as it does not have applicable or related Tribal laws.

G. Executive Order: 13045 Protection of Children From Environmental Health & Safety Risks

The EPA interprets E.O. 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. Therefore, this action is not subject to Executive Order 13045 because it merely proposes to disapprove SIP revisions. Furthermore, the EPA's Policy on Children's Health does not apply to this action.

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

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

I. National Technology Transfer and Advancement Act

Section 12(d) of the NTTAA directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. This action is not subject to the requirements of section 12(d) of the NTTAA (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

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

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994) directs Federal agencies to identify and address ''disproportionately high and adverse human health or environmental effects'' of their actions on communities with environmental justice (EJ) concerns to the greatest extent practicable and permitted by law. Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All, 88 FR 25251, April 26, 2023) builds on and supplements E.O. 12898 and defines EJ as, among other things, ''the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, or Tribal affiliation, or disability in agency decision-making and other Federal activities that affect human health and the environment.''

The air agency did not evaluate EJ considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. EPA did not perform an EJ analysis and did not consider EJ in this action. Due to the nature of the action being taken here, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898/14096 of achieving EJ for communities with EJ concerns.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

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

Dated: December 12, 2024.

Earthea Nance,

Regional Administrator, Region 6.

[FR Doc. 2024–29935 Filed 12–18–24; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R09–OAR–2024–0459; FRL–12287–01–R9]

Partial Approval and Partial Disapproval of Air Quality Implementation Plans; California; Regional Haze State Implementation Plan for the Second Implementation Period

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to partially approve and partially disapprove the regional haze state implementation plan (SIP) revision submitted by California on August 9, 2022 (hereinafter the ''2022 California Regional Haze Plan'' or ''the Plan''), under the Clean Air Act (CAA) and the EPA's Regional Haze Rule for the program's second implementation period. California's SIP submission addresses the requirement that states must periodically revise their long-term strategies for making reasonable progress towards the national goal of preventing any future, and remedying any existing, anthropogenic impairment of visibility, including regional haze, in mandatory Class I Federal areas. The SIP submission also addresses other applicable requirements for the second implementation period of the regional haze program. The EPA is taking this action pursuant to CAA sections 110 and 169A.

DATES: Written comments must be received on or before February 3, 2025.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R09–OAR–2024–0459 at *https://www.regulations.gov.* For comments submitted at *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 the person identified in the **FOR FURTHER INFORMATION CONTACT** section. 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.* If you need assistance in a language other than English or if you are a person with a disability who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Laura Lawrence, Planning Section (ARD–2–1), Planning & Analysis Branch, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, 415–972–3407, or by email at *lawrence.laura@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document, ''we,'' ''us,'' and ''our'' refer to the EPA.

Table of Contents

I. What action is the EPA proposing?

On August 9, 2022, the California Air Resources Board (CARB) submitted the 2022 California Regional Haze Plan to address the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and 40 CFR 51.308. For the reasons described in this document, the EPA is proposing to approve the elements of the Plan related to requirements contained in 40 CFR 51.308(f)(1), 40 CFR 51.308(f)(4)–(6), and 40 CFR 51.308(g)(1)–(5). The EPA is proposing to disapprove the elements of the Plan related to requirements contained in 40 CFR 51.308(f)(2), 40 CFR 51.308(f)(3), and 40 CFR 51.308(i)(2)–(4).

II. Background and Requirements for Regional Haze Plans

A. Regional Haze Background

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.[1] 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.'' [2] The CAA further directs the EPA to promulgate regulations to assure reasonable progress toward meeting this national goal.[3] On December 2, 1980, the EPA promulgated regulations to address visibility impairment in mandatory Class I Federal areas (hereinafter referred to as ''Class I areas'') that is ''reasonably attributable'' to a single source or small group of sources.[4] These regulations, codified at 40 CFR 51.300 through 51.307, represented the first phase of the EPA's efforts to address visibility impairment. In 1990, Congress added section 169B to the CAA to further address visibility impairment, specifically, impairment from regional haze.[5] The EPA promulgated the Regional Haze Rule (RHR), codified at 40 CFR 51.308,[6] on July 1, 1999.[7] These regional haze regulations are a central component of the EPA's comprehensive visibility protection program for Class I areas.

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 perception of clarity and color, as well as visible distance.[8]

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.[9] Under the CAA, each SIP submission must contain ''a long-term (ten to fifteen years) strategy for making reasonable progress toward meeting the national goal.'' [10] The initial round of SIP submissions also had to address the statutory requirement that certain older, larger sources of visibility impairing pollutants install and operate the best available retrofit technology (BART).[11] States' first regional haze SIPs were due by December 17, 2007,[12] with subsequent SIP submissions containing updated long-term strategies originally due July 31, 2018, and every ten years thereafter.[13] The EPA established in the 1999 RHR that all States either have Class I areas within their borders or ''contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area''; therefore, all States must submit regional haze SIPs.[14]

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[1] CAA 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 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.

[2] CAA 169A(a)(1).

[3] CAA 169A(a)(4).

[4] 45 FR 80084 (December 2, 1980).

[5] CAA 169B.

[6] In addition to the generally applicable regional haze provisions at 40 CFR 51.308, the EPA also promulgated regulations specific to addressing regional haze visibility impairment in Class I areas on the Colorado Plateau at 40 CFR 51.309. The latter regulations are applicable only for specific jurisdictions' regional haze plans submitted no later than December 17, 2007, and thus are not relevant here.

[7] 64 FR 35714.

[8] 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 it 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}). The EPA's August 20, 2019 Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (''2019 Guidance'') offers the flexibility for the use of light extinction in certain cases. Light extinction can be simpler to use in calculations than deciviews because it is not a logarithmic function. See, *e.g.,* 2019 Guidance at 16, 19, *https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period.* The formula for the deciview is 10 ln (b^{ext})/10 Mm^{-1}). 40 CFR 51.301.

[9] CAA 169A(b)(2). 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), (f). See also 40 CFR 51.308(b), (f) (establishing submission dates for iterative regional haze SIP revisions).

[10] CAA 169A(b)(2)(B).

[11] CAA 169A(b)(2)(A); 40 CFR 51.308(d), (e).

[12] 40 CFR 51.308(b).

[13] 64 FR 35768 (July 1, 1999).

[14] Id. at 35721. In addition to each of the fifty states, the EPA also concluded that the Virgin

Much of the focus in the first implementation period of the regional haze program, which ran from 2007 through 2018, was on satisfying States' 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 non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources.[15]

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.[16] 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.'' [17] 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.[18] 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.[19] Finally, the 1999 RHR required states to submit periodic progress reports, which are 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,[20] and to consult with the Federal Land Manager(s) [21] (FLMs) responsible for each Class I area according to the requirements in CAA 169A(d) and 40 CFR 51.308(i).

On January 10, 2017, the EPA promulgated revisions to the RHR that apply for the second and subsequent implementation periods.[22] The 2017 rulemaking made several changes to the requirements for regional haze SIPs to clarify States' obligations and streamline certain regional haze requirements. The revisions to the regional haze program for the second and subsequent implementation periods focused on the requirement that States' SIPs contain long-term strategies for making reasonable progress towards the national visibility goal. 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). Among other changes, the 2017 RHR Revisions adjusted the deadline for States to submit their second implementation period SIPs from July 31, 2018, to July 31, 2021, clarified the order of analysis and the relationship between RPGs and the long-term strategy, and focused on making visibility improvements on the days with the most *anthropogenic* visibility impairment, as opposed to the days with the most visibility impairment overall. The EPA also revised requirements of the visibility protection program related to periodic progress reports and FLM consultation. The specific requirements applicable to second implementation period regional haze SIP submissions are addressed in detail below.

The EPA provided guidance to the States for their second implementation period SIP submissions in the preamble to the 2017 RHR Revisions as well as in subsequent, stand-alone guidance documents. In August 2019, the EPA issued ''Guidance on Regional Haze State Implementation Plans for the Second Implementation Period'' (''2019 Guidance'').[23] On July 8, 2021, the EPA issued a memorandum containing ''Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period'' (''2021 Clarifications Memo'').[24] Additionally, the EPA further clarified the recommended procedures for processing ambient visibility data and optionally adjusting the URP to account for international anthropogenic and prescribed fire impacts in two technical guidance documents: the December 2018 ''Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program'' (''2018 Visibility Tracking Guidance''),[25] and the June 2020 ''Recommendation for the Use of Patched and Substituted Data and

Islands and District of Columbia must also submit regional haze plans because they either contain a Class I area or contain sources whose emissions are reasonably anticipated to contribute regional haze in a Class I area. See 40 CFR 51.300(b), (d)(3).

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

[16] 40 CFR 51.308(d)(1)(i)(B), (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 start 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 at 35731–32. 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).

[17] 40 CFR 51.308(d)(3).

[18] 40 CFR 51.308(d)(3)(i), (ii).

[19] 40 CFR 51.308(d)(4).

[20] See 40 CFR 51.308(g) and (h).

[21] The EPA's regulation 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.

[22] 82 FR 3078 (January 10, 2017).

[23] Guidance on Regional Haze State Implementation Plans for the Second Implementation Period, *https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period,* EPA Office of Air Quality Planning and Standards, Research Triangle Park (August 20, 2019).

[24] Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period, *https://www.epa.gov/system/files/documents/2021-07/clarifications-regarding-regional-haze-state-implementation-plans-for-the-second-implementation-period.pdf,* EPA Office of Air Quality Planning and Standards, Research Triangle Park (July 8, 2021).

[25] Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program, *https://www.epa.gov/visibility/technical-guidance-tracking-visibility-progress-second-implementation-period-regional,* EPA Office of Air Quality Planning and Standards, Research Triangle Park (December 20, 2018).

Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program'' and associated Technical Addendum (''2020 Data Completeness Memo'').[26]

As explained in the 2021 Clarifications Memo, the EPA intends the second implementation period of the regional haze program to secure meaningful reductions in visibility impairing pollutants that build on the significant progress States have achieved to date. The Agency also recognizes that analyses regarding reasonable progress are State-specific and that, based on States' and sources' individual circumstances, what constitutes reasonable reductions in visibility impairing pollutants will vary from State-to-State. While there exist many opportunities for states to leverage both ongoing and upcoming emission reductions under other CAA programs, the Agency expects states to undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements.[27] This is consistent with Congress's determination that a visibility protection program is needed in addition to the CAA's National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration programs, as further emission reductions may be necessary to adequately protect visibility in Class I areas throughout the country.[28]

B. Roles of Agencies in Addressing Regional Haze

Because the air pollutants and pollution affecting visibility in Class I areas can be transported over long distances, successful implementation of the regional haze program requires long-term, regional coordination among multiple jurisdictions and agencies that have responsibility for Class I areas and the emissions that impact visibility in those areas. To address regional haze, states need to develop strategies in coordination with one another, considering the effect of emissions from one jurisdiction on the air quality in another. Five regional planning organizations (RPOs),[29] which include representation from state and tribal governments, the EPA, and FLMs, were developed in the lead-up to the first implementation period to address regional haze. RPOs evaluate technical information to better understand how emissions from State and Tribal land impact Class I areas across the country, pursue the development of regional strategies to reduce emissions of particulate matter and other pollutants leading to regional haze, and help states meet the consultation requirements of the RHR.

The Western Regional Air Partnership (WRAP), one of the five RPOs described above, is a collaborative effort of state governments, tribal governments, and various Federal agencies established to initiate and coordinate activities associated with the management of regional haze, visibility, and other air quality issues in the western corridor of the United States. Member states (listed alphabetically) include: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. The Federal partner members of WRAP are the EPA, U.S. National Parks Service (NPS), U.S. Fish and Wildlife Service (FWS), and U.S. Forest Service (USFS). There are also 468 federally recognized Tribes within the WRAP region.

III. Requirements for Regional Haze Plans for the Second Implementation Period

Under the CAA and the 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.[30] To this end, section 51.308(f) lays out the process by which states determine what constitutes their long-term strategies, with the order of the requirements in section 51.308(f)(1) through (3) generally mirroring the order of the steps in the reasonable progress analysis[31] and (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.[32] For each Class I area within its borders, a state must then calculate the baseline, current, and natural visibility conditions for that area, as well as the visibility improvement made to date and the URP.[33] 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'' [34] that states must consider in developing their long-term strategies.[35] 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

[26] Recommendation for the Use of Patched and Substituted Data and Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program, *https://www.epa.gov/visibility/memo-and-technical-addendum-ambient-data-usage-and-completeness-regional-haze-program,* EPA Office of Air Quality Planning and Standards, Research Triangle Park (June 3, 2020).

[27] See generally 2021 Clarifications Memo.

[28] See, *e.g.,* H.R. Rep No. 95–294 p. 205 (''In determining how to best remedy the growing visibility problem in these areas of great scenic importance, the committee realizes that as a matter of equity, the national ambient air quality standards cannot be revised to adequately protect visibility in all areas of the country.''), (''the mandatory class I increments of [the PSD program] do not adequately protect visibility in class I areas'').

[29] RPOs are sometimes also referred to as ''multi-jurisdictional organizations,'' or MJOs. For the purposes of this notice, the terms RPO and MJO are synonymous.

[30] CAA 169A(b)(2)(B).

[31] 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 3091, January 10, 2017).

[32] See 40 CFR 51.308(f), (f)(2).

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

[34] The five ''additional factors'' for consideration in section 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.

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

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.[36]

In addition to satisfying the requirements at 40 CFR 51.308(f) related to reasonable progress, the regional haze SIP revisions for the second implementation period must address the requirements in section 51.308(g)(1) through (5) pertaining to periodic reports describing progress towards the RPGs,[37] as well as requirements for FLM consultation that apply to all visibility protection SIPs and SIP revisions.[38]

A state must submit its regional haze SIP and subsequent SIP revisions to the EPA according to the requirements applicable to all SIP revisions under the CAA and the EPA's regulations.[39] Upon EPA approval, a SIP is enforceable by the Agency and the public under the CAA. If the EPA finds that a state fails to make a required SIP revision, or if the EPA finds that a state's SIP is incomplete or disapproves the SIP, the Agency must promulgate a federal implementation plan (FIP) that satisfies the applicable requirements.[40]

A. Identification of Class I Areas

The first step in developing a regional haze SIP is for a state to determine which Class I areas, in addition to those within its borders, ''may be affected'' by emissions from within the state. In the 1999 RHR, the EPA determined that all states contribute to visibility impairment in at least one Class I area,[41] and explained that the statute and regulations lay out an ''extremely low triggering threshold'' for determining ''whether States should be required to engage in air quality planning and analysis as a prerequisite to determining the need for control of emissions from sources within their State.'' [42]

A state must determine which Class I areas must be addressed by its SIP by evaluating the total emissions of visibility impairing pollutants from all sources within the state. While the RHR does not require this evaluation to be conducted in any particular manner, the EPA's 2019 Guidance provides recommendations for how such an assessment might be accomplished, including by, where appropriate, using the determinations previously made for the first implementation period.[43] In addition, the determination of which Class I areas may be affected by a state's emissions is subject to the requirement in 40 CFR 51.308(f)(2)(iii) to ''document the technical basis, including modeling, monitoring, cost, engineering, and emissions information, on which the State is relying to determine the emission reduction measures that are necessary to make reasonable progress in each mandatory Class I Federal area it affects.''

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

As part of assessing whether a SIP submission for the second implementation period is providing for reasonable progress towards the national visibility goal, the RHR contains requirements in 40 CFR 51.308(f)(1) related to tracking visibility improvement over time. The requirements of this subsection apply only to states having Class I areas within their borders; the required calculations must be made for each such Class I area. The EPA's 2018 Visibility Tracking Guidance [44] provides recommendations to assist states in satisfying their obligations under section 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.

The RHR requires tracking of visibility conditions on two sets of days: the clearest and the most impaired days. Visibility conditions for both sets of days are expressed as the average deciview index for the relevant five-year period (the period representing baseline or current visibility conditions). The RHR provides that the relevant sets of days for visibility tracking purposes are the 20 percent clearest (the 20 percent of monitored days in a calendar year with the lowest values of the deciview index) and 20 percent most impaired days (the 20 percent of monitored days in a calendar year with the highest amounts of anthropogenic visibility impairment).[45] A state must calculate visibility conditions for both the 20 percent clearest and 20 percent most impaired days for the baseline period of 2000–2004 and the most recent five-year period for which visibility monitoring data are available (representing current visibility conditions).[46] States must also calculate natural visibility conditions for the clearest and most impaired days,[47] by estimating the conditions that would exist on those two sets of days absent anthropogenic visibility impairment.[48] Using all these data, states must then calculate, for each Class I area, the amount of progress made since the baseline period (2000–2004) and how much improvement is left to achieve to reach natural visibility conditions.

Using the data for the set of most impaired days only, states must plot a line between visibility conditions in the baseline period and natural visibility conditions for each Class I area to determine the URP—the amount of visibility improvement, measured in deciviews, that would need to be achieved during each implementation period to achieve natural visibility conditions by the end of 2064. The URP is used in later steps of the reasonable progress analysis for informational purposes and to provide a non-enforceable benchmark against which to assess a Class I area's rate of visibility improvement.[49] Additionally, in the 2017 RHR Revisions, the EPA provided states the option of proposing to adjust the endpoint of the URP to account for impacts of anthropogenic sources outside the United States and/or impacts of certain types of wildland prescribed fires. These adjustments, which must be approved by the EPA, are intended to avoid any perception that states should compensate for impacts from international

[36] 40 CFR 51.308(f)(2)–(3).

[37] 40 CFR 51.308(f)(5).

[38] 40 CFR 51.308(i).

[39] See CAA 169A(b)(2); CAA 110(a).

[40] CAA 110(c)(1).

[41] 64 FR 35720–35722.

[42] Id. at 35721.

[43] 2019 Guidance, pp. 8–9.

[44] 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.*

[45] 40 CFR 51.301. This notice also refers to the 20 percent clearest and 20 percent most anthropogenically impaired days as the ''clearest'' and ''most impaired'' or ''most anthropogenically impaired'' days, respectively.

[46] 40 CFR 51.308(f)(1)(i), (iii).

[47] The RHR at 40 CFR 51.308(f)(1)(ii) contains an error related to the requirement for calculating two sets of natural conditions values. The rule says ''most impaired days or the clearest days'' where it should say ''most impaired days and clearest days.'' This is an error that was intended to be corrected in the 2017 RHR Revisions but did not get corrected in the final rule language. This is supported by the preamble text at 82 FR 3098: ''In the final version of 40 CFR 51.308(f)(1)(ii), an occurrence of ''or'' has been corrected to ''and'' to indicate that natural visibility conditions for both the most impaired days and the clearest days must be based on available monitoring information.''

[48] 40 CFR 51.308(f)(1)(ii).

[49] Being on or below the URP is not a ''safe harbor''; *i.e.,* achieving the URP does not mean that a Class I area is making ''reasonable progress'' and does not relieve a state from using the four statutory factors to determine what level of control is needed to achieve such progress. See, *e.g.,* 82 FR 3093.

anthropogenic sources and to give states the flexibility to determine that limiting the use of wildland-prescribed fire is not necessary for reasonable progress.[50]

The EPA's 2018 Visibility Tracking Guidance can be used to help satisfy the 40 CFR 51.308(f)(1) requirements, including in developing information on baseline, current, and natural visibility conditions, and in making optional adjustments to the URP. In addition, the 2020 Data Completeness Memo provides recommendations on the data completeness language referenced in section 51.308(f)(1)(i) and provides updated natural conditions estimates for each Class I area.

C. Long-Term Strategy for Regional Haze

The core component of a regional haze SIP submission is a long-term strategy that addresses regional haze in each Class I area within a state's borders and each Class I area that may be affected by emissions from the state. 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).'' [51] The amount of progress that is ''reasonable progress'' is based on applying 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. The outcome of that analysis is the emission reduction measures that a particular source or group of sources needs to implement to make reasonable progress towards the national visibility goal.[52] Emission reduction measures that are necessary to make reasonable progress may be either new, additional control measures for a source, or they may be the existing emission reduction measures that a source is already implementing.[53] Such measures must be represented by ''enforceable emissions limitations, compliance schedules, and other measures'' (*i.e.,* any additional compliance tools) in a state's long-term strategy in its SIP.[54]

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; to this end, the RHR requires states to consider ''major and minor stationary sources or groups of sources, mobile sources, and area sources'' of visibility impairing pollutants for potential four-factor control analysis.[55] A threshold question at this step is which visibility impairing pollutants will be analyzed. As the EPA previously explained, consistent with the first implementation period, the EPA generally expects that each state will analyze at least SO_2 and NO_X in selecting sources and determining control measures.[56] A state that chooses not to consider at least these two pollutants should demonstrate why such consideration would be unreasonable.[57]

While states have the option to analyze *all* sources, the 2019 Guidance explains that ''an analysis of control measures is not required for every source in each implementation period,'' and that ''[s]electing a set of sources for analysis of control measures in each implementation period is . . . consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a state may not need to analyze control measures for all its sources in a given SIP revision.'' [58] However, given that source selection is the basis of all subsequent control determinations, a reasonable source selection process ''should be designed and conducted to ensure that source selection results in a set of pollutants and sources the evaluation of which has the potential to meaningfully reduce their contributions to visibility impairment.'' [59]

The EPA explained in the 2021 Clarifications Memo that each state has an obligation to submit a long-term strategy that addresses the regional haze visibility impairment that results from emissions from within that state. Thus, source selection should focus on the in-state contribution to visibility impairment and be designed to capture a meaningful portion of the state's total contribution to visibility impairment in Class I areas. A state should not decline to select its largest in-state sources on the basis that there are even larger out-of-state contributors.[60]

Thus, 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.[61] 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.'' [62] 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.'' [63] Thus, for each source it has selected for four-factor analysis,[64] a state must

[50] 82 FR 3107 footnote 116.

[51] 40 CFR 51.308(f)(2).

[52] See 40 CFR 51.308(f)(2)(i).

[53] See 2019 Guidance, p. 43; 2021 Clarifications Memo, pp. 8–10.

[54] 40 CFR 51.308(f)(2).

[55] 40 CFR 51.308(f)(2)(i).

[56] 2019 Guidance p. 12, 2021 Clarifications Memo p. 4.

[57] 2021 Clarifications Memo, p. 4.

[58] 2019 Guidance, p. 9.

[59] 2021 Clarifications Memo, p. 3.

[60] 2021 Clarifications Memo, p. 4. Similarly, in responding to comments on the 2017 RHR Revisions, the EPA explained that ''[a] state should not fail to address its many relatively low-impact sources merely because it only has such sources and another state has even more low-impact sources and/or some high impact sources.'' Responses to Comments on Protection of Visibility: Amendments to Requirements for State Plans; Proposed Rule (81 FR 26942, May 4, 2016), pp. 87–88.

[61] The CAA provides that, ''[i]n determining reasonable progress there shall be taken into consideration'' the four statutory factors. CAA 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 emissions 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.

[62] CAA 169A(g)(1).

[63] 82 FR 3091.

[64] ''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 at 3088. However, not all approaches to grouping sources for four-factor analysis are necessarily reasonable; the reasonableness of grouping sources in any particular instance will

consider a ''meaningful set'' of technically feasible control options for reducing emissions of visibility impairing pollutants.[65] The 2019 Guidance provides that ''[a] state must reasonably pick and justify the measures that it will consider, recognizing that there is no statutory or regulatory requirement to consider all technically feasible measures or any particular measures. A range of technically feasible measures available to reduce emissions would be one way to justify a reasonable set.'' [66]

The EPA's 2021 Clarifications Memo provides further guidance on what constitutes a reasonable set of control options for consideration: ''A reasonable four-factor analysis will consider the full range of potentially reasonable options for reducing emissions.'' [67] In addition to add-on controls and other retrofits (*i.e.,* new emissions reduction measures for sources), the EPA explained that states should generally analyze efficiency improvements for sources' existing measures as control options in their four-factor analyses, as in many cases such improvements are reasonable given that they typically involve only additional operation and maintenance costs. Additionally, the 2021 Clarifications Memo provides that states that have assumed a higher emissions rate than a source has achieved or could potentially achieve using its existing measures should also consider lower emissions rates as potential control options. That is, a state should consider a source's recent actual and projected emission rates to determine if it could reasonably attain lower emission rates with its existing measures. If so, the state should analyze the lower emission rate as a control option for reducing emissions.[68] The EPA's recommendations to analyze potential efficiency improvements and achievable lower emission rates apply to both sources that have been selected for four-factor analysis and those that have forgone a four-factor analysis on the basis of existing ''effective controls.'' [69]

After identifying a reasonable set of potential control options for the sources it has selected, a state then collects information on the four factors with regard to each option identified. 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.[70] The 2019 Guidance provides recommendations for the types of information that can be used to characterize the four factors (with or without visibility), as well as ways in which states might reasonably consider and balance that information to determine which of the potential control options is necessary to make reasonable progress.[71] The 2021 Clarifications Memo contains further guidance on how states can reasonably consider modeled visibility impacts or benefits in the context of a four-factor analysis.[72] Specifically, the EPA explained that while visibility can reasonably be used when comparing and choosing between multiple reasonable control options, it should not be used to summarily reject controls that are reasonable given the four statutory factors.[73] Ultimately, while states have discretion to reasonably weigh the factors and to determine what level of control is needed, section 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, section 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 section 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.[74] If the outcome of a four-factor analysis is a new, additional emission reduction measure for a source, that new measure is necessary to make reasonable progress towards remedying existing anthropogenic visibility impairment and must be included in the SIP. If the outcome of a four-factor analysis is that no new measures are reasonable for a source, continued implementation of the source's existing measures is generally necessary to prevent future emission increases and thus to make reasonable progress towards the second part of the national visibility goal: preventing future anthropogenic visibility impairment.[75] That is, when the result of a four-factor analysis is that no new measures are necessary to make reasonable progress, the source's existing measures are generally necessary to make reasonable progress and must be included in the SIP. However, there may be circumstances in which a state can demonstrate that a source's existing measures are *not* necessary to make reasonable progress. Specifically, if a state can demonstrate that a source will continue to implement its existing measures and will not increase its emissions rate, it may not be necessary to have those measures in the long-term strategy to prevent future emissions increases and future visibility impairment. The EPA's 2021 Clarifications Memo provides further explanation and guidance on how states may demonstrate that a source's existing measures are not necessary to make reasonable progress.[76] If the state can make such a demonstration, it need not include a source's existing measures in the long-term strategy or its SIP.

As with source selection, the characterization of information on each of the factors is also subject to the documentation requirement in section 51.308(f)(2)(iii). The reasonable progress analysis, including source selection, information gathering, characterization of the four statutory factors (and potentially visibility), balancing of the four factors, and selection of the emission reduction measures that represent reasonable progress, is a technically complex exercise, but also a flexible one that provides states with bounded discretion to design and implement approaches appropriate to their circumstances. Given this flexibility, section 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

depend on the circumstances and the manner in which grouping is conducted. If it is feasible to establish and enforce different requirements for sources or subgroups of sources, and if relevant factors can be quantified for those sources or subgroups, then states should make a separate reasonable progress determination for each source or subgroup. 2021 Clarifications Memo at 7–8.

[65] Id. at 3088.

[66] 2019 Guidance, p. 29.

[67] 2021 Clarifications Memo, p. 7.

[68] 2021 Clarifications Memo, p. 7.

[69] See 2021 Clarifications Memo pp. 5, 10.

[70] See, *e.g.,* Responses to Comments on Protection of Visibility: Amendments to Requirements for State Plans; Proposed Rule (81 FR 26942, May 4, 2016) (December 2016), Docket Number EPA–HQ–OAR–2015–0531, U.S. Environmental Protection Agency, p. 186; 2019 Guidance, pp. 36–37.

[71] See 2019 Guidance, pp. 30–36.

[72] 2021 Clarifications Memo, pp. 12–15.

[73] 2021 Clarifications Memo, p. 13.

[74] States may choose to, but are not required to, include measures in their long-term strategies beyond just the emission reduction measures that are necessary for reasonable progress. See 2021 Clarifications Memo at 16. For example, states with smoke management programs may choose to submit their smoke management plans to EPA for inclusion in their SIPs but are not required to do so. See, *e.g.,* 82 FR at 3108–3109 (requirement to consider smoke management practices and smoke management programs under 40 CFR 51.308(f)(2)(iv) does not require states to adopt such practices or programs into their SIPs, although they may elect to do so).

[75] See CAA 169A(a)(1).

[76] See 2021 Clarifications Memo, pp. 8–10.

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. This documentation requirement can be met through the provision of and reliance on technical analyses developed through a regional planning process, so long as that process and its output has been approved by all state participants. In addition to the explicit regulatory requirement to document the technical basis of their reasonable progress determinations, states are also subject to the general principle that those determinations must be reasonably moored to the statute.[77] That is, a state's decisions about the emission reduction measures that are necessary to make reasonable progress must be consistent with the statutory goal of remedying existing and preventing future visibility impairment.

The four statutory factors (and potentially visibility) are used to determine what emission reduction measures for selected sources must be included in a state's long-term strategy for making reasonable progress. Additionally, the RHR at 40 CFR 51.3108(f)(2)(iv) separately provides five ''additional factors'' [78] 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. The 2019 Guidance provides that a state may satisfy this requirement by considering these additional factors in the process of selecting sources for four-factor analysis, when performing that analysis, or both, and that not every one of the additional factors needs to be considered at the same stage of the process.[79] The EPA provided further guidance on the five additional factors in the 2021 Clarifications Memo, explaining that a state should generally not reject cost-effective and otherwise reasonable controls merely because there have been emission reductions since the first planning period owing to other ongoing air pollution control programs or merely because visibility is otherwise projected to improve at Class I areas. Additionally, states generally should not rely on these additional factors to summarily assert that the state has already made sufficient progress and, therefore, no sources need to be selected or no new controls are needed regardless of the outcome of four-factor analyses.[80]

Because the air pollution that causes regional haze crosses state boundaries, section 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. Consultation allows for each state that impacts visibility in an area to share whatever technical information, analyses, and control determinations may be necessary to develop coordinated emission management strategies. This coordination may be managed through inter- and intra-RPO consultation and the development of regional emissions strategies; additional consultations between states outside of RPO processes may also occur. 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.[81] 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.[82] 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.[83] The EPA will consider the technical information and explanations presented by the submitting state and the state with which it disagrees when considering whether to approve the state's SIP.[84] Under all circumstances, a state must document in its SIP submission all substantive consultations with other contributing states.[85]

D. Reasonable Progress Goals

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.'' [86] Their primary purpose is to assist the public and the EPA in assessing the reasonableness of states' long-term strategies for making reasonable progress towards the national visibility goal.[87] States in which Class I areas are located must establish two RPGs, both in deciviews—one representing visibility conditions on the clearest days and one representing visibility on the most anthropogenically impaired days—for each area within their borders.[88] The two RPGs are intended to reflect the projected impacts, on the two sets of days, of the emission reduction measures the state with the Class I area, as well as all other contributing states, have included in their long-term strategies for the second implementation period.[89] The RPGs also account for the projected impacts of implementing other CAA requirements, including non-SIP based requirements. Because RPGs are the modeled result of the measures in states' long-term strategies (as well as other measures required under the CAA), they cannot be determined before states have conducted their four-factor analyses and determined the control measures that are necessary to make reasonable progress.[90]

For the second implementation period, the RPGs are set for 2028. Reasonable progress goals are not

[77] See Arizona ex rel. *Darwin* v. *U.S. EPA,* 815 F.3d 519, 531 (9th Cir. 2016); *Nebraska* v. *U.S. EPA,* 812 F.3d 662, 668 (8th Cir. 2016); *North Dakota* v. *EPA,* 730 F.3d 750, 761 (8th Cir. 2013); *Oklahoma* v. *EPA,* 723 F.3d 1201, 1206, 1208–10 (10th Cir. 2013); cf. also *Nat'l Parks Conservation Ass'n* v. *EPA,* 803 F.3d 151, 165 (3d Cir. 2015); *Alaska Dep't of Envtl. Conservation* v. *EPA,* 540 U.S. 461, 485, 490 (2004).

[78] The five ''additional factors'' for consideration in section 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.

[79] See 2019 Guidance, p. 21.

[80] 2021 Clarifications Memo, p. 13.

[81] 40 CFR 51.308(f)(2)(ii)(A).

[82] 40 CFR 51.308(f)(2)(ii)(B).

[83] 40 CFR 51.308(f)(2)(ii)(C).

[84] See id.; 2019 Guidance, p. 53.

[85] 40 CFR 51.308(f)(2)(ii)(C).

[86] 82 FR 3091.

[87] See 40 CFR 51.308(f)(3)(iii)–(iv).

[88] 40 CFR 51.308(f)(3)(i).

[89] RPGs are intended to reflect the projected impacts of the measures all contributing states include in their long-term strategies. However, due to the timing of analyses, control determinations by other states, and other on-going emissions changes, a particular state's RPGs may not reflect all control measures and emissions reductions that are expected to occur by the end of the implementation period. The 2019 Guidance provides recommendations for addressing the timing of RPG calculations when states are developing their long-term strategies on disparate schedules, as well as for adjusting RPGs using a post-modeling approach. 2019 Guidance, pp. 47–48.

[90] See 2021 Clarifications Memo p. 6.

enforceable targets;[91] rather, they ''provide a way for the states to check the projected outcome of the [long-term strategy] against the goals for visibility improvement.''[92] While states are not legally obligated to achieve the visibility conditions described in their RPGs, section 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.'' Thus, states are required to have emission reduction measures in their long-term strategies that are projected to achieve visibility conditions on the most impaired days that are better than the baseline period and shows no degradation on the clearest days compared to the clearest days from the baseline period. The baseline period for the purpose of this comparison is the baseline visibility condition—the annual average visibility condition for the period 2000–2004.[93]

So that RPGs may also serve as a metric for assessing the amount of progress a state is making towards the national visibility goal, 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.[94] To this end, 40 CFR 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.'' The 2019 Guidance provides suggestions about how such a ''robust demonstration'' might be conducted.[95]

The 2017 RHR, 2019 Guidance, and 2021 Clarifications Memo also explain that projecting an RPG that is on or below the URP based on only on-the-books and/or on-the-way control measures (*i.e.,* control measures already required or anticipated before the four-factor analysis is conducted) is not a ''safe harbor'' from the CAA's and RHR's requirement that all states must conduct a four-factor analysis to determine what emission reduction measures constitute reasonable progress. The URP is a planning metric used to gauge the amount of progress made thus far and the amount left before reaching natural visibility conditions. However, the URP is not based on consideration of the four statutory factors and therefore cannot answer the question of whether the amount of progress being made in any particular implementation period is ''reasonable progress.''[96]

E. Monitoring Strategy and Other State Implementation Plan Requirements

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 subsection 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. A state with Class I areas within its borders must submit with its SIP revision a monitoring strategy for measuring, characterizing, and reporting regional haze visibility impairment that is representative of all Class I areas within the state. SIP revisions for such states must also provide for the establishment of any additional monitoring sites or equipment needed to assess visibility conditions in Class I areas, as well as reporting of all visibility monitoring data to the EPA at least annually. 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.[97] The Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring data is used to determine the 20 percent most anthropogenically impaired and 20 percent clearest sets of days every year at each Class I area and tracks visibility impairment over time.

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.[98] Section 51.308(f)(6)(v) further requires that all states' SIPs provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area; the inventory must include emissions for the most recent year for which data are available and estimates of future projected emissions. States must also include commitments to update their inventories periodically. The inventories themselves do not need to be included as elements in the SIP and are not subject to the EPA review as part of the Agency's evaluation of a SIP revision.[99] 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.[100] Per the 2019 Guidance, a state may note in its regional haze SIP that its compliance with the Air Emissions Reporting Rule (AERR) in 40 CFR part 51 Subpart A satisfies the requirement to provide for an emissions inventory for the most recent year for which data are available. To satisfy the requirement to provide estimates of future projected emissions, a state may explain in its SIP how projected emissions were developed for use in establishing RPGs for its own and nearby Class I areas.[101]

Separate from the requirements related to monitoring for regional haze purposes under 40 CFR 51.308(f)(6), the RHR also 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.''[102] 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 reasonably attributable visibility

[91] 40 CFR 51.308(f)(3)(iii).

[92] 2019 Guidance, p. 46.

[93] See 40 CFR 51.308(f)(1)(i), 82 FR 3097–98.

[94] 40 CFR 51.308(f)(3)(ii).

[95] See 2019 Guidance, pp. 50–51.

[96] See 82 FR 3093, 3099–3100; 2019 Guidance, p. 22; 2021 Clarifications Memo, pp. 15–16.

[97] 40 CFR 51.308(f)(6), (f)(6)(i), (f)(6)(iv).

[98] 40 CFR 51.308(f)(6)(ii), (iii).

[99] See ''Step 8: Additional requirements for regional haze SIPs'' in 2019 Guidance, p. 55.

[100] 40 CFR 51.308(f)(6)(vi).

[101] Id.

[102] 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.

impairment, the state must include in its SIP revision for the second implementation period an appropriate strategy for evaluating such impairment.

F. Requirements for Periodic Reports Describing Progress Towards the Reasonable Progress Goals

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.[103] To this end, every state's SIP revision for the second implementation period is required to 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.[104]

A core component of the progress report requirements is an assessment of changes in visibility conditions on the clearest and most impaired days. For second implementation period progress reports, section 51.308(g)(3) requires states with Class I areas within their borders to first determine current visibility conditions for each area on the most impaired and clearest days,[105] and then to calculate the difference between those current conditions and baseline (2000–2004) visibility conditions to assess progress made to date.[106] States must also assess the changes in visibility impairment for the most impaired and clearest days since they submitted their first implementation period progress reports.[107] Since different states submitted their first implementation period progress reports at different times, the starting point for this assessment will vary state by state.

Similarly, states must provide analyses tracking the change in emissions of pollutants contributing to visibility impairment from all sources and activities within the state over the period since they submitted their first implementation period progress reports.[108] Changes in emissions should be identified by the type of source or activity. Section 51.308(g)(5) also addresses changes in emissions since the period addressed by the previous progress report and requires states' SIP revisions to include an assessment of any significant changes in anthropogenic emissions within or outside the state. This assessment must explain whether these changes in emissions were anticipated and whether they have limited or impeded progress in reducing emissions and improving visibility relative to what the state projected based on its long-term strategy for the first implementation period.

G. Requirements for State and Federal Land Manager Coordination

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 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.'' [109] Consultation that occurs 120 days prior to any public hearing or public comment opportunity will be deemed ''early enough,'' but the RHR provides that in any event the opportunity for consultation must be provided at least 60 days before a public hearing or comment opportunity. This consultation must include the opportunity for the FLMs to discuss their assessment of visibility impairment in any Class I area and their recommendations on the development and implementation of strategies to address such impairment.[110] 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.[111] 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.[112]

IV. The EPA's Evaluation of California's Regional Haze Submission for the Second Implementation Period

A. Background on California's First Implementation Period SIP Submission

California submitted its initial regional haze plan under 40 CFR 51.308 to the EPA on March 16, 2009 (hereinafter ''2009 Submittal''). The EPA approved the 2009 Submittal on June 14, 2011.[113] On June 16, 2014, California submitted its Progress Report to meet the requirements of 40 CFR 51.308(g) and (h). The EPA approved the Progress Report on April 1, 2015.[114]

B. California's Second Implementation Period SIP Submission

In accordance with CAA sections 169A and the RHR at 40 CFR 51.308(f), on August 9, 2022, CARB submitted a revision to the California SIP to address its regional haze obligations for the second implementation period, which runs through 2028. California made its 2022 Regional Haze Plan available for public comment on May 13, 2022. CARB received and responded to public comments.[115]

The following sections describe the Plan, including analyses conducted by the WRAP and CARB, CARB's assessment of progress made since the first implementation period in reducing emissions of visibility impairing pollutants, and the visibility improvement progress at its Class I areas and nearby Class I areas. This notice also contains the EPA's evaluation of the Plan against the requirements of the CAA and RHR for the second implementation period of the regional haze program.

C. 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

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

[104] 40 CFR 51.308(g)(1) and (2).

[105] 40 CFR 51.308(g)(3)(i)(B).

[106] See 40 CFR 51.308(g)(3)(ii)(B).

[107] See 40 CFR 51.308(g)(3)(iii)(B), (f)(5).

[108] See 40 CFR 51.308(g)(4), (f)(5).

[109] 40 CFR 51.308(i)(2).

[110] 40 CFR 51.308(i)(2).

[111] 40 CFR 51.308(i)(3).

[112] 40 CFR 51.308(i)(4).

[113] 76 FR 34608.

[114] 80 FR 17327.

[115] Public comments and CARB responses are available on the CARB website at *https://ww2.arb.ca.gov/sites/default/files/2023-01/RegionalHazeResponseToPublicComments.pdf.*

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 (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 explained in the 1999 RHR preamble that the CAA section 169A(b)(2) requirement that states submit SIPs to address visibility impairment establishes ''an 'extremely low triggering threshold' in determining which States should submit SIPs for regional haze.'' [116] In concluding that each of the contiguous 48 states and the District of Columbia meet this threshold,[117] the EPA relied on ''a large body of evidence demonstrat[ing] that long-range transport of fine PM contributes to regional haze,'' [118] including modeling studies that ''preliminarily demonstrated that each State not having a Class I area had emissions contributing to impairment in at least one downwind Class I area.'' [119] In addition to the technical evidence supporting a conclusion that each state contributes to *existing* visibility impairment, the EPA also explained that the second half of the national visibility goal—preventing *future* visibility impairment—requires having a framework in place to address future growth in visibility-impairing emissions and makes it inappropriate to ''establish criteria for excluding States or geographic areas from consideration as potential contributors to regional haze visibility impairment.'' [120] Thus, the EPA concluded that the agency's ''statutory authority and the scientific evidence are sufficient to require all States to develop regional haze SIPs to ensure the prevention of any future impairment of visibility, and to conduct further analyses to determine whether additional control measures are needed to ensure reasonable progress in remedying existing impairment in downwind Class I areas.'' [121] The EPA's 2017 revisions to the RHR did not disturb this conclusion.[122]

California has 29 Class I areas within its borders: Redwood National Park; Marble Mountain Wilderness; Lava Beds National Monument; South Warner Wilderness; Thousand Lakes Wilderness; Lassen Volcanic National Park; Caribou Wilderness; Yolla Bolly-Middle Eel Wilderness (includes land managed by the U.S. Bureau of Land Management); Point Reyes National Seashore; Ventana Wilderness; Pinnacles National Monument; Desolation Wilderness; Mokelumne Wilderness; Emigrant Wilderness; Hoover Wilderness; Yosemite National Park; Ansel Adams Wilderness; Kaiser Wilderness; John Muir Wilderness; Kings Canyon National Park; Sequoia National Park; Dome Lands Wilderness; San Rafael Wilderness; San Gabriel Wilderness; Cucamonga Wilderness; San Gorgonio Wilderness; San Jacinto Wilderness; Agua Tibia Wilderness; and Joshua Tree National Park.

In its submission, CARB also briefly assessed the contribution of emissions from California to visibility impairment at Class I areas in three neighboring states: Oregon, Nevada, and Arizona.[123] CARB noted that the projected share of ammonium nitrate and ammonium sulfate attributable to California sources ranges from 0.1 to 1.7 percent and 0.1 to 1.0 percent, respectively, of the total light extinction budgets at Class I areas in neighboring states.[124] These total light extinction budgets include international and natural emissions, which cannot be addressed by states, and therefore do not provide a meaningful assessment of the contribution of California's sources relative to other U.S. anthropogenic sources. CARB also did not consider whether emissions from California may affect Class I areas in any states other than its three neighboring states.[1]

As discussed in further detail below, the EPA is proposing to find that the 2022 California Regional Haze Plan does not fully meet the requirements of 40 CFR 51.308(f)(2) related to the development of a long-term strategy. Relatedly, the State failed to identify specific out-of-state Class I areas may be affected by emissions from California.

D. 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.[125]

In the 2022 California Regional Haze Plan, CARB used visibility data from IMPROVE monitoring sites for 2000–2004 for baseline visibility.[126] CARB also obtained visibility data from IMPROVE monitoring data for 2014–2018, which it used to represent current visibility conditions. CARB determined natural visibility by estimating the natural concentrations of visibility-impairing pollutants and then calculating total light extinction with the IMPROVE algorithm. Comparison of baseline conditions to natural visibility conditions shows the improvement necessary to attain natural visibility by 2064 measured in deciviews of improvement per year that represents the URP. The calculations of baseline, current, and natural visibility conditions, as well as the progress to date and differences between current visibility condition and natural visibility condition can be found in Chapter 2 of the 2022 California Regional Haze Plan and are summarized in tables 1 and 2 of this document.

[116] 64 FR at 35721.

[117] The EPA determined that ''there is more than sufficient evidence to support our conclusion that emissions from each of the 48 contiguous states and the District of Columbia may reasonably be anticipated to cause or contribute to visibility impairment in a Class I area.'' 64 FR at 35721. Hawaii, Alaska, and the U.S. Virgin Islands must also submit regional haze plans because they contain Class I areas.

[118] Id.

[119] Id. at 35722.

[120] Id. at 35721.

[121] Id. at 35722.

[122] 82 FR at 3094.

[123] 2022 California Regional Haze Plan, pp. 64–68.

[124] Id. at 64.

[125] 40 CFR 51.308(f)(1)(vi)(B).

[126] Plan, p. 22.

TABLE 1—VISIBILITY CONDITIONS FOR CLEAREST DAYS

[dv]

IMPROVE site	Class I areas	Baseline	Current	Progress to date	Natural	Difference
LABE1	Lava Beds National Monument South Warner Wilderness Area	3.2	2.5	0.7	1.3	1.2
REDW1	Redwood National Park	6.1	5.3	0.8	3.5	1.8
TRIN1	Marble Mountain Wilderness Yolla Bolly-Middle Eel Wilderness Area	3.4	3.1	0.3	1.2	1.9
LAVO1	Caribou Wilderness Area Lassen Volcanic National Park Thousand Lakes Wilderness	2.7	2.2	0.5	1.0	1.2
BLIS1	Desolation Wilderness Area Mokelumne Wilderness Area	2.5	1.8	0.7	0.4	1.4
PORE1	Point Reyes National Seashore	10.5	8.2	2.3	4.8	3.4
YOSE1	Emigrant Wilderness Area Yosemite National Park	3.4	2.9	0.5	1.0	1.9
HOOV1	Hoover Wilderness Area	1.4	1.0	0.4	0.1	0.9
KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	2.3	1.5	0.8	0.0	1.5
PINN1	Pinnacles National Park Ventana Wilderness Area	8.9	7.7	1.2	3.5	4.2
SEQU1	Kings Canyon National Park Sequoia National Park	8.8	7.0	1.8	2.3	4.7
RAFA1	San Rafael Wilderness Area	6.5	4.9	1.6	1.8	3.1
DOME1	Domeland Wilderness Area	5.1	4.4	0.7	1.2	3.2
SAGA1	Cucamonga Wilderness Area San Gabriel Wilderness Area	4.8	2.8	2.0	0.4	2.4
SAGO1	San Gorgonio Wilderness Area San Jacinto Wilderness Area	5.4	3.3	2.1	1.2	2.1
JOSH1	Joshua Tree National Park	6.1	4.7	1.4	1.7	3.0
AGTI1	Agua Tibia Wilderness Area	9.6	7.0	2.6	2.9	4.1

Source: 2022 California Regional Haze Plan, 38, Tables 2–3, 2–4, 2–6, 2–7, 2–9 and 2–10. Baseline conditions are for 2000–2004. Current Conditions are for 2014–2018. Progress to date is Baseline Minus Current. Difference is Current minus Natural Conditions.

TABLE 2—VISIBILITY CONDITIONS FOR MOST-IMPAIRED DAYS

[dv]

IMPROVE site	Class I areas	Baseline	Current	Progress to date	Natural	Difference
LABE1	Lava Beds National Monument South Warner Wilderness Area	11.3	9.7	1.6	6.2	3.5
REDW1	Redwood National Park	13.7	12.6	1.1	8.6	4.0
TRIN1	Marble Mountain Wilderness Yolla Bolly-Middle Eel Wild. Area	11.9	10.4	1.5	6.5	3.9
LAVO1	Caribou Wilderness Area Lassen Volcanic National Park Thousand Lakes Wilderness	11.5	10.2	1.3	6.1	4.1
BLIS1	Desolation Wilderness Area Mokelumne Wilderness Area	10.1	9.3	0.8	4.9	4.4
PORE1	Point Reyes National Seashore	19.4	15.3	4.1	9.7	5.6
YOSE1	Emigrant Wilderness Area Yosemite National Park	13.5	11.6	1.9	6.3	5.3
HOOV1	Hoover Wilderness Area	8.9	7.8	1.1	4.9	2.9
KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	12.9	11.0	1.9	6.1	4.9
PINN1	Pinnacles National Park Ventana Wilderness Area	17.0	14.1	2.9	6.9	7.2
SEQU1	Kings Canyon National Park Sequoia National Park	23.2	18.4	4.8	6.3	12.1
RAFA1	San Rafael Wilderness Area	17.3	14.1	3.2	6.8	7.3
DOME1	Domeland Wilderness Area	17.2	15.1	2.1	6.2	8.9
SAGA1	Cucamonga Wilderness Area San Gabriel Wilderness Area	17.9	13.2	4.7	6.1	7.1
SAGO1	San Gorgonio Wilderness Area San Jacinto Wilderness Area	20.4	14.4	6.0	6.2	8.2
JOSH1	Joshua Tree National Park	17.7	12.9	4.8	6.1	6.8

TABLE 2—VISIBILITY CONDITIONS FOR MOST-IMPAIRED DAYS—Continued

[dv]

IMPROVE site	Class I areas	Baseline	Current	Progress to date	Natural	Difference
AGTI1	Agua Tibia Wilderness Area	21.6	16.3	5.3	7.7	8.6

Source: 2022 California Regional Haze Plan, Tables 2–3, 2–5, 2–6, 2–8, 2–9 and 2–11. Baseline conditions are for 2000–2004. Current Conditions are for 2014–2018. Progress to date is Baseline Minus Current. Difference is Current minus Natural Conditions.

CARB chose to adjust its URP for international anthropogenic impacts and to account for the impacts of wildland prescribed fires using adjustments developed by the WRAP.[127] The WRAP/WAQS Regional Haze modeling platform used scaled 2014 NEI wildland prescribed fire data for purposes of calculating the URP adjustments. WRAP used the results from the CAMx 2028OTBa2 High-Level Source Apportionment run to obtain concentrations due to international emissions and to prescribed fire. These concentrations were then used in a relative sense to estimate the contributions for use in adjusting the URP. That is, the modeled relative effect of removing their emissions (relative response factors) was applied to projections of 2028 concentrations. The resulting concentration decrease was taken as the contribution of these sources. The international and prescribed fire contributions were therefore calculated in a fashion consistent with each other and with the 2028 projections. This approach is consistent with the default method described in the EPA's September 2019 regional haze modeling Technical Support Document (''EPA 2019 Modeling TSD'') [128] and with the source apportionment approach described in the EPA's 2018 Visibility Tracking Guidance.[129] Two different adjusted glidepath options, ''International Emissions Only (A)'' and ''International Emissions + Wildland Rx Fire (B)'', were made available on the WRAP Technical Support System (TSS) [130] to adjust the URP glidepath end points projections at 2064 for Class I Federal areas on the most impaired days.

TABLE 3—URP FOR MOST-IMPAIRED DAYS

[dv/year]

IMPROVE site	Class I area	Unadjusted URP	Adjusted URP
LABE1	Lava Beds National Monument South Warner Wilderness Area	0.09	0.07
REDW1	Redwood National Park	0.09	0.07
TRIN1	Marble Mountain Wilderness Area Yolla Bolly-Middle Eel Wilderness Area	0.09	0.05
LAVO1	Thousand Lakes Wilderness Area Lassen Volcanic National Park Caribou Wilderness Area	0.09	0.06
BLIS1	Desolation Wilderness Area Mokelumne Wilderness Area	0.09	0.06
PORE1	Point Reyes National Seashore	0.16	0.14
YOSE1	Emigrant Wilderness Area Yosemite National Park	0.12	0.08
HOOV1	Hoover Wilderness Area	0.07	0.03
KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	0.11	0.06
PINN1	Pinnacles National Park Ventana Wilderness Area	[a] 0.11	0.13
SEQU1	Kings Canyon National Park Sequoia National Park	0.28	0.21
RAFA1	San Rafael Wilderness Area	0.18	0.14
DOME1	Domeland Wilderness Area	0.18	0.13
SAGA1	San Gabriel Wilderness Area Cucamonga Wilderness Area	0.20	0.17
SAGO1	San Gorgonio Wilderness Area San Jacinto Wilderness Area	0.24	0.20
JOSH1	Joshua Tree National Park	0.19	0.15
AGTI1	Agua Tibia Wilderness Area	0.23	0.18

Source: 2022 California Regional Haze Plan, Tables 8–3, 8–4, 8–5.

[127] Plan, pp. 51, 135–136.

[128] Memorandum from Richard A. Wayland, Director, Air Quality Assessment Division, EPA, to Regional Air Division Directors, Subject: ''Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling,'' September 19, 2019, available at *https://www.epa.gov/visibility/technical-support-document-epas-updated-2028-regional-haze-modeling.*

[129] Memorandum from Richard A. Wayland, Director, Air Quality Assessment Division, EPA, to Regional Air Division Directors, Subject: ''Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program,'' December 20, 2018, available at *https://www.epa.gov/sites/default/files/2018-12/documents/technical_guidance_tracking_visibility_progress.pdf.*

[130] WRAP Technical Support System, *http://views.cira.colostate.edu/tssv2/.*

[a] The unadjusted URP for the PINN1 IMPROVE monitor reported in the Plan appears to have been incorrectly transcribed from its source. The reported value of 0.11 dv/year should actually be 0.17 dv/year, based on the 2004 and the 2024 natural conditions endpoint data reported in the WRAP TSS. This error does not affect other calculations or conclusions in the Plan.

We propose to find that the 2022 California Regional Haze Plan meets the requirements of 40 CFR 51.308(f)(1) related to the calculations of baseline, current, and natural visibility conditions; progress to date; differences between current visibility conditions and natural visibility conditions, and the uniform rate of progress for each of its Class I areas for the second implementation period. We also propose to find that CARB has estimated the impacts from anthropogenic sources outside the United States and wildland prescribed fires using scientifically valid data and methods.

E. Long-Term Strategy for Regional Haze

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.[131] As explained in the Background section of this notice, reasonable progress is achieved when all states contributing to visibility impairment in a Class I area are implementing the measures determined—through application of the four statutory factors to sources of visibility impairing pollutants—to be necessary to make reasonable progress.[132] Each state's long-term strategy must include the enforceable emission limitations, compliance schedules, and other measures that are necessary to make reasonable progress.[133] All new (*i.e.,* additional) measures that are the outcome of four-factor analyses are necessary to make reasonable progress and must be in the long-term strategy. If the outcome of a four-factor analysis and other measures necessary to make reasonable progress is that no new measures are reasonable for a source, that source's existing measures are necessary to make reasonable progress, unless the state can demonstrate that the source will continue to implement those measures and will not increase its emission rate. Existing measures that are necessary to make reasonable progress must also be in the long-term strategy. In developing its long-term strategies, a state must also consider the five additional factors in section 51.308(f)(2)(iv). As part of its reasonable progress determinations, the state must describe the criteria used to determine which sources or group of sources were evaluated (*i.e.,* subjected to four-factor analysis) for the second implementation period and how the four factors were taken into consideration in selecting the emission reduction measures for inclusion in the long-term strategy.[134]

The consultation requirements of section 51.308(f)(2)(ii) provide 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, respectively. Section 51.308(f)(2)(ii)(C) speaks to what happens if states cannot agree on what measures are necessary to make reasonable progress.

Section 51.308(f)(2)(iii) requires that 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 12-month exemption period for newly submitted data.

The following sections summarize how the 2022 California Regional Haze SIP addressed the requirements of section 51.308(f)(2) and the EPA's evaluation with respect to these requirements.

1. Determination of Which Pollutants To Consider

To evaluate which pollutants had the largest impact at California's Class I areas, CARB considered light extinction budgets that showed the relative contribution from different pollutants measured during 2014–2018 at IMPROVE monitors in the State. Overall (including both U.S. and non-U.S. sources) CARB found that, on the most impaired days, ammonium nitrate and ammonium sulfate comprised the largest portion of the light extinction budgets at sites near urban areas, while ammonium sulfate and organic mass formed the largest portion of light extinction budgets at sites further from urban areas.[135] When looking only at U.S. anthropogenic sources, CARB concluded that ammonium nitrate was generally the dominant visibility reducing PM species, comprising an average of 49 percent of light extinction at Class I areas in California during 2014–2018.[136] CARB also noted that, in prospective light extinction budgets developed for 2028, ammonium nitrate comprises an average of 38 percent of light extinction at Class I areas in California. Based on these considerations, CARB chose to focus its long-term strategy solely on NO_X, which is considered the limiting precursor for ammonium nitrate.

While we support CARB's focus on impacts from U.S. anthropogenic emissions, we find that its determination to focus its regional haze control strategy exclusively on NO_X during this planning period is not adequately supported. The conclusion that NO_X is the dominant visibility reducing PM species is not true for all of California's Class I areas, even when considering only U.S. anthropogenic sources. For example, prospective U.S. light extinction budgets for the most impaired days in 2028 indicate that at TRIN1 (representing Marble Mountain Wilderness and Yolla Bolly-Middle Eel Wilderness Area), BLIS1 (representing Desolation Wilderness Area and Mokelumne Wilderness Area), and JOSH1 (representing Joshua Tree National Park), the contribution from U.S. anthropogenic sources from organic mass will exceed the contribution from ammonium nitrate on the most impaired days.[137] And, even for the monitors where ammonium nitrate is projected to have the largest contribution in 2028, contributions from other species, such as organic matter and ammonium sulfate, may be significant as well. For example, in the prospective U.S. anthropogenic light extinction budgets for the most impaired days in 2028, the contribution from organic matter exceeds 20% of total impairment at nine monitors, and the contribution from ammonium sulfate exceeds 20% at one monitor.[138]

In addition, CARB has not adequately considered whether anthropogenic emissions of other pollutants from

[131] CAA 169A(b)(2)(B).

[132] 40 CFR 51.308(f)(2)(i).

[133] 40 CFR 51.308(f)(2).

[134] 40 CFR 51.308(f)(2)(iii).

[135] 2022 California Regional Haze Plan, pp. 69–70.

[136] Id. at 72.

[137] 2022 California Regional Haze Plan, p. 73, Figure 5–5.

[138] Id.

California may contribute significantly to visibility impairment at out-of-state Class I areas.[139] For example, ammonium sulfate constitutes a greater share of the total extinction budget than ammonium nitrate at all of the Class I areas in neighboring states.[140] In addition, modeling results available from the WRAP TSS [141] how that for ammonium sulfate from anthropogenic SO_2 emissions, California industrial point sources (nonEGUs) have the largest contribution to impairment of any state/source category combination for three Class I areas in other States: Zion, Bryce Canyon, and Grand Canyon National Parks. Further, the California nonEGU contribution is comparable to that from Arizona nonEGUs for the Mazatzal, Sierra Ancha, and Sycamore Wilderness Areas in Arizona, and comparable to the EGU contribution at Capitol Reef National Park.

For these reasons, it is not clear that ammonium nitrate is the dominant species resulting from U.S. anthropogenic emissions at all Class I areas affected by emissions from California and therefore, we determine that it was unreasonable for CARB not to conduct any evaluation of potential controls for the other pollutants.

2. Source Selection

In the Plan, CARB states that its source selection goal for this regional haze plan was to consider sources that accounted for at least 50 percent of the NO_X emissions in the inventory, considering both 2014 and 2017 emissions inventories. Noting the significant role of mobile source emissions in California and the State's authority to establish emissions standards for certain mobile sources, CARB chose to focus its source-selection process on mobile sources, but also considered stationary sources.

a. Mobile Sources

CARB provided a summary of 2017 and projected 2028 NO_X emissions in tons per day (tpd) from various mobile source sectors in table 5–1 of the Plan, which is reproduced as table 4 of this document. Based on these data, CARB selected light and medium-duty vehicles, heavy-duty trucks, off-road equipment, trains, and ocean-going vessels for four-factor analysis, explaining that emissions from these five source groups account for 60 percent of NO_X emissions in the 2017 inventory and are projected to account for 50 percent of NO_X emissions in 2028.[142] CARB also noted that it did not select aircraft for analysis because Federal action would be needed to address this source category.

TABLE 4—CARB MOBILE SOURCE SECTOR EMISSIONS

Sector description	2017 Emissions (tpd)	Projected 2028 emissions (tpd)
On-Road: Heavy-Duty Trucks	409	227
On-Road: Light & Medium-Duty Trucks	111	31
On-Road: Light-Duty Passenger	70	26
On-Road: Other (Buses, Motorcycles, Motorhomes)	29	18
Off-Road: Off-Road Equipment	222	132
Off-Road: Trains	78	37
Off-Road: Aircraft	46	59
Off-Road: Ocean-Going Vessels	28	37
Off-Road: Commercial Harbor Craft	19	18
Off-Road: Recreational Boats	16	13
Off-Road: Recreational Vehicles	1	1

With respect to NO_X emissions from mobile sources specifically, we find that CARB selected a reasonable set of source categories for four-factor analysis. However, as discussed in section IV.E.3.a of this document, we find that CARB did not adequately analyze and consider the four factors in relation to these source categories.

b. Stationary Sources

CARB conducted a four-step process to select sources for four-factor analysis:

- *Step 1:* Calculate NO_X emissions (Q) in tons divided by distance (d) in km (Q/d) and screen in facilities with a NO_X Q/d greater than five for further consideration.
- *Step 2:* Review device level emissions inventories and screen out sources if actual emissions or emissions under State or local jurisdiction resulted in a Q/d less than five.
- *Step 3:* Review existing controls, planned controls, and proposed operational changes. Screen out sources if this information indicated that a full four factor analysis would likely result in the conclusion that reasonable controls are in place.
- *Step 4:* Proceed with consideration and evaluation of four statutory factors.

We evaluate steps 1–3 of CARB's analysis in this section and step 4 in section IV.E.3.b of this document.

In step 1 of its stationary source screening process, CARB calculated NO_X-only Q/d values using 2017 NEI NO_X emissions data and the distance between a stationary source and Class I areas and selected the sources with a Q/d value greater than 5. The results of this analysis are summarized in table G–1 of the Plan, which is reproduced as Table 5 of this document.

TABLE 5—STATIONARY SOURCES SELECTED AT STEP 1

Facility name	Location with maximum Q/d	Distance (km)	2017 NEI (tpy)	Q/d
Chevron Products Company	Point Reyes National Seashore	28	737	26.4
Lehigh Southwest Cement Company	Point Reyes National Seashore	86	1208	14.0
Oakland Metropolitan International Airport	Point Reyes National Seashore	50	1262	25.4

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

[140] 2022 California Regional Haze Plan, pp. 65–67.

[141] WRAP Technical Support System, Modeling Express Tools, ''WRAP State Source Group Contributions—U.S. Anthro'', *http://views.cira.colostate.edu/tssv2/Express/ModelingTools.aspx.*

[142] Id. at 75–76.

TABLE 5—STATIONARY SOURCES SELECTED AT STEP 1—Continued

Facility name	Location with maximum Q/d	Distance (km)	2017 NEI (tpy)	Q/d
Phillips 66 Carbon Plant	Point Reyes National Seashore	43	360	8.5
Phillips 66 Company—San Francisco Refinery	Point Reyes National Seashore	43	218	5.1
San Francisco International Airport	Point Reyes National Seashore	45	5105	113.4
San Jose Airport—Norman Y Mineta	Point Reyes National Seashore	92	884	9.6
Shell Martinez Refinery (now owned by PBF)	Point Reyes National Seashore	53	916	17.2
Tesoro Refining & Marketing Company Llc	Point Reyes National Seashore	57	360	6.3
Valero Refining Company	Point Reyes National Seashore	52	1013	19.3
CalPortland Cement—Mojave Plant	Domeland Wilderness Area	75	1531	20.5
Granite Construction—Lee Vining	Ansel Adams Wilderness Area	6	31	5.2
Kirkwood Powerhouse	Mokelumne Wilderness Area	1	10	16.6
Cal Portland Oro Grande (formerly Riverside)	Cucamonga Wilderness Area	41	1141	27.9
Cemex—Black Mountain Quarry	San Gorgonio Wilderness Area	53	5420	101.6
Mitsubishi Cement	San Gorgonio Wilderness Area	33	1944	59.7
Searles Valley Mineral	Domeland Wilderness Area	71	1517	21.3
Arcata	Redwood National Park	17	163	9.7
Collins Pine Co	Caribou Wilderness Area	12	129	10.4
Sierra Pacific Industries—Quincy	Caribou Wilderness Area	59	392	6.6
Sacramento International Airport	Desolation Wilderness Area	117	737	6.3
San Diego International-Lindberg	Agua Tibia Wilderness Area	74	1580	21.3
Burney Forest Products	Thousand Lakes Wilderness Area	17	190	11.2
Lehigh Southwest Cement Company	Thousand Lakes Wilderness Area	56	603	10.7
Sierra Pacific Industries—Burney	Thousand Lakes Wilderness Area	18	157	8.9
Wheelabrator Shasta E.C.I	Yolla Bolly-Middle Eel Wilderness Area	57	536	9.4
Bob Hope Airport	San Gabriel Wilderness Area	31	375	12.0
California Steel Industries Inc	Cucamonga Wilderness Area	16	125	7.8
Chevron Products Co	San Gabriel Wilderness Area	52	729	14.0
Desert View Power	Joshua Tree National Park	24	189	7.8
John Wayne Airport	Cucamonga Wilderness Area	62	698	11.3
Long Beach Daugherty Field Airport	San Gabriel Wilderness Area	49	308	6.3
Los Angeles International Airport	San Gabriel Wilderness Area	49	7836	159.0
New-Indy Ontario, Llc	Cucamonga Wilderness Area	18	137	7.5
Ontario International Airport	Cucamonga Wilderness Area	17	679	40.2
Palm Springs International Airport	San Jacinto Wilderness Area	10	159	16.4
Phillips 66 Co/La Refinery Wilmington Pl	San Gabriel Wilderness Area	58	471	8.1
Phillips 66 Company/Los Angeles Refinery	San Gabriel Wilderness Area	53	391	7.3
Tamco	Cucamonga Wilderness Area	13	108	8.3
Tesoro Refining & Marketing (Carson)	San Gabriel Wilderness Area	51	661	13.0
Tesoro Refining and Marketing (Wilmington)	San Gabriel Wilderness Area	54	749	13.8
Torrance Refining (formerly Exxon Mobil)	San Gabriel Wilderness Area	52	924	17.6

With respect to NO_X emissions from point sources specifically, we find that CARB's use of a Q/d threshold of 5 resulted in the selection of a reasonable set of sources. However, the Plan only included the emissions data and distance values for the sources that were selected. Therefore, it was not possible for the EPA or the public to verify the emissions and distance values for sources that were not selected.

In Step 2 of its Stationary Source Screening process, CARB screened out 17 sources based on a ''device-level inventory,'' where ''actual emissions or emissions under State or local jurisdiction led to a Q/d less than five.'' [143] The sources screened out at this stage are summarized in table 6 of this document.

TABLE 6—STATIONARY SOURCES SCREENED OUT AT STEP 2

Facility name	Rationale for screening out
Oakland Metropolitan International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
San Francisco International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
San Jose Airport—Norman Y Mineta	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Tesoro Refining & Marketing Company Llc	The refinery has been idled since 2020 and owner is proposing to convert the refinery to a renewable fuels facility.
Granite Construction—Lee Vining	Per district staff, actual NO_X emissions from this source in 2017 were 0.5 tpy and were consistent with emissions from a typical operating year.
Kirkwood Powerhouse	In 2014, Kirkwood Meadows Public Utilities District transitioned to line power and all the generators were transitioned from prime to emergency back-up engines. Actual NO_X emissions since 2014 have been less than 0.1 tpy.

[143] Id. appendix G, p. 154.

TABLE 6—STATIONARY SOURCES SCREENED OUT AT STEP 2—Continued

Facility name	Rationale for screening out
Arcata	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Sacramento International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
San Diego International-Lindberg	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Bob Hope Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Desert View Power	Facility is located on Cabazon Indian Reservation land.
John Wayne Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits
Long Beach Daugherty Field Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Los Angeles International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Ontario International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Palm Springs International Airport	Vast majority of emissions are from aircraft, for which state and local agencies do not have authority to set emissions limits.
Tamco	Facility was permanently shut down in January 2021.

As with step 1, we find that CARB's determinations at step 2 were not adequately documented. In particular, CARB did not include in the Plan the device-level emissions inventory that it used to screen out sources. Thus, while we find that it was reasonable for the State to focus on emissions under State and/or local jurisdiction and to therefore screen out 12 airports and one source on tribal land, for the other screened-out sources, additional documentation is needed to verify the basis upon which the sources were screened out.[144]

In Step 3 of its screening process, CARB screened out 24 stationary sources based on its determination that ''information about existing controls, planned controls, or planned operational changes indicated that a full four factor analysis would likely result in the conclusion that, for the purposes of the regional haze program, reasonable controls are in place and no further reasonable controls are necessary at this time.'' [145] The controls or measures cited by CARB in making this determination for the 24 sources include existing or anticipated controls required by currently applicable district rules, expected district rules, permit requirements, and/or consent decrees. The sources screened out at this step are shown in table 7.

TABLE 7—STATIONARY SOURCES SCREENED OUT AT STEP 3

Facility name	Rationale for screening out
Chevron Products Company	Multiple furnaces have selective catalytic reduction (SCR) units and permit limits of 40 ppm NO_X at 3% O_2 (8-hour average). Cogeneration turbines have SCR units and emission limits of <10 ppm at 15% O_2 (3-hour average) and 0.20 lb NO_X per million British thermal units (MMBtu) as a 30-day rolling average. Facility's operating permit includes the federal interim refinery-wide emissions limit (excluding CO boilers) of 0.20 lb NO_X/MMBtu as well as the more stringent refinery-wide emissions limit (excluding CO boilers) of 0.033 lb NO_X/MMBtu.
Lehigh Southwest Cement Company	Emission limit of 2.0 lb NO_X/ton of clinker under federal consent decree.
Phillips 66 Carbon Plant	Planned decommissioning of the plant.
Phillips 66 San Francisco Refinery	Planned conversion to facility that would process renewable feedstocks.
Shell Martinez Refinery	Turbine boiler is equipped with an SCR system and has NO_X emissions limits of less than or equal to 5 ppmv NO_X at 15% O_2. A 2001 EPA consent decree required optimization of NO_X emissions controls for other boilers. Boilers are also subject to Bay Area Air Quality Management District (BAAQMD) Regulation 9, Rule 10 which has been determined to meet Best Available Retrofit Control Technology (BARCT) stringency.
Valero Refining Company	NO_X emissions are controlled through SCR systems and low NO_X burners. BAAQMD Regulation 9, Rule 10 applies to heaters and boilers (except for CO boilers) at refineries and sets the refinery-wide NO_X emissions limit at 0.033 lb NO_X/MMBtu of heat input (daily average) and facility-wide federal limit of 0.20 lb NO_X/MMBtu of heat input.
Cal Portland Mojave Plant	EPA consent decree required installation of selective non-catalytic reduction (SNCR) and established an emissions limit of 2.5 lb NO_X/ton of clinker for kiln. Eastern Kern APCD Rule 425.3 found to be meet BARCT stringency.
Cemex—Black Mountain Quarry	Federal consent decree established a NO_X emission limit of 1.95 lb/ton of clinker. The kilns are also subject to Mojave Desert AQMD Rule 1161—Portland Cement Kilns, which was revised in 2018 to meet federal RACT stringency and California BARCT stringency.
Mitsubishi Cement (Cushenberry Plant)	The NO_X emissions limit for cement kiln in the Title V permit is 2.8 lb/ton of clinker.
Cal Portland Oro Grande	The NO_X emissions limit for cement kiln is 2.45 lb/ton of clinker.

[144] See 40 CFR 51.308(f)(2)(iii); Clarifications Memo, p. 5.

[145] Id. at 154.

TABLE 7—STATIONARY SOURCES SCREENED OUT AT STEP 3—Continued

Facility name	Rationale for screening out
Searles Valley Mineral	The smallest boiler complies with a best available control technology (BACT) emissions limit of 9 ppmv. All the boilers are subject to Rule 1157.1, which was adopted in 2019 to meet the AB 617 expedited BARCT requirements.
Sierra Pacific Industries—Quincy	NO_X emissions are controlled by ammonia injection.
Burney Forest Products	The boilers are equipped with an SNCR unit with anhydrous ammonia injection for NO_X control. Title V permit includes BACT emissions limits for NO_X.
Lehigh Southwest Cement Company	EPA Consent Decree limits NO_X emissions to 1.95 lb/ton clinker with combustion controls or SNCR.
Sierra Pacific Industries—Burney	NO_X emissions are controlled through ammonia injection, staged combustion controls, flue gas recirculation, and low NO_X burners when combusting natural gas at start-up/shutdown.
Wheelabrator Shasta E.C.I	NO_X emissions are controlled through ammonia injection, staged combustion controls, flue gas recirculation, and low NO_X burners when combusting natural gas at start-up/shutdown.
California Steel Industries	By January 2022, the facility is planning to replace two existing 33 MMBtu/hr boilers with two new 32.54 MMBtu/hr boilers to comply with a 5 ppm NO_X limit in South Coast AQMD Rule 1146.
Chevron Products Co	NO_X control equipment includes low NOx burners in heaters/boilers, SCR units, and NO_X reducing catalyst in the fluid catalytic cracking unit (FCCU). Recently, the facility replaced five heater burners with low NO_X burners and the district recently received a proposal from the facility to install SCR on two large heaters. South Coast AQMD Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.
New Indy Ontario LLC	New combined heat and power units placed in operation in the fall of 2019 with BACT limit of 2 ppm NO_X at 15% O_2. Boiler required to meet a 5 ppm NO_X and 5 ppm NH_3 at 3% O_2 under South Coast AQMD Rule 1146.
Phillips 66 Co/Los Angeles Refinery—Carson	In the last six years, equipment changes have included the installation of an SCR unit on boiler 11 and the reformer heater. South Coast AQMD Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.
Phillips 66 Co/LA Refinery Wilmington	SCR was recently installed on the FCCU. Boilers and heaters are equipped with low NO_X burners. South Coast AQMD Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.
Tesoro Refining and Marketing Co.—Carson and Wilmington.	FCCU shutdown at Wilmington completed in October 2018. South Coast AQMD Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.
Torrance Refining (formerly ExxonMobil)	NO_X control equipment at the refinery includes low NO_X burners in heaters/boilers, SCR units, and NO_X reducing catalyst in the FCCU. South Coast AQMD Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.

We find that step 3 of CARB's source selection process was flawed in several respects. First, as with steps 1 and 2, step 3 of CARB's source selection process was inadequately documented. In particular, the Plan did not include unit-specific emissions and control information for all of the sources that were screened out. In response to a request from NPS, CARB did post a device-level emissions inventory on its website.[146] However, this inventory provided only total annual 2017 NO_X emissions and did not include information about existing controls or emissions limitations. Without this information, it is not possible to evaluate whether all the units with significant NO_X emissions are effectively controlled. Moreover, the device-level inventory was not included in the SIP submittal.

Second, for those units where emissions limits were provided, CARB did not adequately explain why it was reasonable to assume, without conducting a four-factor analysis, that no additional controls or more stringent emissions limitations would be reasonable. In particular, for most of the screened-out sources, CARB cited existing or expected determinations of best available retrofit control technology (BARCT) under California state law and/or determinations of reasonably available control technology (RACT) for purposes of Federal ozone requirements and/or determinations as part of the basis for screening sources out. However, while the 2019 Guidance lists more stringent controls requirements, such as BACT and lowest achievable emissions rate (LAER) determinations issued since 2013, as examples of effective controls,[147] it does not list RACT determinations as examples an effective control. RACT is a less stringent requirement than either BACT or LAER.[148] In addition, some elements of BARCT and RACT analyses differ from Regional Haze four-factor analyses and different cost effectiveness thresholds may apply for purposes of BARCT and RACT as compared with regional haze. For example, Eastern Kern APCD Rule 425.3 and Mojave Desert AQMD Rule 1161 establish NO_X emissions limits for RACT and BARCT that correspond to the use of combustion controls, which are generally less stringent than post-combustion controls, such as SNCR. The Staff Reports for these two rules indicate that the cost effectiveness of more stringent limits, such as limits corresponding to the use of SNCR, would range from approximately $1,700/ton to $4,100/ton of NO_X removed.[149] These $/ton figures are within the range of what has been considered cost-effective for regional haze reasonable progress measures by many western states, including California's neighboring states of

[146] *https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/statewide-efforts/regional-haze.*

[147] 2019 Guidance, p. 23.

[148] See, *e.g.,* Memorandum dated May 18, 2006 from William T. Harnett Director, Air Quality Policy Division, EPA, to Regional Air Division Directors, Subject: ''Questions Related to RACT in 8-hour ozone implementation,'' answer A.1 (''BACT requires that new or modified sources adopt the best available controls and, as such, the analysis is a 'top-down' analysis that first looks at the most stringent level of control available for a source. . . . RACT requires that sources adopt controls that are reasonably available and thus they may not be the most stringent controls that have been adopted for other similar sources.'')

[149] Eastern Kern APCD, ''Final Staff Report, Rule 425.3,'' March 8, 2018, p. D–2; Mojave Desert AQMD ''Staff Report, Amendments to Rule 1161'', January 22, 2018, appendix F.

Arizona,[150] Nevada,[151] and Oregon.[152] Accordingly, it was not reasonable for CARB to assume that RACT and/or BARCT controls necessarily constitute effective controls for purposes of regional haze in all cases.

Instead, under these circumstances, CARB should have evaluated such controls on a case-by-case basis to determine whether it is reasonable to assume that a full four-factor analysis would likely result in the conclusion that no further controls are necessary.[153] CARB did not do so in the Plan. For example, for the Mitsubishi Cement Cushenbury Plant, the Cal Portland Mojave Plant, and the Cal Portland Oro Grande Cement Plant, CARB cited NO_X emissions limits of 2.8 lb/ton of clinker, 2.5 lb/ton of clinker, and 2.45 lb/ton of clinker, respectively.[154] These limits are significantly higher than the applicable limits at other cement kilns, such as National Cement Lebec Unit 042, which has a limit of 1.5 lb/ton of clinker (30-day) in its Title V Permit.[155] The Mitsubishi Cement kiln does not have SNCR installed.[156] Given that many other cement kilns have installed SNCR as a retrofit NO_X control,[157] we find that CARB did not adequately justify why a four-factor analysis would likely result in a determination that an emissions limit corresponding to SNCR is not necessary to make reasonable progress at this unit. The two kilns at Cal Portland Oro Grande Cement Plant have SNCR installed for ''optional use,'' [158] and the kiln at the Cal Portland Mojave Plant has SNCR installed under a Consent Decree.[159] However, other cement kilns in California with SNCR are subject to significantly more stringent NO_X emissions limits than the limits at these three kilns.[160] Accordingly, we find that CARB did not adequately justify why four-factor analyses would likely result in a determination that no more stringent limits are necessary to make reasonable progress at these units. Similar considerations apply to other units that CARB screened out because they had installed controls constituting RACT and/or BARCT. Therefore, we find it was not reasonable for CARB to screen out units merely because they had installed controls constituting RACT and/or BARCT without further consideration of the stringency of these controls on a unit-specific basis.

Third, in some instances, CARB relied on rules that had not yet been adopted at the time of its analysis. For example, for the refineries in South Coast, CARB stated that ''Rule 1109.1 is being developed for all NO_X emitting sources at the refineries.'' [161] We find it was not reasonable for CARB to screen out sources based on the expected future applicability of rules that have not yet been adopted.

Finally, for each source that was screened out based on existing effective measures, CARB should have determined whether those measures are necessary for reasonable progress. As noted in section III.C of this document and further explained in the Clarifications Memo, generally a source/category's existing measures are needed to prevent future emissions increases and are thus needed to make reasonable progress.[162] If CARB concludes that the existing controls at a particular source are necessary to make reasonable progress, CARB must adopt emissions limits based on those controls as part of its long-term strategy for the second planning period and include those limits in its SIP (to the extent they do not already exist in the SIP).[163] Alternatively, if CARB can demonstrate that the source/category will continue to implement its existing measures and will not increase its emissions rate, it may be reasonable for the State to conclude that the existing controls are not necessary to make reasonable progress. In this instance, the emissions limits may not need to be adopted into the long-term strategy and SIP.[164]

In sum, due to a lack of documentation for steps 1–3 and inadequate justification for its determinations under step 3, we find that CARB's source selection process for stationary sources did not adequately address the requirement of 40 CFR 51.308(f)(2)(i) to provide a description of the criteria used to select sources, or the requirement of 40 CFR 51.308(f)(2)(iii) to provide documentation of the technical basis used to determine emission reduction measures.

3. Four-Factor Analyses and Control Determinations

a. Mobile Sources

For each of the selected mobile source categories, CARB discussed control measures that had been identified in previous state plans and provided information related to the four reasonable progress factors in order ''to highlight the consideration of the four reasonable progress factors embodied in CARB's rule making process.'' [165] CARB stated that, based on this information, it identified four control options as necessary to make reasonable progress: the Heavy-Duty Omnibus Regulation, the Heavy-Duty I/M Program Regulation, the Advanced Clean Trucks Regulation, and the Advanced Clean Cars II Regulation.[166]

We commend CARB's ambitious on-going program of mobile source emissions control measures, which has been developed to meet California's air quality, climate, and community health goals.[167] However, we find that, while CARB presented information about the four factors in relation to on-the-books/on-the-way mobile source requirements, CARB did not describe if or how it weighed the statutory factors to determine which controls are necessary for reasonable progress. For example, while most states have primarily considered the cost effectiveness of controls in determining which controls are necessary to make reasonable progress, CARB did not provide cost-effectiveness values for most of the control measures it considered,[168] nor did it indicate what level of cost effectiveness it considers to be reasonable. In the absence of such analysis and explanation, we propose find that CARB's consideration of mobile source control measures does

[150] 89 FR 47398, 47415 (May 31, 2024).

[151] Nevada Division of Environmental Protection, Nevada Regional Haze State Implementation Plan for the Second Planning Period at 5–6 (August 2022), available at *https://ndep.nv.gov/uploads/air-plan_mod-docs/All_SIP_Chapters.pdf* (''NDEP is relying on a cost-effectiveness ($/ton reduced) threshold of $10,000.'')

[152] 89 FR 13622, 13638 (February 23, 2024).

[153] 2019 Guidance pp. 22–23.

[154] Averaging times for these emissions limits were not provided.

[155] Permit 1128–V–2000 (Issued on 5/1/2024); Operational Condition 14.

[156] Permit 11800001 (Issued on 6/18/20), Condition II.A.33.

[157] See, *e.g.,* EPA, Control Cost Manual, section 4, Chapter 1, Selective Noncatalytic Reduction, p. 1–5 (''SNCR was designated as BART for 11 cement kilns'').

[158] Permit 223900003 (Issued on 1/8/2021); (Significant Permit Modification on 6/23/2021).

[159] *United States of America.* v. *CalPortland Company,* E.D. Cal. Case 1:11-at-00790, Document 2–1, filed 12/15/11.

[160] See table 7 of this document.

[161] Plan appendix G, p. 180.

[162] Clarifications Memo, pp. 8–10.

[163] CAA 169A(b)(2); 40 CFR 51.308(f)(2).

[164] 2019 Guidance p.43; Clarifications Memo, pp.8–9.

[165] Plan, appendix H, p. 185. See also Plan pp. 83–105 and appendix H.

[166] Id. at 109.

[167] See, *e.g.,* id. at 82 (''Integrated planning efforts focused on reducing emissions and improving air quality to meet California's air quality, climate, and community health goals will yield meaningful progress in reducing visibility impairing PM.'')

[168] For the Heavy-Duty Omnibus Regulation, CARB estimated a total cost effectiveness of $38,788/ton of NO_X in 2022–2032, and for the Heavy-Duty I/M program, CARB estimated the cost-effectiveness to be $31,677/ton of NO_X in 2024, $5,209/ton of NO_X in 2031, and $4,428/ton of NO_X in 2037. CARB did not provide cost-effectiveness values for the other measures.

not meet the requirement of 40 CFR 52.308(2)(f)(i) to include a description of ''how the four factors were taken into consideration in selecting the measures for inclusion'' in the LTS or the requirement of 40 CFR 52.308(2)(f)(iii) to provide documentation of the technical basis used to determine emission reduction measures.

b. Stationary Sources

CARB provided a four-factor analysis for a single unit: a Keeler Cogeneration Boiler at the Collins Pine Company wood products and cogeneration facility in Chester. As part of this analysis, CARB considered several potential control options, but concluded that the only technically feasible options were (1) good combustion practices, which are already in effect, and (2) SNCR. After evaluating the four factors for the SNCR option, CARB determined that retrofit of the existing boiler system with an SNCR system was not reasonable because ''[t]he existing boiler configuration does not provide for adequate residence time without injection of excess reagent, which is likely to lead to high levels of ammonia slip.'' [169]

CARB found that the use of good combustion practices is necessary to ensure control of NO_X emissions from the boiler at Collins Pine. CARB stated that good combustion practices are already in place at the facility and are enforceable as they are a condition of the facility's Title V operating permit. However, CARB did not provide a demonstration that use of good combustion practices was *not* necessary to make reasonable progress. Therefore, as explained in section III.C of this document, CARB should have submitted this measure for SIP approval.

4. Conclusions

For the reasons described in the preceding sections, we propose to find that CARB failed to reasonably ''evaluate and determine the emission reduction measures that are necessary to make reasonable progress'' by considering the four statutory factors as required by 40 CFR 51.308(f)(2)(i) and CAA section 169A(g)(1). We also propose to find that CARB failed to adequately document the technical basis that it relied upon to determine these emissions reduction measures, as required by 40 CFR 51.308(f)(2)(iii).

In addition, 51.308(f)(2) requires the long-term strategy to ''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).'' As described in the preceding sections, with the exception of the four mobile-source measures that CARB deemed to be necessary for reasonable progress, CARB did not clearly identify which measures it has determined were necessary to make reasonable progress. Accordingly, CARB failed to submit to the EPA a long-term strategy that includes ''the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress'' as required by 40 CFR 51.308(f)(2).[170]

Consequently, the EPA proposes to find that the 2022 California Regional Haze Plan does not satisfy the requirements of 40 CFR 51.308(f)(2).

F. Reasonable Progress Goals

Section 51.308(f)(3) contains the requirements pertaining to RPGs for each Class I area. Because California is host to multiple Class I areas, it is subject to both section 51.308(f)(3)(i) and, potentially, to (ii). 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 for each Class I area—reflecting the visibility conditions that will be achieved at the end of the implementation period as a result of the emissions 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. Section 51.308(f)(3)(ii) applies in circumstances in which a Class I area's RPG for the most impaired days represents a slower rate of visibility improvement than the URP calculated under 40 CFR 51.308(f)(1)(vi). Under section 51.308(f)(3)(ii)(A), if the state in which a mandatory Class I area is located establishes an RPG for the most impaired days that provides for a slower rate of visibility improvement than the URP, the state must demonstrate that there are no additional emissions reduction measures for anthropogenic sources or groups of sources in the state that would be reasonable to include in its long-term strategy. Section 51.308(f)(3)(ii)(B) requires that if a state contains sources that are reasonably anticipated to contribute to visibility impairment in a Class I area in *another* state, and the RPG for the most impaired days in that Class I area is above the URP, the upwind state must provide the same demonstration.

CARB's RPGs are set out in table 8–1 of the Plan, which is reproduced as table 8 of this document. In the Plan, CARB explains that the RPGs for the most impaired days are based on the emissions inputs that include implementation of control programs adopted at the time of the emissions inventory development and the additional aggregate emissions reduction commitment proposed in CARB's long-term strategy,[171] while the RPGs for the clearest days are equal to average visibility conditions on the clearest days during the 2000–2004 baseline period.

[169] Plan, p. 108.

[170] See also CAA 169A(b)(2), 169(b)(2)(B) (the CAA requires that each implementation plan for a State in which the emissions from may reasonably be anticipated to cause or contribute to visibility impairment in a Class I area ''contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal, . . . including . . . a long-term . . . strategy for making reasonable progress[.]''

[171] The last column of Plan table 7–5, p.131 is headed ''2028 Visibility Projections (dv) with Potential Additional Controls (PAC2 Emissions).'' While it is not explicitly stated in the Plan, that was the WRAP model scenario mainly relied upon in the Plan. Unless otherwise indicated, all of the Plan's 2028 projections and RPGs are identical to results from WRAP modeling scenario PAC2_EPAwoF ''PAC2 EPA w/o Fire Projection,'' available in WRAP TSS modeling tools 4 and 5. The PAC2 scenario reflected ''Potential Additional Controls,'' including California mobile source control measures; the ''woF'' means ''without fire'' in the calculation of Relative Response Factors to apply to monitored or other modeled concentrations.

TABLE 8—BASELINE CONDITIONS AND RPGS FOR CLEAREST AND MOST IMPAIRED DAYS

IMPROVE site	Class I area	Clearest baseline (dv)	Clearest 2028 RPG (dv)	Most impaired baseline (dv)	Most impaired 2028 RPG (dv)
LABE1	Lava Beds National Monument South Warner Wilderness Area	3.2	3.2	11.3	8.9
REDW1	Redwood National Park	6.1	6.1	13.7	11.9
TRIN1	Marble Mountain Wilderness Area Yolla Bolly-Middle Eel Wilderness Area	3.4	3.4	11.9	9.5
LAVO1	Thousand Lakes Wilderness Area Lassen Volcanic National Park Caribou Wilderness Area	2.7	2.7	11.5	9.4
BLIS1	Desolation Wilderness Area Mokelumne Wilderness Area	2.5	2.5	10.1	8.3
PORE1	Point Reyes National Seashore	10.5	10.5	19.4	14.4
YOSE1	Emigrant Wilderness Area Yosemite National Park	3.4	3.4	13.5	10.4
HOOV1	Hoover Wilderness Area	1.4	1.4	8.9	7.1
KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	2.3	2.3	12.9	9.8
PINN1	Pinnacles National Park Ventana Wilderness Area	8.9	8.9	17.0	13.0
SEQU1	Kings Canyon National Park Sequoia National Park	8.8	8.8	23.2	16.1
RAFA1	San Rafael Wilderness Area	6.5	6.5	17.3	13.0
DOME1	Domeland Wilderness Area	5.1	5.1	17.2	13.7
SAGA1	San Gabriel Wilderness Area Cucamonga Wilderness Area	4.8	4.8	17.9	11.5
SAGO1	San Gorgonio Wilderness Area San Jacinto Wilderness Area	5.4	5.4	20.4	12.0
JOSH1	Joshua Tree Wilderness Area	6.1	6.1	17.7	11.3
AGTI	Agua Tibia Wilderness Area	9.6	9.6	21.6	14.5

Source: 2022 California Regional Haze Plan Table 8–1: 2028 Reasonable Progress Goals for California Class I Areas.

In Plan appendix C, CARB also provided graphs of observed visibility, unadjusted and adjusted URP, and 2028 RPGs.[172] From those CARB concluded that 2028 RPGs for all of California's Class I areas are on or below the adjusted URP glidepath.

TABLE 9—CURRENT RATE OF PROGRESS AND URP

IMPROVE site	Class I area	Current rate of progress (dv/year)	Unadjusted URP (dv/year)	Adjusted URP (dv/year)
LABE1	Lava Beds National Monument South Warner Wilderness Area	0.11	0.09	0.07
REDW1	Redwood National Park	0.08	0.09	0.07
TRIN1	Marble Mountain Wilderness Area Yolla Bolly-Middle Eel Wilderness Area	0.11	0.09	0.05
LAVO1	Thousand Lakes Wilderness Area Lassen Volcanic National Park Caribou Wilderness Area	0.09	0.09	0.06
BLIS1	Desolation Wilderness Area Mokelumne Wilderness Area	0.06	0.09	0.06
PORE1	Point Reyes National Seashore	0.29	0.16	0.14
YOSE1	Emigrant Wilderness Area Yosemite National Park	0.14	0.12	0.08
HOOV1	Hoover Wilderness Area	0.08	0.07	0.03
KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	0.14	0.11	0.06
PINN1	Pinnacles National Park Ventana Wilderness Area	0.21	0.11	0.13

[172] Those graphs have the unadjusted and adjusted URP glidepath lines crossing each other, instead of both starting at the 2004 baseline level and having just the 2064 end point adjusted. However, comparable graphs available from WRAP TSS modeling tool 5 show the same placement of 2028 RPG with respected to the unadjusted and adjusted URP glidepath line as the Plan appendix C graphs do. All Class I areas are below the unadjusted URP glidepath, except that those corresponding to IMPROVE sites REDW1, LAVO1, BLIS1, DOME1 are above the unadjusted URP glidepath but below the glidepath adjusted for international sources and the glidepath adjusted for internationals sources and prescribed fire.

TABLE 9—CURRENT RATE OF PROGRESS AND URP—Continued

IMPROVE site	Class I area	Current rate of progress (dv/year)	Unadjusted URP (dv/year)	Adjusted URP (dv/year)
SEQU1	Kings Canyon National Park Sequoia National Park	0.34	0.28	0.21
RAFA1	San Rafael Wilderness Area	0.23	0.18	0.14
DOME1	Domeland Wilderness Area	0.15	0.18	0.13
SAGA1	San Gabriel Wilderness Area Cucamonga Wilderness Area	0.34	0.20	0.17
SAGO1	San Gorgonio Wilderness Area San Jacinto Wilderness Area	0.43	0.24	0.20
JOSH1	Joshua Tree National Park	0.34	0.19	0.15
AGTI1	Agua Tibia Wilderness Area	0.38	0.23	0.18

Source: 2022 California Regional Haze Plan Tables 8–3, 8–4, and 8–5.

As noted above, we find that CARB's long-term strategy does not meet the requirements of section 51.308(f)(2). Section 51.308(f)(3)(i) specifies that RPGs must reflect ''enforceable emissions limitations, compliance schedules, and other measures required under paragraph (f)(2) of this section.'' In the absence of an approved long-term strategy, we cannot approve the associated RPGs. In addition, CARB's RPGs for the clearest days are merely identical to baseline conditions, rather than estimated via a modeling-based analysis of the conditions that will be achieved at the end of the implementation period. We find that CARB's approach is inconsistent with the requirement 51.308(f)(3)(i) for RPGs to ''reflect the visibility conditions that are *projected* to be achieved by the end of the applicable implementation period . . .'' Finally, we also note that CARB does not appear to have considered whether sources in California are reasonably anticipated to contribute to visibility impairment in a Class I area in *another* state, whose RPG for the most impaired days in that Class I area is above the URP, as required under 40 CFR 51.308(f)(3)(ii)(B). Based on these findings, we propose to determine that CARB has not satisfied the applicable requirements of 40 CFR 51.308(f)(3) relating to RPGs and to disapprove Chapter 8 of the Plan.

G. Additional Monitoring To Assess Reasonably Attributable Visibility Impairment

Requirements under 40 CFR 51.308(f)(4) for additional monitoring to assess reasonably attributable visibility impairment are not applicable to California. The EPA and FLMs have not previously advised California that additional monitoring is needed to assess reasonably attributable visibility impairment. Therefore, the requirements under 40 CFR 51.308(f)(4) are not applicable to California at this time.

H. Monitoring Strategy and Other Implementation Plan Requirements

Section 51.308(f)(6) specifies that each comprehensive revision of a state's regional haze plan 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 IMPROVE network. In Chapter 2 of the Plan, CARB noted that it relies on data from 17 monitoring sites operated by the IMPROVE network to track visibility conditions in California's Class I areas.

Section 51.308(f)(6)(i) requires SIPs to provide for the establishment of any additional monitoring sites or equipment needed to assess whether RPGs to address regional haze for all mandatory Class I Federal areas within the state are being achieved. CARB stated that this requirement is ''not applicable,'' suggesting that CARB believes the current IMPROVE network is sufficient for this purpose.

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. CARB relied on source-apportionment modeling performed by the WRAP to meet this requirement.[173] Specifically, CARB pointed to both high-level source apportionment modeling, which was used to estimate how much of each haze pollutant was attributable to several broad source categories, and low-level source apportionment modeling, which was used to estimate how much ammonium nitrate and ammonium sulfate is attributable to regional human-made sources.

Section 51.308(f)(6)(iii) does not apply to California, 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, CARB relies on data from 17 monitoring sites operated by the IMPROVE Network.

Section 51.308(f)(6)(v) requires the SIP 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. California provides for emissions inventories and estimates of future projected emissions by participating in WRAP and by 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) annually or triennially depending on the source type. The EPA uses the inventory data from the EIS to develop the NEI, which is a comprehensive estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources. The EPA releases an NEI every three years. In Chapter 3 and appendix E of the Plan, CARB provides high-level summaries of 2014 and 2028 emissions inventories. The EPA proposes to find that CARB meets the requirements of 40 CFR

[173] Plan Chapter 4.

51.308(f)(6)(v) through its ongoing compliance with the AERR, its compilation of a statewide emissions inventories, and its use of WRAP modeling.

Section 51.308(f)(6)(vi) requires the SIP to include other elements, including reporting, recordkeeping, and other measures, necessary to assess and report on visibility. The EPA proposes to find that CARB has met the requirements of 40 CFR 51.308(f)(6) as described above, including through its continued participation in the IMPROVE network and the WRAP, and that no further elements are necessary at this time for CARB to assess and report on visibility pursuant to 40 CFR 51.308(f)(6)(vi).

I. 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. Sections 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 emissions information is reported. Finally, section 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.

CARB's most recent 5-year progress report was submitted to the EPA on June 16, 2014 and presented data analysis for the period 2007–2011.[174] Therefore, the current progress report is required to address the time period beginning in 2012.

CARB addressed the requirements of 40 CFR 51.308(g) in Chapter 10 of the Plan and provided additional supporting information in a technical supplement submitted on August 24, 2023 (''2023 California Regional Haze Technical Supplement'').[175] Specifically, to address 51.308(g)(1) and (2), CARB provided a summary of control measures it adopted between 2012 and 2018, and statewide emissions trends through 2018.[176]

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

The Plan also provides the 5-year baseline (2000–2004) visibility conditions, the conditions covered in the previous progress report (2007–2011) and current conditions (2014–2018) for the clearest and most impaired days.[177] The EPA therefore proposes to find that the Plan meets the requirements of 40 CFR 51.308(g)(3).

In the 2023 California Regional Haze Technical Supplement, CARB provided additional supporting information to address the requirements of 40 CFR 51.308(g)(4) and (5). Pursuant to section 51.308(g)(4), CARB provided a summary of emissions of NO_X, SO_2, PM_{10}, $PM_{2.5}$, VOCs, and NH_3 from all sources and activities, including from point, nonpoint, non-road mobile, and on-road mobile sources for the progress report period. CARB also provided 2012–2019 clean air markets program data for all sources with emissions of visibility impairing pollutants. The EPA is therefore proposing to find that the Plan satisfies the requirements of section 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 sources and activities within the state.

Pursuant to section 51.308(g)(5), CARB provided an assessment of any significant changes in anthropogenic emissions within or outside the state that have occurred since the period addressed in the most recent plan, including whether or not these changes in anthropogenic emissions were anticipated in that most recent plan, and whether they have limited or impeded progress in reducing pollutant emissions and improving visibility. CARB noted overall average emissions reductions of 36 percent for NO_X, 45 percent for SO_2, 20 percent for ROG, and 28 percent for $PM_{2.5}$ between the 2007–2011 period and the 2014–2018 period. The EPA proposes to find the Plan meets the requirements of section 51.308(g)(5).

J. Requirements for State and Federal Land Manager Coordination

CAA section 169A(d) 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, the FLM consultation provision in section 51.308(i)(2) requires a state to provide FLMs with an opportunity for consultation that is early enough in the state's policy analyses of its emissions 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 FLM comments. Section 51.308(i)(4) requires regional haze plans to provide procedures for continuing consultation between the State and FLMs on the implementation of the regional haze program, including development and review of SIP revisions and progress reports, and on

[174] 79 FR 58302, 58304 (September 29, 2014).

[175] Letter dated August 23, 2023, from Michael Benjamin, Division Chief, Air Quality Planning and Science Division, to Matthew Lakin, Acting Director, Air and Radiation Division, Region 9 (submitted electronically August 24, 2023).

[176] Plan table 10–1 and Figure 10–1.

[177] Id. Tables 10–4 and 10–5.

the implementation of other programs having the potential to contribute to impairment of visibility in mandatory Class I Federal areas.

In Chapter 9 of the Plan, CARB indicates that it held multiple informal consultation teleconferences with staff from the NPS and the USFS during development of its plan.[178] CARB sent a draft of the Plan to the NPS, FWS, and the USFS on February 9, 2022. CARB requested that FLM agencies provide formal comments on the draft by April 11, 2022. The comments received from Federal land managers and CARB's responses to these comments are provided in appendix I of the Plan. Chapter 9 also includes a discussion of CARB's procedures for continuing consultation with stakeholders, including FLMs.

While CARB did take administrative steps to provide the FLMs the requisite opportunity to review and provide feedback on the state's initial draft plan, the EPA cannot approve the requirements under 51.308(f)(i) because CARB's consultation was based on a SIP revision that did not meet the required statutory and regulatory requirements of the CAA and the RHR, respectively. In addition, if the EPA finalizes the partial approval and partial disapproval of the Plan, as proposed in this document, in the process of correcting the deficiencies outlined above with respect to the RHR and statutory requirements, the State (or the EPA in the case of an eventual FIP) will be required to again satisfy the FLM consultation requirement under 51.308(i).

V. Proposed Action

For the reasons discussed in this notice, under CAA section 110(k)(3), the EPA is proposing to partially approve and partially disapprove the 2022 California Regional Haze Plan. The EPA is proposing to approve the elements of the Plan related to requirements contained in 40 CFR 51.308(f)(1), 40 CFR 51.308(f)(4)–(6), and 40 CFR 51.308 (g)(1)–(5). The EPA is proposing to disapprove the elements of the Plan related to requirements contained in 40 CFR 51.308(f)(2), 40 CFR 51.308(f)(3), and 40 CFR 51.308(i)(2)–(4).

Under section 179(a) of the CAA, final disapproval of a submittal that addresses a requirement of part D, title I of the CAA or is required in response to a finding of substantial inadequacy as described in CAA section 110(k)(5) (SIP Call) starts a sanctions clock. The 2022 California Regional Haze Plan was not submitted to meet any of these requirements. Therefore, if finalized, these disapprovals would not trigger any offset or highway sanctions clocks. Disapproving a SIP submission also establishes a two-year deadline for the EPA to promulgate a FIP to address the relevant requirements under CAA section 110(c), unless the EPA approves a subsequent SIP submission that meets these requirements.

VI. 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.[179] Thus, in reviewing SIP submissions, the EPA's role is to review state choices, and approve those choices if they meet the minimum criteria of the Act. Accordingly, this proposed rulemaking proposes to partially approve and partially disapprove state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law.

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

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

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

B. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the PRA because this action does not impose additional requirements beyond those imposed by state law.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities beyond those imposed by state law.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action does not impose additional requirements beyond those imposed by state law. Accordingly, no additional costs to state, local, or Tribal governments, or to the private sector, will result from this action.

E. Executive Order 13132: Federalism

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

F. Executive Order 13175: Coordination With Indian Tribal Governments

This action does not have Tribal implications, as specified in Executive Order 13175, because the 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, and will not impose substantial direct costs on Tribal governments or preempt Tribal law. Thus, Executive Order 13175 does not apply to this action.

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

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. Therefore, this action is not subject to Executive Order 13045 because it merely proposes to partially approve and partially disapprove state law as meeting Federal requirements. Furthermore, the EPA's Policy on Children's Health does not apply to this action.

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

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

I. National Technology Transfer and Advancement Act (NTTAA)

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

[178] Plan, p. 141.

[179] 42 U.S.C. 7410(k); 40 CFR 52.02(a).

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

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, Feb. 16, 1994) directs Federal agencies to identify and address ''disproportionately high and adverse human health or environmental effects'' of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All, 88 FR 25251, April 26, 2023) builds on and supplements E.O. 12898 and defines EJ as, among other things, ''the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, or Tribal affiliation, or disability in agency decision-making and other Federal activities that affect human health and the environment.''

The State did not evaluate EJ considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. The EPA did not perform an EJ analysis and did not consider EJ in this action. Due to the nature of the action being taken here, if finalized, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898/14096 of achieving environmental justice for communities with EJ concerns.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Nitrogen dioxide, Ozone, Particulate matter, Sulfur oxides.

Dated: December 10, 2024.

Martha Guzman Aceves,

Regional Administrator, Region IX.

[FR Doc. 2024–29595 Filed 12–18–24; 8:45 am]

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 29

[Docket No. FWS–HQ–NWRS–2022–0106; FXRS12610900000–256–FF09R20000]

RIN 1018–BG78

National Wildlife Refuge System; Biological Integrity, Diversity, and Environmental Health

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; withdrawal.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), withdraw the proposed rule (proposal) published on February 2, 2024, that proposed new regulations addressing the biological integrity, diversity, and environmental health (BIDEH) of the National Wildlife Refuge System (Refuge System) and updates to the existing BIDEH policy. The Service has determined that withdrawing the proposal is justified based on the significant number of public comments received, the complexity of the substantive comments received and the issues involved, as well as the requests from the public for further opportunities to review and engage with the Service on the substance of this proposal. With this action, the existing BIDEH policy remains in effect.

DATES: The proposed rule that published on February 2, 2024 (89 FR 7345), is withdrawn on December 19, 2024.

ADDRESSES: The February 2, 2024, proposed rule, proposed updates to the existing BIDEH policy, and the comments received are available at *https://www.regulations.gov* in Docket No. FWS–HQ–NWRS–2022–0106.

FOR FURTHER INFORMATION CONTACT: Katherine Harrigan, (703) 358–2440, *katherine_harrigan@fws.gov.* Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Background

On February 2, 2024, the Service published in the **Federal Register** (89 FR 7345) a proposed rule to adopt new regulations to ensure that the biological integrity, diversity, and environmental health (BIDEH) of the Refuge System are maintained, and where appropriate, restored and enhanced, in accordance with the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act; Pub. L. 105–57). In addition, the Service proposed updates to the existing BIDEH policy, which was available for public comment in the proposed rule's docket on *https://www.regulations.gov.* These proposed regulations and policy revisions were intended to support conservation throughout the Refuge System in response to both longstanding and contemporary conservation challenges, including the universal and profound effects of climate change on refuge species and ecosystems.

The National Wildlife Refuge System is the only network of Federal lands and waters in the United States dedicated to fish and wildlife conservation and, at more than 850 million acres, the largest system of its kind in the world. The National Wildlife Refuge System Administration Act of 1966 (Administration Act; 16 U.S.C. 668dd–668ee), as amended by the Improvement Act, is the primary statutory authority under which the Secretary of the Interior, acting through the Service, administers the Refuge System. The Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3111–3126), the Wilderness Act of 1964 (16 U.S.C. 1131–1136), and various other statutes also provide direction and authority for refuge management. The implementing regulations for the Administration Act are found in title 50 of the Code of Federal Regulations at subchapter C.

The Improvement Act established the mission of the Refuge System to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (16 U.S.C. 668dd(a)(2)). The Improvement Act sets forth policy direction, management standards, and stewardship requirements for administering the more than 570 national wildlife refuges in the Refuge System; prioritizing conservation while ensuring public access to compatible, wildlife-dependent recreational opportunities; and ensuring effective coordination with adjacent landowners and State fish and wildlife agencies. The Improvement Act states that each refuge must be managed to fulfill both the Refuge System mission and the specific