



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2025-0203; FRL-12755-01-R9]

**Approval 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 approve 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 proposing this action pursuant to CAA sections 110 and 169A. The EPA is also withdrawing its previous proposed rule to partially approve and partially disapprove California’s regional haze SIP revision as published in the *Federal Register* on December 19, 2024.

DATES: Written comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. As of **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, the proposed rule published on December 19, 2024, at 89 FR 103737, is withdrawn.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2025-0203 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: Emily Millar, Geographic Strategies and Modeling Section (ARD-2-2), Planning & Analysis Branch, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, 213-244-1882, or by email at millar.emily@epa.gov.

SUPPLEMENTAL INFORMATION: Throughout this document, “we,” “us,” and “our” refer to the EPA.

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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. On December 19, 2024, the EPA proposed 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) and 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).¹ The EPA is now withdrawing that proposal and is proposing to fully approve the Plan for the reasons described in this document.

II. Background and Requirements for Regional Haze Plans

A detailed history and background of the regional haze program is provided in multiple prior EPA proposal actions.² For additional background on the 2017 Regional Haze Rule (RHR) revisions, please refer to Section III. Overview of Visibility Protection Statutory Authority, Regulation, and Implementation of “Protection of Visibility: Amendments to Requirements for State Plans” of the 2017 RHR.³ The following is an abbreviated history and background of the

¹ 89 FR 103737.

² See 90 FR 13516 (March 24, 2025).

³ See 82 FR 3078 (January 10, 2017).

regional haze program and 2017 RHR as it applies to the current action.

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.⁴ 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."⁵

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 (SO₂), nitrogen oxides (NO_x), and, in some cases, volatile organic compounds (VOC) and ammonia (NH₃)). 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.⁶

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

⁴ 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.

⁵ CAA 169A(a)(1).

⁶ There are several ways to measure the amount of visibility impairment, i.e., haze. One such measurement is the deciview, which is the principal metric used by the RHR. Under many circumstances, a change in one deciview will be perceived by the human eye to be the same on both clear and hazy days. The deciview is unitless. It is proportional to the logarithm of the atmospheric extinction of light, which is the perceived dimming of light due to its being scattered and absorbed as it passes through the atmosphere. Atmospheric light extinction (b^{ext}) is a metric used for expressing visibility and is measured in inverse megameters (Mm⁻¹). The formula for the deciview is $10 \ln(b^{ext}/10 \text{ Mm}^{-1})$. 40 CFR 51.301.

visibility” in a Class I area to periodically submit SIP revisions to address such impairment.⁷

On January 10, 2017, the EPA promulgated revisions to the RHR, that apply for the second and subsequent implementation periods.⁸

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),⁹ which include representation from state and tribal governments, the EPA, and Federal Land Managers (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. California is a member of the Western Regional Air Partnership (WRAP)¹⁰ RPO, which 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.

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

⁷ 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).

⁸ 82 FR 3078 (January 10, 2017).

⁹ 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.

¹⁰ See <https://westar.org/about-wrap/>.

U.S. Virgin Islands were required to submit regional haze SIP revisions 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.¹¹ To this end, 40 CFR 51.308(f) lays out the process by which states determine what constitutes their long-term strategies, with the order of the requirements in 40 CFR 51.308(f)(1) through (3) generally mirroring the order of the steps in the reasonable progress analysis¹² 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.¹³ For each Class I area within its borders, a state must then calculate the baseline (five-year average period of 2000-2004), current, and natural visibility conditions (i.e., visibility conditions without anthropogenic visibility impairment) for that area, as well as the visibility improvement made to date and the "uniform rate of progress" (URP). The URP is the linear rate of progress needed to attain natural visibility conditions, assuming a starting point of baseline visibility conditions in 2004 and ending with natural conditions in 2064. This linear interpolation is used as a tracking metric to help states assess the amount of progress they are making towards the national visibility goal over time in each Class I area.¹⁴ 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 emissions 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

¹¹ CAA 169A(b)(2)(B).

¹² The EPA explained in the 2017 RHR Revisions that we were adopting new regulatory language in 40 CFR 51.308(f) that, unlike the structure in 51.308(d), "tracked the actual planning sequence." 82 FR 3078, 3091 (January 10, 2017).

¹³ See 40 CFR 51.308(f), (f)(2).

¹⁴ See 40 CFR 51.308(f)(1).

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 51.308(f)(2)(iv) separately provides five “additional factors”¹⁵ that states must consider in developing their long-term strategies.¹⁶ A state evaluates potential emissions 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 Reasonable Progress Goals (RPGs) for each Class I area within its borders by modeling the visibility impacts of all reasonable progress controls at the end of the second implementation period, i.e., in 2028, as well as the impacts of other requirements of the CAA. The RPGs include reasonable progress controls not only for sources in the state in which the Class I area is located, but also for sources in other states that contribute to visibility impairment in that area. The RPGs are then compared to the baseline visibility conditions and the URP to ensure that progress is being made towards the statutory goal of preventing any future and remedying any existing anthropogenic visibility impairment in Class I areas.¹⁷ There are additional requirements in the rule, including FLM consultation, that apply to all visibility protection SIPs and SIP revisions.¹⁸

A. Long-Term Strategy for Regional Haze

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

¹⁵ 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.

¹⁶ See 40 CFR 51.308(f)(2).

¹⁷ 40 CFR 51.308(f)(2)–(3).

¹⁸ See e.g., 40 CFR 51.308(i).

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.¹⁹ 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."²⁰ The EPA has explained that the four-factor analysis is an assessment of potential emissions reduction measures (i.e., control options) for sources; "use of the terms 'compliance' and 'subject to such requirements' in section 169A(g)(1) can be read 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."²¹ Thus, for each source it has selected for four-factor analysis,²² a state must consider a "meaningful set" of technically feasible control options for reducing emissions of visibility impairing pollutants.²³

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.²⁴ Ultimately, while states have discretion to reasonably weigh the factors and to determine what level of control is needed, 40 CFR 51.308(f)(2)(i) provides that a state "must include in its implementation plan a description

¹⁹ 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 emission reduction measures for inclusion in its long-term strategy, e.g., from other newly adopted, on-the-books, or on-the-way rules and measures for sources not selected for four-factor analysis for the second planning period.

²⁰ CAA 169A(g)(1).

²¹ 82 FR 3078, 3091.

²² "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." *Id.* at 3088.

²³ *Id.*

²⁴ 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.

of . . . how the four factors were taken into consideration in selecting the measure for inclusion in its long-term strategy.”

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

The characterization of information on each of the factors is also subject to the documentation requirement in section 51.308(f)(2)(iii). The reasonable progress analysis is a technically complex exercise, and also a flexible one that provides states with bounded discretion to design and implement approaches appropriate to their circumstances. Given this flexibility, 40 CFR 51.308(f)(2)(iii) plays an important function in requiring a state to document the technical basis for its decision making so that the public and the EPA can comprehend and evaluate the information and analysis the state relied upon to determine what emissions reduction measures must be in place to make reasonable progress. The technical documentation must include the modeling, monitoring, cost, engineering, and emissions information on which the state relied to determine the measures necessary to make reasonable progress.

Additionally, the RHR at 40 CFR 51.3108(f)(2)(iv) separately provides five “additional factors”²⁵ that states must consider in developing their long-term strategies: (1) Emissions 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

²⁵ 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.

practices for prescribed fire used for agricultural and wildland vegetation management purposes and smoke management programs; and (5) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy.

Because the air pollution that causes regional haze crosses state boundaries, 40 CFR 51.308(f)(2)(ii) requires a state to consult with other states that also have emissions that are reasonably anticipated to contribute to visibility impairment in a given Class I area. If a state, pursuant to consultation, agrees that certain measures (e.g., a certain emissions limitations) are necessary to make reasonable progress at a Class I area, it must include those measures in its SIP.²⁶ Additionally, the RHR requires that states that contribute to visibility impairment at the same Class I area consider the emissions reduction measures the other contributing states have identified as being necessary to make reasonable progress for their own sources.²⁷ If a state has been asked to consider or adopt certain emissions 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.²⁸

B. 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.”²⁹

For the second implementation period, the RPGs are set for 2028. Reasonable progress goals are not enforceable targets.³⁰ While states are not legally obligated to achieve the visibility conditions described in their RPGs, 40 CFR 51.308(f)(3)(i) requires that “[t]he long-term strategy and the reasonable progress goals must provide for an improvement in visibility for the

²⁶ 40 CFR 51.308(f)(2)(ii)(A).

²⁷ 40 CFR 51.308(f)(2)(ii)(B).

²⁸ 40 CFR 51.308(f)(2)(ii)(C).

²⁹ 82 FR 3078, 3091.

³⁰ 40 CFR 51.308(f)(3)(iii).

most impaired days since the baseline period and ensure no degradation in visibility for the clearest days since the baseline period.”

RPGs may also serve as a metric for assessing the amount of progress a state is making towards the national visibility goal. To support this approach, the RHR requires states with Class I areas to compare the 2028 RPG for the most impaired days to the corresponding point on the URP line (representing visibility conditions in 2028 if visibility were to improve at a linear rate from conditions in the baseline period of 2000–2004 to natural visibility conditions in 2064). If the most impaired days RPG in 2028 is above the URP (i.e., if visibility conditions are improving more slowly than the rate described by the URP), each state that contributes to visibility impairment in the Class I area must demonstrate, based on the four-factor analysis required under 40 CFR 51.308(f)(2)(i), that no additional emissions reduction measures would be reasonable to include in its long-term strategy.³¹ 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.”

C. 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. 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

³¹ 40 CFR 51.308(f)(3)(ii).

I areas covered by the visibility program.³²

All states' SIPs must provide for procedures by which monitoring data and other information are used to determine the contribution of emissions from within the state to regional haze visibility impairment in affected Class I areas, as well as a statewide inventory documenting such emissions.³³ 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.³⁴

D. 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.³⁵ To this end, every state's SIP revision for the second implementation period is required to assess changes in visibility conditions and describe the status of implementation of all measures included in the state's long-term strategy, including BART and reasonable progress emissions reduction measures from the first implementation period, and the resulting emissions reductions.³⁶

E. 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;

³² 40 CFR 51.308(f)(6), (f)(6)(i), (f)(6)(iv).

³³ 40 CFR 51.308(f)(6)(ii), (iii), (v).

³⁴ 40 CFR 51.308(f)(6)(vi).

³⁵ See 81 FR 26942, 26950 (May 4, 2016); 82 FR 3078, 3119.

³⁶ 40 CFR 51.308(g)(1) and (2).

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 emissions reduction obligation so that information and recommendations provided by the [FLM] can meaningfully inform the State's decisions on the long-term strategy."³⁷ 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.³⁸ 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.³⁹

IV. Withdrawal of Prior Proposed Disapproval

On December 19, 2024, the EPA published a notice of proposed rulemaking proposing partial approval and partial disapproval of the 2022 California Regional Haze Plan.⁴⁰ During the 45-day comment period, we received one comment letter opposing disapproval and five comment letters in support of disapproval. In this document, we are withdrawing our December 19, 2024 proposed disapproval. We are now reproposing the action as an approval based on a change in policy, as discussed in Section V of this document. Commenters who would like the EPA to consider any comments submitted on the December 19, 2024 proposal that are relevant to this proposed action must resubmit those comments during the comment period for this

³⁷ 40 CFR 51.308(i)(2).

³⁸ 40 CFR 51.308(i)(3).

³⁹ 40 CFR 51.308(i)(4).

⁴⁰ 89 FR 47398.

proposed action.

V. The EPA's Rationale for Proposing Approval

The EPA is now proposing to approve the 2022 California Regional Haze Plan because we have determined that it meets the applicable statutory and regulatory requirements. The Plan included evaluations, including information on the four CAA section 169(g)(1) factors as applied to mobile sources, and a four-factor analysis for a stationary source. California also considered historical emissions data, existing control technologies on major sources, and the large NO_x reductions and visibility improvements that have already occurred in California and nearby Class I areas during the first and second planning periods. Because the State assessed the potential for additional measures, considered the four statutory factors, and the projected that 2028 visibility conditions for the most impaired days at all Class I areas influenced by emissions from California sources are below the URP, with one exception as discussed in section VI.C.4 below, the EPA proposes to find that the Plan meets the statutory and regulatory requirement to make reasonable progress towards the national visibility goal.

In this proposed action, the EPA notes that it is the Agency's policy, as announced in the EPA's recent proposed approval of the West Virginia Regional Haze SIP, that where visibility conditions for a Class I area impacted by a State for the most impaired days, are projected to be below the URP in 2028, and the State has considered the four statutory factors, the State has presumptively demonstrated reasonable progress for the second implementation period for that area.⁴¹ The EPA acknowledges that this proposed action reflects a change in policy as to how the URP should be used in the evaluation of regional haze second planning period SIP revisions. However, the EPA finds that this policy aligns with the purpose of the statute and RHR, which is achieving "reasonable" progress, not maximal progress, toward Congress' natural visibility goal. In addition, this policy aligns with comments submitted by CARB during the public comment

⁴¹ 90 FR 16478, 16483 (April 18, 2025).

period on our initial proposal.⁴²

In developing the regulations required by CAA section 169A(b), the EPA established the concept of the URP, for each Class I area. The URP is determined by drawing a straight line from the measured 2000–2004 baseline conditions (in deciviews) for the 20 percent most impaired days at each Class I area to the estimated 20 percent most impaired days natural conditions (in deciviews) in 2064. From this linear regression, a URP value can be calculated for each year between 2004 and 2064. For each Class I area, there is a regulatory requirement to compare the projected visibility impairment represented by the RPG for the most impaired days at the end of each planning period to the URP (e.g., in 2028 for the second planning period).⁴³ If the projected RPG is above the URP—that is, if visibility improvements are not tracking toward natural visibility conditions by 2064—then an additional “robust demonstration” requirement is triggered for each state that contributes to that Class I area.⁴⁴

In comments on the EPA’s initial proposal, California stated that:

. . . the 2022 California Regional Haze Plan includes an effective long-term strategy that is approvable and provides for reasonable further progress goals for the most impaired days to be at or below the uniform rate of progress. . . California is meeting or exceeding the uniform rate of progress. California believes that the 2028 RPGs for the most impaired days are reasonable and should be approved.⁴⁵

In this proposed action, the EPA is proposing to approve the 2022 California Regional Haze Plan because the State evaluated potential additional measures, considered the four statutory factors, and the projected 2028 visibility conditions on the most impaired days at the affected Class I areas are below the URP, with one exception as discussed in section VI.C.4 below, thus

⁴² Letter dated February 23, 2025, from Edie Chang, Deputy Executive Officer, CARB, to Cheree Peterson, Acting Regional Administrator, EPA Region 9, p. 7.

⁴³ 40 CFR 51.308(f)(1)(vi). We note that RPGs are a regulatory construct that we developed to address statutory mandate in CAA section 169B(e)(1), which required our regulations to include “criteria for measuring ‘reasonable progress’ toward the national goal.” Under 40 CFR 51.308(f)(3)(ii), RPGs measure the progress that is projected to be achieved by the control measures a state has determined are necessary to make reasonable progress. Consistent with the 1999 RHR, the RPGs are unenforceable, though they create a benchmark that allows for analytical comparisons to the URP and mid-implementation-period course corrections if necessary. 82 FR 3078, 3091–3092 (January 10, 2017).

⁴⁴ 40 CFR 51.308(f)(3)(ii).

⁴⁵ Letter dated February 23, 2025, from Edie Chang, Deputy Executive Officer, CARB, to Cheree Peterson, Acting Regional Administrator, EPA Region 9, p. 7.

supporting the State’s decision regarding reasonable progress for the second planning period.

The EPA has the discretion and authority to change policy. In *FCC v. Fox Television Stations, Inc.*, the U.S. Supreme Court plainly stated that an agency is free to change a prior policy and “need not demonstrate ... that the reasons for the new policy are better than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better.”⁴⁶ The EPA’s new policy is that so long as projected 2028 visibility conditions for most impaired days at a Class I area impacted by a state are below the URP and the State considers the four factors, the State will have presumptively demonstrated reasonable progress for the second planning period for that area. As stated above, the EPA believes that this new policy aligns with the purpose of the statute and RHR, which is achieving “reasonable” progress, not maximal progress, toward Congress’ natural visibility goal.

In the 2017 RHR Revisions, the EPA addressed the role of the URP as it relates to a State’s development of its second planning period SIP revision.⁴⁷ Specifically, in response to comments suggesting that the URP should be considered a “safe harbor” and relieve States of any obligation to consider the four statutory factors, the EPA explained that the URP was not intended to be such a safe harbor.⁴⁸ Some commenters stated a desire for corresponding rule text dealing with situations where RPGs are equal to (“on”) or better than (“below”) the URP or glidepath. Several commenters stated that the URP or glidepath should be a “safe harbor,” opining that states should be permitted to analyze whether projected visibility conditions for the end of the implementation period will be on or below the glidepath based on on-the-books or on-the-way control measures, and that in such cases a four-factor analysis should not be required.⁴⁹ Other 2017 RHR comments indicated a similar approach, such as “a somewhat narrower

⁴⁶ 566 U.S. 502, 515 (2009) (citing *Motor Vehicle Mfrs. Ass’n of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983)). See also *Perez v. Mortgage Bankers Assn.*, 135 S. Ct. 1199 (2015).

⁴⁷ 82 FR 3078 (January 10, 2017).

⁴⁸ *Id.* at 3099.

⁴⁹ *Id.*

entrance to a ‘safe harbor,’ ” by suggesting that if current visibility conditions are already below the end-of-planning-period point on the URP line, a four-factor analysis should not be required.⁵⁰ In response, the EPA stated that we did not agree with either of these recommendations because “[t]he CAA requires that each SIP revision contain long-term strategies for making reasonable progress, and that in determining reasonable progress states must consider the four statutory factors.”⁵¹ We concluded that, “[t]reating the URP as a safe harbor would be inconsistent with the statutory requirement that states assess the potential to make further reasonable progress towards natural visibility goal in every implementation period.”⁵² However, so long as a State considers the four factors, the presumption that a Class I area for which projected 2028 visibility conditions on the most impaired days are below the URP is achieving reasonable progress is consistent with the CAA and RHR. Indeed, we believe this policy also recognizes the considerable improvements in visibility impairment that have been made by a wide variety of State and Federal programs in recent decades. The EPA invites comments on this proposed policy.

In sum, California selected a number of sources, evaluated emissions control measures, and considered the four statutory factors. In addition, with one exception, as discussed in section VI.C.4 of this document, visibility conditions on the most impaired days at all Class I areas to which California contributes are projected to be below the URP in 2028. In light of these facts, the EPA is proposing to approve the 2022 California Regional Haze Plan. The EPA’s determinations are described in more detail in section VI of this document.

VI. The EPA’s Evaluation of California’s Regional Haze Submission for the Second Implementation Period

The EPA invites comments on the following subsections that contain our evaluation of the Plan with respect to the requirements of the CAA and RHR for the second planning period of

⁵⁰ Id.

⁵¹ Id.

⁵² Id.

the regional haze program.

A. Identification of Class I Areas

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

The EPA concluded in the 1999 RHR that “all [s]tates contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area,”⁵³ and this determination was not changed in the 2017 RHR. Critically, the statute and regulation both require that the cause-or-contribute assessment consider all emissions of visibility impairing pollutants from a state, as opposed to emissions of a particular pollutant or emissions from a certain set of sources.

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 USBLM); 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

⁵³ 64 FR 35714, 35721 (July 1, 1999).

Wilderness; San Geronio Wilderness; San Jacinto Wilderness; Agua Tibia Wilderness; and Joshua Tree National Park.

In its submission, CARB also assessed the contribution of emissions from California to visibility impairment at Class I areas in three neighboring states: Oregon, Nevada, and Arizona.⁵⁴ 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.⁵⁵

As discussed in further detail below, the EPA is proposing to find that the 2022 California Regional Haze Plan meets the requirements of 40 CFR 51.308(f)(2) related to the development of a long-term strategy and the requirements of 40 CFR 51.308(f)(3) related to reasonable progress goals. Thus, we propose to find that California has satisfied the applicable requirements for making reasonable progress towards natural visibility conditions in Class I areas that may be affected by emissions from the state.

B. 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.⁵⁶

In the 2022 California Regional Haze Plan, CARB used visibility data from IMPROVE

⁵⁴ 2022 California Regional Haze Plan, pp. 64–68.

⁵⁵ Id. at 64.

⁵⁶ 40 CFR 51.308(f)(1)(vi)(B).

monitoring sites for 2000–2004 for baseline visibility.⁵⁷ 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 the resultant 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 progress to date and progress remaining to achieve natural visibility conditions (“Difference”) can be found in Chapter 2 of the 2022 California Regional Haze Plan and are summarized in Tables 1 and 2 of this document.

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
DOMI1	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 Geronio 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, Tables 2-3, 2-4, 2-6, 2-7, 2-9 and 2-10. Baseline conditions are for

⁵⁷ Plan, p. 22.

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
DOMI1	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 Geronio 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
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 conditions. 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.⁵⁸ 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 (H-L SA) run to determine pollutant concentrations attributable to international emissions and to prescribed fire. These concentrations were then used in a relative sense: the modeled relative effect (relative response factors) of

⁵⁸ Plan, pp. 51, 135–136.

removing each of these emissions categories was applied to projections of 2028 concentrations. This gave a reduced 2028 concentration, and the reduction was taken as the contribution of prescribed fire and international emissions for use in adjusting the URP. The international and prescribed fire contributions were therefore calculated in a manner 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”)⁵⁹ and with the source apportionment approach described in the EPA’s 2018 Visibility Tracking Guidance.⁶⁰ Two different adjusted glidepath options, “International Emissions Only (A)” and “International Emissions + Wildland Rx Fire (B)”, were made available on the WRAP TSS⁶¹ 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

⁵⁹ 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>.

⁶⁰ 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.

⁶¹ WRAP Technical Support System, <http://views.cira.colostate.edu/tssv2/>.

KAIS1	Ansel Adams Wilderness Area John Muir Wilderness Area Kaiser Wilderness Area	0.11	0.06
PINN1	Pinnacles National Park Ventana Wilderness Area	0.11 ^a	0.13
SEQU1	Kings Canyon National Park Sequoia National Park	0.28	0.21
RAFA1	San Rafael Wilderness Area	0.18	0.14
DOM1	Domeland Wilderness Area	0.18	0.13
SAGA1	San Gabriel Wilderness Area Cucamonga Wilderness Area	0.20	0.17
SAGO1	San Geronio 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

^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 URP 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.

C. 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.⁶² After considering the four statutory factors, all measures that are determined to be necessary to make reasonable progress must be in the long-term strategy. 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

⁶² CAA 169A(b)(2)(B).

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 emissions reduction measures for inclusion in the long-term strategy.⁶³

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 the same Class I area to develop coordinated emissions management strategies containing the emissions reductions measures that are necessary to make reasonable progress. Section 51.308(f)(2)(ii)(A) and (B) require states to consider the emissions reduction measures identified by other states as necessary for reasonable progress and to include any 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 Plan addressed the requirements of section 51.308(f)(2) and the EPA's evaluation of the Plan with respect to those 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 were responsible for the largest portion of the light extinction

⁶³ 40 CFR 51.308(f)(2)(iii).

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.⁶⁴ 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 2014–2018.⁶⁵ 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.

2. Source Selection

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 both the 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 2028.⁶⁶ CARB also noted that it did not select aircraft for analysis because federal action would be needed to address this source category.

⁶⁴ 2022 California Regional Haze Plan, pp. 69–70.

⁶⁵ Id. at 72.

⁶⁶ Id. at 75–76.

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

Source: Plan Table 5-1

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)⁶⁷ and screen in facilities with a NO_x Q/d greater than five for further consideration.
- Step 2: Review device-level emission 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 discuss steps 1–3 of CARB’s analysis in this section and step 4 in section IV.E.3.b of this document.

⁶⁷ Q/d is commonly used as a surrogate metric for visibility impacts for the purpose of selecting sources to analyze.

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
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 Geronio Wilderness Area	53	5420	101.6
Mitsubishi Cement	San Geronio 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

Source: Plan Table G-1.

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.”⁶⁸ 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

⁶⁸ Id. Appendix G, p. 154.

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 NOx emissions from this source in 2017 were 0.5 tpy and were consistent with emission 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 NOx emissions since 2014 have been less than 0.1 tpy.
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 permanently was shut down in January 2021.

Source: Plan, Appendix G, pp. 158-165.

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.”⁶⁹ 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
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⁶⁹ Id. at 154.

Chevron Products Company	Multiple furnaces have 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/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 emission 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 emission 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 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 per 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 emission limit of 2.5 lbs NO _x /ton of clinker for kiln. The kilns are also subject to Eastern Kern District's Rule 425.3, which was found to meet BARCT stringency.
Cemex – Black Mountain Quarry	Federal consent decree established a NO _x emission limit of 1.95 lbs/ton of clinker. The kilns are also subject to Mojave Desert AQMD's Rule 1161 – Portland Cement Kilns, which was revised in 2018 to meet federal RACT stringency and California BARCT stringency.
Mitsubishi Cement (Cushenberry Plant)	The emission limit for cement kiln in the Title V permit is 2.8 lbs of NO _x /ton of clinker.
Cal Portland Oro Grande	The emission limit for cement kiln is 2.45 lb NO _x /ton of clinker.
Searles Valley Mineral	The smallest boiler complies with a best available control technology (BACT) emission 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 emission 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 NO _x burners in heaters/boilers, SCR units, and NO _x reducing catalyst in the 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 @ 15% O ₂ . Boiler required to meet 5 ppm NO _x and 5 ppm NH ₃ at 3 percent under South Coast AQMD's 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.

Source: Plan Appendix G, pp. 166-183.

3. Four-factor Analyses and Control Determinations

a. Mobile Sources

For each of the selected source 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 “to highlight the consideration of the four reasonable progress factors embodied in CARB’s rule making process.”⁷⁰ The Plan also describes a “commitment to achieve aggregate emissions reductions of 40 tpd of NO_x emissions Statewide.”⁷¹

b. Stationary Sources

CARB provided a four-factor analysis for 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

⁷⁰ Plan, Appendix H, p. 185. See also Plan pp. 83–105.

⁷¹ Plan p. 116.

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.”⁷²

4. Conclusion

In sum, California selected a number of sources, evaluated emissions control measures, and considered the four statutory factors. In addition, projected 2028 visibility conditions at all Class I areas in California and at most other Class I areas potentially affected by emissions from California, are below the URP. There is one Class I area in neighboring state, Sycamore Canyon in Arizona, where 2028 visibility conditions for the most impaired days are projected to be above the URP.⁷³ However, as explained in the Arizona Regional Haze Plan, the IMPROVE monitor for Sycamore Canyon (SYCA) was moved in 2015 (from SYCA1 to SYCA2) and “a significant increase in soil and coarse mass extinction (two locally derived visibility impairing pollutants due to their limited transportability) occurred following the monitor’s relocation.”⁷⁴ Arizona further noted that:

The impacts of monitor relocation on long-term trends of certain visibility impairing species such as coarse mass and soil (which are generally are more localized in impact due to their transportability) may call into question the representativeness of a monitor located outside of the Class I area, as is the case for SYCA_RHTS, when assessing Class I area visibility. This is especially true of the new SYCA2 IMPROVE monitoring site which is closely located to a small residential community and near dirt roads.⁷⁵

Given the questions raised by ADEQ about the representativeness of the SYCA2 monitor and particularly the role of locally emitted coarse mass and fine soil, it reasonable to conclude that sources in California are not the cause of 2028 projected visibility conditions at Sycamore

⁷² Id. at 108.

⁷³ Arizona Department of Environmental Quality, “State Implementation Plan Revision: Regional Haze Program (2018-2028)” (August 15, 2022) (“2022 Arizona Regional Haze Plan”), p. 102.

⁷⁴ Id.

⁷⁵ Id. at 105.

Canyon's being above the glidepath. Therefore, the EPA proposes to find that the 2022 California Regional Haze Plan satisfies the requirements of 40 CFR 51.308(f)(2).

D. 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 uniform rate of progress 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 emission reduction commitment proposed in CARB’s long-term strategy,⁷⁶ while the RPGs for the clearest days are equal to average visibility conditions on the clearest days during the 2000–2004 baseline period.

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 Geronio 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: Plan Table 8-1: 2028 Reasonable Progress Goals for California Class I Areas

⁷⁶ 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.

In Plan Appendix C, CARB also provided graphs of observed visibility, unadjusted and adjusted URP, and 2028 RPGs.⁷⁷ From those CARB concluded that 2028 RPGs for the most impaired days at 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
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 Geronio 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: Plans Tables 8-3, 8-4, and 8-5.

⁷⁷ 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 respect 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 international sources and prescribed fire.

With regard to the clearest days, we note that the projected conditions for the clearest days in 2028 at all of California's Class I areas, are significantly better than baseline conditions, according to the WRAP modeling scenario that CARB used to set its RPGs for the most impaired day.⁷⁸ Therefore, CARB's RPGs for the clearest days, which were set equal to baseline conditions, may be viewed as a conservative projection of 2028 conditions, which provide for no degradation in visibility for the 20 percent clearest days since the baseline period.

Accordingly, we propose to determine that CARB has satisfied the applicable requirements of 40 CFR 51.308(f)(3) relating to RPGs.

E. Monitoring Strategy and Other Implementation Plan Requirements

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

Section 51.308(f)(6)(ii) requires SIPs to provide for procedures by which monitoring data

⁷⁸ As noted previously, CARB used WRAP modeling scenario PAC2_EPAwoF "PAC2 EPA w/o Fire Projection." Results from the WRAP TSS website, available in the docket for this action, show that for each of California's Class I areas the 2028 projection for "PAC2 EPA w/o Fire Projection – Clearest" is below (i.e. less impaired than) the "no degradation" line, which is set based on baseline conditions.

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.⁷⁹ 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 SIPs to provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment, including emissions for the most recent year for which data are available and estimates of future projected emissions. It also requires a commitment to update the inventory periodically.

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

⁷⁹ Plan Chapter 4.

the requirements of 40 CFR 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).

F. 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 emissions 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 2007–2011.⁸⁰ 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. Specifically, to address 51.308(g)(1) and (2), CARB provided a summary of control measures it adopted between 2012 and 2018, and statewide emission trends through 2018.⁸¹ 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 emission 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.⁸² The EPA therefore proposes to find that the Plan meets the requirements of 40 CFR 51.308(g)(3).

In a technical supplement sent on August 24, 2023 (“2023 California Regional Haze Technical Supplement”),⁸³ CARB provided additional supporting information to address the

⁸⁰ 79 FR 58302, 58304 (September 29, 2014).

⁸¹ Plan Table 10-1 and Figure 10-1.

⁸² Id. Tables 10-4 and 10-5.

⁸³ 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).

requirements of 40 CFR 51.308(g)(4) and (5).⁸⁴ Pursuant to section 51.308(g)(4), CARB provided a summary of emissions of NO_x, SO₂, PM₁₀, PM_{2.5}, VOCs, and NH₃ 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, SO₂, PM₁₀, PM_{2.5}, VOCs, and NH₃ 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 SO₂, 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).

G. 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, section 51.308(i)(2)'s FLM consultation provision requires a state to provide FLMs with an opportunity for consultation that is early enough in the state's policy analyses of its 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

⁸⁴ 2023 California Regional Haze Technical Supplement.

enough. Regardless, the opportunity for consultation must be provided at least sixty days before a public hearing or public comment period at the state level. Section 51.308(i)(2) also provides two substantive topics on which FLMs must be provided an opportunity to discuss with states: assessment of visibility impairment in any Class I area and recommendations on the development and implementation of strategies to address visibility impairment. Section 51.308(i)(3) requires states, in developing their implementation plans, to include a description of how they addressed FLMs' comments. Section 51.308(i)(4) requires 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 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.⁸⁵ 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.

Therefore, the EPA proposes to find that the State satisfied the FLM consultation requirements of CAA section 169A(d) and 40 CFR 51.308(i).

VII. Proposed Action

For the reasons discussed in this notice, under CAA section 110(k)(3), the EPA is proposing to fully approve the 2022 California Regional Haze Plan as satisfying the regional haze requirements for the second planning period contained in 40 CFR 51.308(f).

VIII. Statutory and Executive Order Reviews

⁸⁵ Plan, p. 141.

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations.⁸⁶ Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Act. Accordingly, this proposed action merely proposes to approve state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

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

⁸⁶ 42 U.S.C. 7410(k); 40 CFR 52.02(a).

requirements would be inconsistent with the CAA.

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

List of Subjects in 40 CFR Part 52

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

Dated: June 2, 2025.

Joshua F. W. Cook,
Regional Administrator,
Region IX.

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