programs that Reduce Mobile Source Emissions, and section 7.6: State Air Pollution Control Programs. Control measures in the state are included in section 7.6: State Air Pollution Control Programs, which discusses both State stationary and mobile source emissions control measures; section 7.6.2: Best Available Control Technology (BACT) Requirements, which discusses air permitting requirements for new and modified sources of air pollution; and finally section 7.6.3: Additional Measures, which discusses other measures addressing air pollution from mobile sources, construction activities, and fires, and measures addressing energy efficiency. Emissions reductions are found in the 2021 Plan, Chapter 6: Emissions Inventory, section 6.8: $NO_X$ and $SO_2$ Emissions Trends, Table 6–4: Anthropogenic $NO_X$ Emissions by Source Type, and Table 6–5: Anthropogenic $SO_2$ Emissions by Source Type.

The EPA proposes to find that Texas has addressed the requirements of 40 CFR 51.308(g)(1) and (2) because the 2021 Plan describes the measures included in the long-term strategy from the first implementation period, as well as the status of their implementation and the emission reductions achieved through such implementation.

Section 51.308(g)(3) requires that for each Class I area within the State, the State must assess the following visibility conditions and changes, with values for most impaired, least impaired and/or clearest days as applicable expressed in terms of five-year averages of these annual values. The 2021 Plan includes summaries of visibility conditions in Chapter 4: Assessment of Baseline and Current Conditions and Estimate of Natural Conditions in Class I Areas, section 4.2: Baseline Visibility Conditions, section 4.3: Natural Visibility Conditions. Changes in visibility conditions are displayed in Chapter 8: Reasonable Progress Goals, section 8.4: Reasonable Progress Goal Status. The EPA therefore proposes to find that Texas has addressed the requirements of 40 CFR 51.308(g)(3).

Pursuant to 40 CFR 51.308(g)(4), Texas evaluated emission trends for reasonable progress for the 2021 Plan and presented those data in Chapter 6: Emissions Inventory, section 6.7: Emissions Summaries, Table 6–1: 2011 Statewide Pollutant Summary by Source Category, Table 6–2: 2014 Statewide Pollutant Summary by Source Category, Table 6–3: 2017 Statewide Pollutant Summary by Source Category, Table 6–4: Anthropogenic $NO_X$ Emissions by Source Type, Table 6–5: Anthropogenic $SO_2$ Emissions by Source Type. The EPA is proposing to find that Texas has

addressed the requirements of 40 CFR 51.308(g)(4) by providing emissions information for $NO_X$, $SO_2$, $PM_{10}$, $PM_{2.5}$, VOCs, and $NH_3$ broken down by type of source.

Texas identified reductions in anthropogenic emissions within and outside the State have occurred since the 2009 and 2014 Plans. This discussion can be found in Chapter 7 of its 2021 Plan. Texas uses the emissions trend data in the 2021 Plan [227] to support the assessment that anthropogenic haze-causing pollutant emissions in Texas have decreased during the reporting period and that changes in emissions have not limited or impeded progress in reducing pollutant emissions and improving visibility. Texas's 2017 emission inventories for $NO_X$, $SO_2$, $PM_{10}$, $PM_{2.5}$, VOCs, and $NH_3$ were lower than their 2014 emission inventories for those same pollutants emissions.[228] The EPA is proposing to find that Texas has addressed the requirements of 40 CFR 51.308(g)(5).

In sum, because Texas's 2021 Plan addresses the requirements of 40 CFR 51.308(g)(1) through (5) as required by 40 CFR 51.308(f)(5), the EPA is proposing to approve Texas's 2021 Plan as meeting the requirements of 40 CFR 51.308(f)(5) for periodic progress reports.

*I. Requirements for State and Federal Land Manager Coordination*

Section 169A(d) of the Clean Air Act requires States to consult with FLMs before holding the public hearing on a proposed regional haze SIP, and to include a summary of the FLMs' conclusions and recommendations in the notice to the public. In addition, 40 CFR 51.308(i)(2)'s FLM consultation provision requires a State to provide FLMs with an opportunity for consultation that is early enough in the State's policy analyses of its emission reduction obligation so that information and recommendations provided by the FLMs' can meaningfully inform the State's decisions on its long-term strategy. If the consultation has taken place at least 120 days before a public hearing or public comment period, the opportunity for consultation will be deemed early enough. Regardless, the opportunity for consultation must be provided at least sixty days before a public hearing or public comment period at the State level. Section 51.308(i)(2) also provides two substantive topics on which FLMs must be provided an opportunity to discuss with States: assessment of visibility impairment in any Class I area and recommendations on the development and implementation of strategies to address visibility impairment. Section 51.308(i)(3) requires States, in developing their implementation plans, to include a description of how they addressed FLMs' comments. Section 51.308(i)(4) requires States to provide procedures for continuing consultation between the State and the relevant FLM(s).

The EPA proposes to find, as required by CAA section 169A(d), that the State consulted with the FLMs prior to holding a public hearing on its proposed haze plan, and that the State also provided the FLMs' conclusions and recommendations to the public during the comment period. The TCEQ consulted with the FLMs about the impact of Texas's emissions on regional haze at the regional Class I areas through conference calls. The TCEQ gave a presentation in March 2020 and discussed impacts to Class I areas in the region. An additional meeting was held October 8, 2020. The TCEQ included information from the consultation with the FLMs in appendix A of the 2021 Plan. Notices of the proposed SIP, availability and the public hearing were published on the TCEQ's website and in the Texas Register, the Fort Worth Star Telegram, the Houston Chronicle, the Austin American-Statesman, and the El Paso Times. A virtual public hearing on the proposed SIP revision was held on December 8, 2020, and was available for participation via internet or phone. Written comments relevant to the proposal were accepted until the close of business January 8, 2021.

The State also satisfied the requirements of 40 CFR 51.308(i). As required by 40 CFR 51.308(i)(2), the TCEQ provided the FLMs with the opportunity to consult. In accordance with 40 CFR 51.308(i)(3), the TCEQ also responded to the FLMs' comments in appendix A of the 2021 Plan as well as its Response to Comments document. Finally, Section 3.4.6 of the 2021 Plan describes how the TCEQ will meet the requirements of 40 CFR 51.308(i)(4) regarding procedures for continuing consultation. Therefore, the EPA proposes to approve the FLM consultation component of the 2021 Plan.

*J. Proposed Action*

For the reasons set forth in section VII of this rulemaking, the EPA is proposing to approve Texas's 2021 Plan as satisfying the regional haze requirements for the second planning period contained in 40 CFR 51.308(f), (i).

## VII. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve State choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Executive Order 14192 (90 FR 9065, February 6, 2025) does not apply because SIP actions are exempt from review under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a State program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act.

*Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

This proposed approval of the portion of the Oklahoma regional haze SIP that addressed the requirements of 40 CFR 51.308(d)(1)(i) through (v) will apply, if finalized as proposed, to certain areas of Indian country throughout Oklahoma as discussed in the preamble, and therefore has tribal implications as specified in E.O. 13175 (65 FR 67249, November 9, 2000). However, this action will neither impose substantial direct compliance costs on federally recognized tribal

[227] *See* 2021 Texas Regional Haze Plan, Section 6.8.

[228] Trends in anthropogenic $NO_X$ and $SO_2$ emissions are presented in Figures 6–1 and 6–2 of the 2021 Plan, respectively.

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 no Oklahoma tribe implements a regulatory program under the CAA, and thus does not have applicable or related tribal laws. Consistent with the EPA Policy on Consultation with Indian Tribes (December 7, 2023), the EPA will offer consultation to tribal governments that may be affected by this action and provided information about this action.

In addition, the Texas SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian Tribe has demonstrated that a Tribe has jurisdiction. In those areas of Indian country in Texas, the proposed rule does not have Tribal implications and will not impose substantial direct costs on Tribal governments or preempt Tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides.

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

Dated: May 14, 2025.

**Walter Mason,**

*Regional Administrator Region 6.*

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