

List of Subjects in 40 CFR Part 52

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

Dated: July 2, 2024.

David Cash,

Regional Administrator, EPA Region 1.

[FR Doc. 2024–14990 Filed 7–10–24; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 52**

[EPA–R05–OAR–2022–0974; FRL–12039–01–R5]

Air Plan Approval; Minnesota; Second Period Regional Haze Plan

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 the Minnesota Pollution Control Agency (Minnesota) on December 20, 2022, as satisfying applicable requirements under the Clean Air Act (CAA) and EPA’s Regional Haze Rule (RHR) for the program’s second implementation period. Minnesota’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. EPA is taking this action pursuant to sections 110 and 169A of the CAA.

DATES: Written comments must be received on or before August 12, 2024.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R05–OAR–2022–0974 at <https://www.regulations.gov>, or via email to langman.michael@epa.gov. For comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket.

Do not submit to EPA’s docket at <https://www.regulations.gov> any information you consider to be confidential business information (CBI), Proprietary Business Information (PBI), 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. 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, PBI, or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Matt Rau, Air and Radiation Division (AR–18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886–6524, rau.matthew@epa.gov. The EPA Region 5 office is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays.

SUPPLEMENTARY INFORMATION:

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA.

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I. What action is EPA proposing?

On December 20, 2022, Minnesota submitted a revision to its SIP to address regional haze for the second implementation period. Minnesota made this SIP submission to satisfy the requirements of the CAA’s regional haze program pursuant to CAA sections 169A and 169B and 40 CFR 51.308. EPA proposes to find that the Minnesota Regional Haze SIP submission for the second implementation period meets the applicable statutory and regulatory requirements. Thus, EPA proposes to approve Minnesota’s submission into its SIP.

II. Background and Requirements for Regional Haze Plans**A. Regional Haze Background**

In the 1977 CAA Amendments, Congress created a program for protecting visibility in the nation’s mandatory Class I Federal areas, which include certain national parks and wilderness areas.¹ CAA 169A. 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.” CAA 169A(a)(1). The CAA further directs EPA to promulgate regulations to assure reasonable progress toward meeting this national goal. CAA 169A(a)(4). On December 2, 1980, EPA promulgated regulations addressing visibility

¹ 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.

impairment in mandatory Class I Federal areas (hereinafter referred to as “Class I areas”) that is “reasonably attributable” to a single source or small group of sources. (45 FR 80084, December 2, 1980). These regulations, codified at 40 CFR 51.300 through 51.307, represented the first phase of EPA’s efforts to address visibility impairment. In 1990, Congress added section 169B to the CAA to further address visibility impairment, specifically, impairment from regional haze. CAA 169B. EPA promulgated the RHR, codified at 40 CFR 51.308,² on July 1, 1999. (64 FR 35714, July 1, 1999). These regional haze regulations are a central component of EPA’s comprehensive visibility protection program for Class I areas.

Regional haze is a visibility impairment that is produced by a multitude of anthropogenic sources and activities that 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.³

² In addition to the generally applicable regional haze provisions at 40 CFR 51.308, EPA also promulgated regulations specific to addressing regional haze visibility impairment in Class I areas on the Colorado Plateau at 40 CFR 51.309. The latter regulations are applicable only for specific jurisdictions’ regional haze plans submitted no later than December 17, 2007, and thus are not relevant here.

³ 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 to for expressing visibility and is measured in inverse megameters (Mm⁻¹). EPA’s Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (“2019 Guidance”) offers the flexibility for the use of light extinction in certain cases. Light extinction can be simpler to use in calculations than deciviews, since it is not a logarithmic function. See, e.g., 2019 Guidance at 6, 19, <https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period>, EPA Office of Air Quality Planning and Standards, Research Triangle Park

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 those states “the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility” in a Class I area to periodically submit SIP revisions to address such impairment. CAA 169A(b)(2);⁴ see also 40 CFR 51.308(b), (f) (establishing submission dates for iterative regional haze SIP revisions); (64 FR 35768, July 1, 1999). Under the CAA, each SIP submission must contain “a long-term (ten to fifteen years) strategy for making reasonable progress toward meeting the national goal,” CAA 169A(b)(2)(B); the initial round of SIP submissions also had to address the statutory requirement that certain older, larger sources of visibility impairing pollutants install and operate the best available retrofit technology (BART). CAA 169A(b)(2)(A); 40 CFR 51.308(d), (e). States’ first regional haze SIPs were due by December 17, 2007, 40 CFR 51.308(b), with subsequent SIP submissions containing updated long-term strategies originally due July 31, 2018, and every ten years thereafter. (64 FR 35768, July 1, 1999). EPA established in the 1999 RHR that all states either have Class I areas within their borders or “contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area”; therefore, all states must submit regional haze SIPs.⁵ 64 FR 35721, July 1, 1999.

Much of the focus in the first implementation period of the regional haze program, which ran from 2007 through 2018, was on satisfying states’ BART obligations. First implementation period SIPs were additionally required to contain long-term strategies for making reasonable progress toward the national visibility goal, of which BART is one component. The core required elements for the first implementation period SIPs (other than BART) are laid out in 40 CFR 51.308(d). Those provisions required that states containing Class I areas establish reasonable progress goals (RPGs) that

(August 20, 2019). The formula for the deciview is $10 \ln (b_{ext})/10 \text{ Mm}^{-1}$. 40 CFR 51.301.

⁴ 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).

⁵ In addition to each of the fifty states, EPA also concluded that the Virgin Islands and District of Columbia must also submit regional haze SIPs because they either contain a Class I area or contain sources whose emissions are reasonably anticipated to contribute regional haze in a Class I area. See 40 CFR 51.300(b), (d)(3).

are measured in deciviews (dv) and reflect the anticipated visibility conditions at the end of the implementation period including from implementation of states’ long-term strategies. The first planning period RPGs were required to provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period. In establishing the RPGs for any Class I area in a state, the state was required to consider four statutory factors: the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources. CAA 169A(g)(1); 40 CFR 51.308(d)(1).

States were also required to calculate baseline (using the five year period of 2000–2004) and natural visibility conditions (*i.e.*, visibility conditions without anthropogenic visibility impairment) for each Class I area, and to calculate the linear rate of progress needed to attain natural visibility conditions, assuming a starting point of baseline visibility conditions in 2004 and ending with natural conditions in 2064. This linear interpolation is known as the uniform rate of progress (URP) and is used as a tracking metric to help states assess the amount of progress they are making towards the national visibility goal over time in each Class I area.⁶ 40 CFR 51.308(d)(1)(i)(B), (d)(2). The 1999 RHR also provided that States’ long-term strategies must include the “enforceable emissions limitations, compliance, schedules, and other measures as necessary to achieve the reasonable progress goals.” 40 CFR 51.308(d)(3). In establishing their long-term strategies, states are required to consult with other states that also contribute to visibility impairment in a given Class I area and include all measures necessary to obtain their

⁶ EPA established the URP framework in the 1999 RHR to provide “an equitable analytical approach” to assessing the rate of visibility improvement at Class I areas across the country. The starting point for the URP analysis is 2004 and the endpoint was calculated based on the amount of visibility improvement that was anticipated to result from implementation of existing CAA programs over the period from the mid-1990s to approximately 2005. Assuming this rate of progress would continue into the future, EPA determined that natural visibility conditions would be reached in 60 years, or 2064 (60 years from the baseline starting point of 2004). However, EPA did not establish 2064 as the year by which the national goal *must* be reached. 64 FR 35714 at 35731–32, July 1, 1999. That is, the URP and the 2064 date are not enforceable targets but are rather tools that “allow for analytical comparisons between the rate of progress that would be achieved by the state’s chosen set of control measures and the URP.” (82 FR 3078 at 3084, January 10, 2017).

shares of the emission reductions needed to meet the RPGs. 40 CFR 51.308(d)(3)(i), (ii). Section 51.308(d) also contains seven additional factors states must consider in formulating their long-term strategies, 40 CFR 51.308(d)(3)(v), as well as provisions governing monitoring and other implementation plan requirements. 40 CFR 51.308(d)(4). Finally, the 1999 RHR required states to submit periodic progress reports—SIP revisions due every five years that contain information on states' implementation of their regional haze plans and an assessment of whether anything additional is needed to make reasonable progress, see 40 CFR 51.308(g), (h), and to consult with the Federal Land Manager(s)⁷ (FLMs) responsible for each Class I area according to the requirements in CAA 169A(d) and 40 CFR 51.308(i).

On January 10, 2017, EPA promulgated revisions to the RHR, (82 FR 3078, January 10, 2017), that apply for the second and subsequent implementation periods. The 2017 rulemaking made several changes to the requirements for regional haze SIPs to clarify states' obligations and streamline certain regional haze requirements. The revisions to the regional haze program for the second and subsequent implementation periods focused on the requirement that SIPs contain long-term strategies for making reasonable progress towards the national visibility goal. The reasonable progress requirements as revised in the 2017 rulemaking (referred to here as the 2017 RHR Revisions) are codified at 40 CFR 51.308(f). Among other changes, the 2017 RHR Revisions adjusted the deadline for states to submit their second implementation period SIPs from July 31, 2018, to July 31, 2021, clarified the order of analysis and the relationship between RPGs and the long-term strategy, and focused on making visibility improvements on the days with the most *anthropogenic* visibility impairment, as opposed to the days with the most visibility impairment overall. EPA also revised requirements of the visibility protection program related to periodic progress reports and FLM consultation. The specific requirements applicable to second implementation period regional haze SIP submissions are addressed in detail below.

⁷ EPA's regulations define "Federal Land Manager" as "the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission." 40 CFR 51.301.

EPA provided guidance to the states for their second implementation period SIP submissions in the preamble to the 2017 RHR Revisions as well as in subsequent, stand-alone guidance documents. In August 2019, EPA issued "Guidance on Regional Haze State Implementation Plans for the Second Implementation Period" ("2019 Guidance").⁸ On July 8, 2021, EPA issued a memorandum containing "Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period" ("2021 Clarifications Memo").⁹ Additionally, EPA further clarified the recommended procedures for processing ambient visibility data and optionally adjusting the URP to account for international anthropogenic and prescribed fire impacts in two technical guidance documents: the December 2018 "Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program" ("2018 Visibility Tracking Guidance"),¹⁰ and the June 2020 "Recommendation for the Use of Patched and Substituted Data and Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program" and associated Technical Addendum ("2020 Data Completeness Memo").¹¹

As explained in the 2021 Clarifications Memo, EPA intends the second implementation period of the regional haze program to secure meaningful reductions in visibility impairing pollutants that build on the significant progress states have achieved

⁸ Guidance on Regional Haze State Implementation Plans for the Second Implementation Period. <https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period> EPA Office of Air Quality Planning and Standards, Research Triangle Park (August 20, 2019).

⁹ Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period. <https://www.epa.gov/system/files/documents/2021-07/clarifications-regarding-regional-haze-state-implementation-plans-for-the-second-implementation-period.pdf>. EPA Office of Air Quality Planning and Standards, Research Triangle Park (July 8, 2021).

¹⁰ Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program. <https://www.epa.gov/visibility/technical-guidance-tracking-visibility-progress-second-implementation-period-regional> EPA Office of Air Quality Planning and Standards, Research Triangle Park. (December 20, 2018).

¹¹ Recommendation for the Use of Patched and Substituted Data and Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program. <https://www.epa.gov/visibility/memo-and-technical-addendum-ambient-data-usage-and-completeness-regional-haze-program> EPA Office of Air Quality Planning and Standards, Research Triangle Park (June 3, 2020).

to date. The Agency also recognizes that analyses regarding reasonable progress are state-specific and that, based on state and sources' individual circumstances, what constitutes reasonable reductions in visibility impairing pollutants will vary from state-to-state. While there exist many opportunities for states to leverage both ongoing and upcoming emission reductions under other CAA programs, the Agency expects states to undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements. See generally 2021 Clarifications Memo. This is consistent with Congress's determination that a visibility protection program is needed in addition to the CAA's National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration programs, as further emission reductions may be necessary to adequately protect visibility in Class I areas throughout the country.¹²

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),¹³ which include representation from state and Tribal governments, EPA, and FLMs, were developed in the lead-up to the first implementation period to address regional haze. RPOs evaluate technical information to better understand how emissions from State and Tribal land impact Class I areas across the country, pursue the development of regional strategies to reduce emissions of

¹² See, e.g., H.R. Rep. No. 95-294 at 205 ("In determining how to best remedy the growing visibility problem in these areas of great scenic importance, the committee realizes that as a matter of equity, the national ambient air quality standards cannot be revised to adequately protect visibility in all areas of the country."), ("the mandatory class I increments of [the PSD program] do not adequately protect visibility in class I areas").

¹³ RPOs are sometimes also referred to as "multi-jurisdictional organizations," or MJOs. For the purposes of this action, the terms RPO and MJO are synonymous.

particulate matter and other pollutants leading to regional haze, and help states meet the consultation requirements of the RHR.

The Lake Michigan Air Directors Consortium (LADCO), one of the five RPOs described above, is a collaborative effort of state governments, Tribal governments, and various Federal agencies established to initiate and coordinate activities associated with the management of regional haze, visibility, and other air quality issues in the Midwest. LADCO member states are Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. The LADCO Regional Haze Technical Workgroup also includes Tribes, Iowa, EPA, U.S. National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), and U.S. Forest Service (USFS).

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

Under the CAA and EPA's regulations, all 50 states, the District of Columbia, and the U.S. Virgin Islands are required to submit regional haze SIPs satisfying the applicable requirements for the second implementation period of the regional haze program by July 31, 2021. Each state's SIP must contain a long-term strategy for making reasonable progress toward meeting the national goal of remedying any existing and preventing any future anthropogenic visibility impairment in Class I areas. CAA 169A(b)(2)(B). 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 analysis¹⁴ 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. See 40 CFR 51.308(f), (f)(2). For each Class I area within its borders, a state must then calculate the baseline, current, and natural visibility conditions for that area, as well as the visibility improvement made to date and the URP. See 40 CFR 51.308(f)(1). Each state having a Class I area and/or emissions

that may affect visibility in a Class I area then develops a long-term strategy that includes the enforceable emission limitations, compliance schedules, and other measures that are necessary to make reasonable progress in such areas. A reasonable progress determination is based on applying the four factors in CAA section 169A(g)(1) to sources of visibility-impairing pollutants that the state has selected to assess for controls for the second implementation period. Additionally, as further explained below, the RHR at 40 CFR 51.308(f)(2)(iv) separately provides five "additional factors"¹⁵ that states must consider in developing their long-term strategies. See 40 CFR 51.308(f)(2). A state evaluates potential emission reduction measures for those selected sources and determines which are necessary to make reasonable progress. Those measures are then incorporated into the state's long-term strategy. After a state has developed its long-term strategy, it then establishes RPGs for each Class I area within its borders by modeling the visibility impacts of all reasonable progress controls at the end of the second implementation period, *i.e.*, in 2028, as well as the impacts of other requirements of the CAA. The RPGs include reasonable progress controls not only for sources in the state in which the Class I area is located, but also for sources in other states that contribute to visibility impairment in that area. The RPGs are then compared to the baseline visibility conditions and the URP to ensure that progress is being made towards the statutory goal of preventing any future and remedying any existing anthropogenic visibility impairment in Class I areas. 40 CFR 51.308(f)(2) and (3).

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

A state must submit its regional haze SIP and subsequent SIP revisions to EPA according to the requirements applicable to all SIP revisions under the CAA and EPA's regulations. See CAA 169A(b)(2); CAA 110(a). Upon EPA approval, a SIP is enforceable by the

Agency and the public under the CAA. If EPA finds that a state fails to make a required SIP revision, or if EPA finds that a state's SIP is incomplete or disapproves the SIP, the Agency must promulgate a Federal Implementation Plan (FIP) that satisfies the applicable requirements. CAA 110(c)(1).

A. Identification of Class I Areas

The first step in developing a regional haze SIP is for a state to determine which Class I areas, in addition to those within its borders, "may be affected" by emissions from within the state. In the 1999 RHR, EPA determined that all states contribute to visibility impairment in at least one Class I area, 64 FR 35714 at 35720–22, July 1, 1999, and explained that the statute and regulations lay out an "extremely low triggering threshold" for determining "whether States should be required to engage in air quality planning and analysis as a prerequisite to determining the need for control of emissions from sources within their State." 64 FR 35714 at 35721, July 1, 1999.

A state must determine which Class I areas must be addressed by its SIP by evaluating the total emissions of visibility impairing pollutants from all sources within the state. While the RHR does not require this evaluation to be conducted in any particular manner, EPA's 2019 Guidance provides recommendations for how such an assessment might be accomplished, including by using, where appropriate, the determinations previously made for the first implementation period. 2019 Guidance at 8–9. In addition, the determination of which Class I areas may be affected by a state's emissions is subject to the requirement in 40 CFR 51.308(f)(2)(iii) to "document the technical basis, including modeling, monitoring, cost, engineering, and emissions information, on which the State is relying to determine the emission reduction measures that are necessary to make reasonable progress in each mandatory Class I Federal area it affects."

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

As part of assessing whether a SIP submission for the second implementation period is providing for reasonable progress towards the national visibility goal, the RHR contains requirements in 40 CFR 51.308(f)(1) related to tracking visibility improvement over time. The requirements of this subsection apply only to states having Class I areas within

¹⁴ 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 40 CFR 51.308(d), "tracked the actual planning sequence." (82 FR 3078 at 3091, January 10, 2017).

¹⁵ The five "additional factors" for consideration in 40 CFR 51.308(f)(2)(iv) are distinct from the four factors listed in CAA section 169A(g)(1) and 40 CFR 51.308(f)(2)(i) that states must consider and apply to sources in determining reasonable progress.

their borders; the required calculations must be made for each such Class I area. EPA's 2018 Visibility Tracking Guidance¹⁶ provides recommendations to assist states in satisfying their obligations under 40 CFR 51.308(f)(1); specifically, in developing information on baseline, current, and natural visibility conditions, and in making optional adjustments to the URP to account for the impacts of international anthropogenic emissions and prescribed fires. See 82 FR 3078 at 3103–05, January 10, 2017.

The RHR requires tracking of visibility conditions on two sets of days: the clearest and the most impaired days. Visibility conditions for both sets of days are expressed as the average deciview index for the relevant five-year period (the period representing baseline or current visibility conditions). The RHR provides that the relevant sets of days for visibility tracking purposes are the 20 percent clearest (the 20 percent of monitored days in a calendar year with the lowest values of the deciview index) and 20 percent most impaired days (the 20 percent of monitored days in a calendar year with the highest amounts of anthropogenic visibility impairment).¹⁷ 40 CFR 51.301. A state must calculate visibility conditions for both the 20 percent clearest and 20 percent most impaired days for the baseline period of 2000–2004 and the most recent five-year period for which visibility monitoring data are available (representing current visibility conditions). 40 CFR 51.308(f)(1)(i), (iii). States must also calculate natural visibility conditions for the clearest and most impaired days,¹⁸ by estimating the conditions that would exist on those two sets of days absent anthropogenic visibility impairment. 40 CFR 51.308(f)(1)(ii). Using all these data,

states must then calculate, for each Class I area, the amount of progress made since the baseline period (2000–2004) and how much improvement is left to achieve to reach natural visibility conditions.

Using the data for the set of most impaired days only, states must plot a line between visibility conditions in the baseline period and natural visibility conditions for each Class I area to determine the URP—the amount of visibility improvement, measured in Δv , that would need to be achieved during each implementation period to achieve natural visibility conditions by the end of 2064. The URP is used in later steps of the reasonable progress analysis for informational purposes and to provide a non-enforceable benchmark against which to assess a Class I area's rate of visibility improvement.¹⁹ Additionally, in the 2017 RHR Revisions, EPA provided states the option of proposing to adjust the endpoint of the URP to account for impacts of anthropogenic sources outside the United States and/or impacts of certain types of wildland prescribed fires. These adjustments, which must be approved by EPA, are intended to avoid any perception that states should compensate for impacts from international anthropogenic sources and to give states the flexibility to determine that limiting the use of wildland-prescribed fire is not necessary for reasonable progress. 82 FR 3078 at 3107 footnote 116, January 10, 2017.

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

C. Long-Term Strategy for Regional Haze

The core component of a regional haze SIP submission is a long-term strategy that addresses regional haze in each Class I area within a state's borders and each Class I area that may be affected by emissions from the state. The long-term strategy “must include

the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress, as determined pursuant to (f)(2)(i) through (iv).” 40 CFR 51.308(f)(2). The amount of progress that is “reasonable progress” is based on applying the four statutory factors in CAA section 169A(g)(1) in an evaluation of potential control options for sources of visibility impairing pollutants, which is referred to as a “four-factor” analysis. The outcome of that analysis is the emission reduction measures that a particular source or group of sources needs to implement to make reasonable progress towards the national visibility goal. See 40 CFR 51.308(f)(2)(i). Emission reduction measures that are necessary to make reasonable progress may be either new, additional control measures for a source, or they may be the existing emission reduction measures that a source is already implementing. See 2019 Guidance at 43; 2021 Clarifications Memo at 8–10. Such measures must be represented by “enforceable emissions limitations, compliance schedules, and other measures” (*i.e.*, any additional compliance tools) in a state's long-term strategy in its SIP. 40 CFR 51.308(f)(2).

The regulation 40 CFR 51.308(f)(2)(i) provides the requirements for the four-factor analysis. The first step of this analysis entails selecting the sources to be evaluated for emission reduction measures; to this end, the RHR requires states to consider “major and minor stationary sources or groups of sources, mobile sources, and area sources” of visibility impairing pollutants for potential four-factor control analysis. 40 CFR 51.308(f)(2)(i). A threshold question at this step is which visibility impairing pollutants will be analyzed. As EPA previously explained, consistent with the first implementation period, EPA generally expects that each state will analyze at least SO₂ and NO_x in selecting sources and determining control measures. See 2019 Guidance at 12, 2021 Clarifications Memo at 4. A state that chooses not to consider at least these two pollutants should demonstrate why such consideration would be unreasonable. 2021 Clarifications Memo at 4.

While states have the option to analyze *all* sources, the 2019 Guidance explains that “an analysis of control measures is not required for every source in each implementation period,” and that “[s]electing a set of sources for analysis of control measures in each implementation period is . . . consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a state may

¹⁶ The 2018 Visibility Tracking Guidance references and relies on parts of the 2003 Tracking Guidance: “Guidance for Tracking Progress Under the Regional Haze Rule,” which can be found at <https://www.epa.gov/sites/default/files/2021-03/documents/tracking.pdf>.

¹⁷ This action also refers to the 20 percent clearest and 20 percent most anthropogenically impaired days as the “clearest” and “most impaired” or “most anthropogenically impaired” days, respectively.

¹⁸ The RHR at 40 CFR 51.308(f)(1)(ii) contains an error related to the requirement for calculating two sets of natural conditions values. The rule says, “most impaired days or the clearest days” where it should say “most impaired days and clearest days.” This is an error that was intended to be corrected in the 2017 RHR Revisions but did not get corrected in the final rule language. This is supported by the preamble text at 82 FR 3078 at 3098 January 10, 2017: “In the final version of 40 CFR 51.308(f)(1)(ii), an occurrence of “or” has been corrected to “and” to indicate that natural visibility conditions for both the most impaired days and the clearest days must be based on available monitoring information.”

¹⁹ Being on or below the URP is not a “safe harbor”; *i.e.*, achieving the URP does not mean that a Class I area is making “reasonable progress” and does not relieve a state from using the four statutory factors to determine what level of control is needed to achieve such progress. *See, e.g.*, 82 FR 3078 at 3093, January 10, 2017.

not need to analyze control measures for all its sources in a given SIP revision.” 2019 Guidance at 9. However, given that source selection is the basis of all subsequent control determinations, a reasonable source selection process “should be designed and conducted to ensure that source selection results in a set of pollutants and sources the evaluation of which has the potential to meaningfully reduce their contributions to visibility impairment.” 2021 Clarifications Memo at 3.

EPA explained in the 2021 Clarifications Memo that each state has an obligation to submit a long-term strategy that addresses the regional haze visibility impairment that results from emissions from within that state. Thus, source selection should focus on the in-state contribution to visibility impairment and be designed to capture a meaningful portion of the state’s total contribution to visibility impairment in Class I areas. A state should not decline to select its largest in-state sources on the basis that there are even larger out-of-state contributors. 2021 Clarifications Memo at 4.²⁰

Thus, while states have discretion to choose any source selection methodology that is reasonable, whatever choices they make should be reasonably explained. To this end, 40 CFR 51.308(f)(2)(i) requires that a state’s SIP submission include “a description of the criteria it used to determine which sources or groups of sources it evaluated.” The technical basis for source selection, which may include methods for quantifying potential visibility impacts such as emissions divided by distance (Q/d) metrics, trajectory analyses, residence time analyses, and/or photochemical modeling, must also be appropriately documented, as required by 40 CFR 51.308(f)(2)(iii).

Once a state has selected the set of sources, the next step is to determine the emissions reduction measures for those sources that are necessary to make reasonable progress for the second implementation period.²¹ This is

²⁰ Similarly, in responding to comments on the 2017 RHR Revisions EPA explained that “[a] state should not fail to address its many relatively low-impact sources merely because it only has such sources and another state has even more low-impact sources and/or some high impact sources.” Responses to Comments on Protection of Visibility: Amendments to Requirements for State Plans; Proposed Rule (81 FR 26942, May 4, 2016) at 87–88.

²¹ 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

accomplished by considering the four factors: “the costs of compliance, the time necessary for compliance, and the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements.” CAA 169A(g)(1). EPA has explained that the four-factor analysis is an assessment of potential emission reduction measures (*i.e.*, control options) for sources; “use of the terms ‘compliance’ and ‘subject to such requirements’ in section 169A(g)(1) strongly indicates that Congress intended the relevant determination to be the requirements with which sources would have to comply to satisfy the CAA’s reasonable progress mandate.” 82 FR 3078 at 3091, January 10, 2017. 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. 82 FR 3078 at 3088, January 10, 2017. The 2019 Guidance provides that “[a] state must reasonably pick and justify the measures that it will consider, recognizing that there is no statutory or regulatory requirement to consider all technically feasible measures or any particular measures. A range of technically feasible measures available to reduce emissions would be one way to justify a reasonable set.” 2019 Guidance at 29.

EPA’s 2021 Clarifications Memo provides further guidance on what constitutes a reasonable set of control options for consideration: “A reasonable four-factor analysis will consider the full range of potentially reasonable options for reducing emissions.” 2021 Clarifications Memo at 7. In addition to add-on controls and other retrofits (*i.e.*, new emissions reduction measures for

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

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.” 82 FR 3078 at 3088, January 10, 2017. However, not all approaches to grouping sources for four-factor analysis are necessarily reasonable; the reasonableness of grouping sources in any particular instance will depend on the circumstances and the manner in which grouping is conducted. If it is feasible to establish and enforce different requirements for sources or subgroups of sources, and if relevant factors can be quantified for those sources or subgroups, then states should make a separate reasonable progress determination for each source or subgroup. 2021 Clarifications Memo at 7–8.

sources), EPA explained that states should generally analyze efficiency improvements for sources’ existing measures as control options in their four-factor analyses, as in many cases such improvements are reasonable given that they typically involve only additional operation and maintenance costs. Additionally, the 2021 Clarifications Memo provides that states that have assumed a higher emissions rate than a source has achieved or could potentially achieve using its existing measures should also consider lower emissions rates as potential control options. That is, a state should consider a source’s recent actual and projected emission rates to determine if it could reasonably attain lower emission rates with its existing measures. If so, the state should analyze the lower emission rate as a control option for reducing emissions. 2021 Clarifications Memo at 7. EPA’s recommendations to analyze potential efficiency improvements and achievable lower emission rates apply to both sources that have been selected for four-factor analysis and those that have forgone a four-factor analysis on the basis of existing “effective controls.” See 2021 Clarifications Memo at 5, 10.

After identifying a reasonable set of potential control options for the sources it has selected, a state then collects information on the four factors with regard to each option identified. 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.²³ The 2019 Guidance provides recommendations for the types of information that can be used to characterize the four factors (with or without visibility), as well as ways in which states might reasonably consider and balance that information to determine which of the potential control options is necessary to make reasonable progress. See 2019 Guidance at 30–36. The 2021 Clarifications Memo contains further guidance on how states can reasonably consider modeled visibility impacts or benefits in the context of a four-factor analysis. 2021 Clarifications Memo at 12–13, 14–15. Specifically, EPA explained that while visibility can reasonably be used when comparing and choosing between multiple reasonable control options, it should not be used to summarily reject controls that are reasonable given the four

²³ See, *e.g.*, Responses to Comments on Protection of Visibility: Amendments to Requirements for State Plans; Proposed Rule (81 FR 26942, May 4, 2016), Docket Number EPA–HQ–OAR–2015–0531, U.S. Environmental Protection Agency at 186; 2019 Guidance at 36–37.

statutory factors. 2021 Clarifications Memo at 13. Ultimately, while states have discretion to reasonably weigh the factors and to determine what level of control is needed, 40 CFR 51.308(f)(2)(i) provides that a state “must include in its implementation plan a description of . . . how the four factors were taken into consideration in selecting the measure for inclusion in its long-term strategy.”

As explained above, 40 CFR 51.308(f)(2)(i) requires states to determine the emission reduction measures for sources that are necessary to make reasonable progress by considering the four factors. Pursuant to 40 CFR 51.308(f)(2), measures that are necessary to make reasonable progress towards the national visibility goal must be included in a state’s long-term strategy and in its SIP.²⁴ If the outcome of a four-factor analysis is a new, additional emission reduction measure for a source, that new measure is necessary to make reasonable progress towards remedying existing anthropogenic visibility impairment and must be included in the SIP. If the outcome of a four-factor analysis is that no new measures are reasonable for a source, continued implementation of the source’s existing measures is generally necessary to prevent future emission increases and thus to make reasonable progress towards the second part of the national visibility goal: preventing future anthropogenic visibility impairment. See CAA 169A(a)(1). That is, when the result of a four-factor analysis is that no new measures are necessary to make reasonable progress, the source’s existing measures are generally necessary to make reasonable progress and must be included in the SIP. However, there may be circumstances in which a state can demonstrate that a source’s existing measures are *not* necessary to make reasonable progress. Specifically, if a state can demonstrate that a source will continue to implement its existing measures and will not increase its emissions rate, it may not be necessary to have those measures in the long-term strategy to

prevent future emissions increases and future visibility impairment. EPA’s 2021 Clarifications Memo provides further explanation and guidance on how states may demonstrate that a source’s existing measures are not necessary to make reasonable progress. See 2021 Clarifications Memo at 8–10. If the state can make such a demonstration, it need not include a source’s existing measures in the long-term strategy or its SIP.

As with source selection, the characterization of information on each of the factors is also subject to the documentation requirement in 40 CFR 51.308(f)(2)(iii). The reasonable progress analysis, including source selection, information gathering, characterization of the four statutory factors (and potentially visibility), balancing of the four factors, and selection of the emission reduction measures that represent reasonable progress, is a technically complex exercise, but also a flexible one that provides states with bounded discretion to design and implement approaches appropriate to their circumstances. Given this flexibility, 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 EPA can comprehend and evaluate the information and analysis the state relied upon to determine what emission reduction measures must be in place to make reasonable progress. The technical documentation must include the modeling, monitoring, cost, engineering, and emissions information on which the state relied to determine the measures necessary to make reasonable progress. This documentation requirement can be met through the provision of and reliance on technical analyses developed through a regional planning process, so long as that process and its output has been approved by all state participants. In addition to the explicit regulatory requirement to document the technical basis of their reasonable progress determinations, states are also subject to the general principle that those determinations must be reasonably moored to the statute.²⁵ That is, a state’s decisions about the emission reduction measures that are necessary to make reasonable progress must be consistent with the statutory goal of

remediating existing and preventing future visibility impairment.

The four statutory factors (and potentially visibility) are used to determine what emission reduction measures for selected sources must be included in a state’s long-term strategy for making reasonable progress. Additionally, the RHR at 40 CFR 51.308(f)(2)(iv) separately provides five “additional factors”²⁶ that states must consider in developing their long-term strategies: (1) emission reductions due to ongoing air pollution control programs, including measures to address reasonably attributable visibility impairment (RAVI); (2) measures to reduce the impacts of construction activities; (3) source retirement and replacement schedules; (4) basic smoke management practices for prescribed fire used for agricultural and wildland vegetation management purposes and smoke management programs; and (5) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy. The 2019 Guidance provides that a state may satisfy this requirement by considering these additional factors in the process of selecting sources for four-factor analysis, when performing that analysis, or both, and that not every one of the additional factors needs to be considered at the same stage of the process. See 2019 Guidance at 21. EPA provided further guidance on the five additional factors in the 2021 Clarifications Memo, explaining that a state should generally not reject cost-effective and otherwise reasonable controls merely because there have been emission reductions since the first planning period owing to other ongoing air pollution control programs or merely because visibility is otherwise projected to improve at Class I areas. Additionally, states generally should not rely on these additional factors to summarily assert that the state has already made sufficient progress and, therefore, no sources need to be selected or no new controls are needed regardless of the outcome of four-factor analyses. 2021 Clarifications Memo at 13.

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.

²⁶The five “additional factors” for consideration in 40 CFR 51.308(f)(2)(iv) are distinct from the four factors listed in CAA section 169A(g)(1) and 40 CFR 51.308(f)(2)(i) that states must consider and apply to sources in determining reasonable progress.

²⁴States may choose to, but are not required to, include measures in their long-term strategies beyond just the emission reduction measures that are necessary for reasonable progress. See 2021 Clarifications Memo at 16. For example, states with smoke management programs may choose to submit their smoke management plans to EPA for inclusion in their SIPs but are not required to do so. See, e.g., 82 FR 3078 at 3108–09, January 10, 2017 (requirement to consider smoke management practices and smoke management programs under 40 CFR 51.308(f)(2)(iv) does not require states to adopt such practices or programs into their SIPs, although they may elect to do so).

²⁵See *Arizona ex rel. Darwin v. U.S. EPA*, 815 F.3d 519, 531 (9th Cir. 2016); *Nebraska v. U.S. EPA*, 812 F.3d 662, 668 (8th Cir. 2016); *North Dakota v. EPA*, 730 F.3d 750, 761 (8th Cir. 2013); *Oklahoma v. EPA*, 723 F.3d 1201, 1206, 1208–10 (10th Cir. 2013); cf. also *Nat’l Parks Conservation Ass’n v. EPA*, 803 F.3d 151, 165 (3d Cir. 2015); *Alaska Dep’t of Env’tl. Conservation v. EPA*, 540 U.S. 461, 485, 490 (2004).

Consultation allows for each state that impacts visibility in an area to share whatever technical information, analyses, and control determinations may be necessary to develop coordinated emission management strategies. This coordination may be managed through inter- and intra-RPO consultation and the development of regional emissions strategies; additional consultations between states outside of RPO processes may also occur. If a state, pursuant to consultation, agrees that certain measures (e.g., a certain emission limitation) are necessary to make reasonable progress at a Class I area, it must include those measures in its SIP. 40 CFR 51.308(f)(2)(ii)(A). Additionally, the RHR requires that states that contribute to visibility impairment at the same Class I area consider the emission reduction measures the other contributing states have identified as being necessary to make reasonable progress for their own sources. 40 CFR 51.308(f)(2)(ii)(B). If a state has been asked to consider or adopt certain emission reduction measures, but ultimately determines those measures are not necessary to make reasonable progress, that state must document in its SIP the actions taken to resolve the disagreement. 40 CFR 51.308(f)(2)(ii)(C). EPA will consider the technical information and explanations presented by the submitting state and the state with which it disagrees when considering whether to approve the state's SIP. See *id.*; 2019 Guidance at 53. Under all circumstances, a state must document in its SIP submission all substantive consultations with other contributing states. 40 CFR 51.308(f)(2)(ii)(C).

D. Reasonable Progress Goals

Reasonable progress goals “measure the progress that is projected to be achieved by the control measures states have determined are necessary to make reasonable progress based on a four-factor analysis.” 82 FR 3078 at 3091, January 10, 2017. Their primary purpose is to assist the public and EPA in assessing the reasonableness of states' long-term strategies for making reasonable progress towards the national visibility goal. See 40 CFR 51.308(f)(3)(iii) and (iv). States in which Class I areas are located must establish two RPGs, both in dv—one representing visibility conditions on the clearest days and one representing visibility on the most anthropogenically impaired days—for each area within their borders. 40 CFR 51.308(f)(3)(i). The two RPGs are intended to reflect the projected impacts, on the two sets of days, of the emission reduction measures the state

with the Class I area, as well as all other contributing states, have included in their long-term strategies for the second implementation period.²⁷ The RPGs also account for the projected impacts of implementing other CAA requirements, including non-SIP based requirements. Because RPGs are the modeled result of the measures in states' long-term strategies (as well as other measures required under the CAA), they cannot be determined before states have conducted their four-factor analyses and determined the control measures that are necessary to make reasonable progress. See 2021 Clarifications Memo at 6.

For the second implementation period, the RPGs are set for 2028. Reasonable progress goals are not enforceable targets, 40 CFR 51.308(f)(3)(iii); rather, they “provide a way for the states to check the projected outcome of the [long-term strategy] against the goals for visibility improvement.” 2019 Guidance at 46. While states are not legally obligated to achieve the visibility conditions described in their RPGs, 40 CFR 51.308(f)(3)(i) requires that “[t]he long-term strategy and the reasonable progress goals must provide for an improvement in visibility for the most impaired days since the baseline period and ensure no degradation in visibility for the clearest days since the baseline period.” Thus, states are required to have emission reduction measures in their long-term strategies that are projected to achieve visibility conditions on the most impaired days that are better than the baseline period and shows no degradation on the clearest days compared to the clearest days from the baseline period. The baseline period for the purpose of this comparison is the baseline visibility condition—the annual average visibility condition for the period 2000–2004. See 40 CFR 51.308(f)(1)(i), 82 FR 3078 at 3097–98, January 10, 2017.

So that RPGs may also serve as a metric for assessing the amount of progress a state is making towards the national visibility goal, the RHR requires states with Class I areas to

²⁷ RPGs are intended to reflect the projected impacts of the measures all contributing states include in their long-term strategies. However, due to the timing of analyses and of control determinations by other states, other on-going emissions changes, a particular state's RPGs may not reflect all control measures and emissions reductions that are expected to occur by the end of the implementation period. The 2019 Guidance provides recommendations for addressing the timing of RPG calculations when states are developing their long-term strategies on disparate schedules, as well as for adjusting RPGs using a post-modeling approach. 2019 Guidance at 47–48.

compare the 2028 RPG for the most impaired days to the corresponding point on the URP line (representing visibility conditions in 2028 if visibility were to improve at a linear rate from conditions in the baseline period of 2000–2004 to natural visibility conditions in 2064). If the most impaired days RPG in 2028 is above the URP (i.e., if visibility conditions are improving more slowly than the rate described by the URP), each state that contributes to visibility impairment in the Class I area must demonstrate, based on the four-factor analysis required under 40 CFR 51.308(f)(2)(i), that no additional emission reduction measures would be reasonable to include in its long-term strategy. 40 CFR 51.308(f)(3)(ii). To this end, 40 CFR 51.308(f)(3)(ii) requires that each state contributing to visibility impairment in a Class I area that is projected to improve more slowly than the URP provide “a robust demonstration, including documenting the criteria used to determine which sources or groups [of] sources were evaluated and how the four factors required by paragraph (f)(2)(i) were taken into consideration in selecting the measures for inclusion in its long-term strategy.” The 2019 Guidance provides suggestions about how such a “robust demonstration” might be conducted. See 2019 Guidance at 50–51.

The 2017 RHR, 2019 Guidance, and 2021 Clarifications Memo also explain that projecting an RPG that is on or below the URP based on only on-the-books and/or on-the-way control measures (i.e., control measures already required or anticipated before the four-factor analysis is conducted) is not a “safe harbor” from the CAA's and RHR's requirement that all states must conduct a four-factor analysis to determine what emission reduction measures constitute reasonable progress. The URP is a planning metric used to gauge the amount of progress made thus far and the amount left before reaching natural visibility conditions. However, the URP is not based on consideration of the four statutory factors and therefore cannot answer the question of whether the amount of progress being made in any particular implementation period is “reasonable progress.” See 82 FR 3078 at 3093, 3099–3100, January 10, 2017; 2019 Guidance at 22; 2021 Clarifications Memo at 15–16.

E. Monitoring Strategy and Other State Implementation Plan Requirements

Section 51.308(f)(6) requires states to have certain strategies and elements in place for assessing and reporting on visibility. Individual requirements

under this subsection apply either to states with Class I areas within their borders, states with no Class I areas but that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area, or both. A state with Class I areas within its borders must submit with its SIP revision a monitoring strategy for measuring, characterizing, and reporting regional haze visibility impairment that is representative of all Class I areas within the state. SIP revisions for such states must also provide for the establishment of any additional monitoring sites or equipment needed to assess visibility conditions in Class I areas, as well as reporting of all visibility monitoring data to EPA at least annually. Compliance with the monitoring strategy requirement may be met through a state's participation in the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network, which is used to measure visibility impairment caused by air pollution at the 156 Class I areas covered by the visibility program. 40 CFR 51.308(f)(6), (f)(6)(i), and (iv). The IMPROVE monitoring data is used to determine the 20% most anthropogenically impaired and 20% clearest sets of days every year at each Class I area and tracks visibility impairment over time.

All states' SIPs must provide for procedures by which monitoring data and other information are used to determine the contribution of emissions from within the state to regional haze visibility impairment in affected Class I areas. 40 CFR 51.308(f)(6)(ii), (iii). Section 51.308(f)(6)(v) further requires that all states' SIPs provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area; the inventory must include emissions for the most recent year for which data are available and estimates of future projected emissions. States must also include commitments to update their inventories periodically. The inventories themselves do not need to be included as elements in the SIP and are not subject to EPA review as part of the Agency's evaluation of a SIP revision.²⁸ 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. 40 CFR 51.308(f)(6)(vi). Per the 2019 Guidance, a state may note in its regional haze SIP that its compliance

with the Air Emissions Reporting Rule in 40 CFR part 51 subpart A satisfies the requirement to provide for an emissions inventory for the most recent year for which data are available. To satisfy the requirement to provide estimates of future projected emissions, a state may explain in its SIP how projected emissions were developed for use in establishing RPGs for its own and nearby Class I areas.²⁹

Separate from the requirements related to monitoring for regional haze purposes under 40 CFR 51.308(f)(6), the RHR also contains a requirement at 40 CFR 51.308(f)(4) related to any additional monitoring that may be needed to address visibility impairment in Class I areas from a single source or a small group of sources. This is called "reasonably attributable visibility impairment."³⁰ Under this provision, if EPA or the FLM of an affected Class I area has advised a state that additional monitoring is needed to assess RAVI, the state must include in its SIP revision for the second implementation period an appropriate strategy for evaluating such impairment.

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

Section 51.308(f)(5) requires a state's regional haze SIP revision to address the requirements of paragraphs 40 CFR 51.308(g)(1) through (5) so that the plan revision due in 2021 will serve also as a progress report addressing the period since submission of the progress report for the first implementation period. The regional haze progress report requirement is designed to inform the public and 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. See 81 FR 26942 at 26950 (May 4, 2016), (82 FR 3078 at 3119, January 10, 2017). To this end, every state's SIP revision for the second implementation period is required to describe the status of implementation of all measures included in the state's long-term strategy, including BART and reasonable progress emission reduction measures from the first implementation period, and the resulting emissions reductions. 40 CFR 51.308(g)(1) and (2).

A core component of the progress report requirements is an assessment of changes in visibility conditions on the

clearest and most impaired days. For second implementation period progress reports, 40 CFR 51.308(g)(3) requires states with Class I areas within their borders to first determine current visibility conditions for each area on the most impaired and clearest days, 40 CFR 51.308(g)(3)(i), and then to calculate the difference between those current conditions and baseline (2000–2004) visibility conditions to assess progress made to date. See 40 CFR 51.308(g)(3)(ii). States must also assess the changes in visibility impairment for the most impaired and clearest days since they submitted their first implementation period progress reports. See 40 CFR 51.308(f)(5) and (g)(3)(iii). Since different states submitted their first implementation period progress reports at different times, the starting point for this assessment will vary state by state.

Similarly, states must provide analyses tracking the change in emissions of pollutants contributing to visibility impairment from all sources and activities within the state over the period since they submitted their first implementation period progress reports. See 40 CFR 51.308(f)(5) and (g)(4). Changes in emissions should be identified by the type of source or activity. Section 51.308(g)(5) also addresses changes in emissions since the period addressed by the previous progress report and requires states' SIP revisions to include an assessment of any significant changes in anthropogenic emissions within or outside the state. This assessment must explain whether these changes in emissions were anticipated and whether they have limited or impeded progress in reducing emissions and improving visibility relative to what the state projected based on its long-term strategy for the first implementation period.

G. Requirements for State and Federal Land Manager Coordination

CAA section 169A(d) requires that before a state holds a public hearing on a proposed regional haze SIP revision, it must consult with the appropriate FLM or FLMs; pursuant to that consultation, the state must include a summary of the FLMs' conclusions and recommendations in the notice to the public. Consistent with this statutory requirement, the RHR also requires that states "provide the [FLM] with an opportunity for consultation, in person and at a point early enough in the State's policy analyses of its long-term strategy emission reduction obligation so that information and recommendations provided by the [FLM] can meaningfully inform the

²⁹ *Id.*

³⁰ EPA's visibility protection regulations define "reasonably attributable visibility impairment" as "visibility impairment that is caused by the emission of air pollutants from one, or a small number of sources." 40 CFR 51.301.

²⁸ See "Step 8: Additional requirements for regional haze SIPs" in 2019 Guidance at 55.

State's decisions on the long-term strategy.” 40 CFR 51.308(i)(2). Consultation that occurs 120 days prior to any public hearing or public comment opportunity will be deemed “early enough,” but the RHR provides that in any event the opportunity for consultation must be provided at least 60 days before a public hearing or comment opportunity. This consultation must include the opportunity for the FLMs to discuss their assessment of visibility impairment in any Class I area and their recommendations on the development and implementation of strategies to address such impairment. 40 CFR 51.308(i)(2). For 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 EPA must also describe how the state addressed any comments provided by the FLMs. 40 CFR 51.308(i)(3). 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. 40 CFR 51.308(i)(4).

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

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

Minnesota submitted its Regional Haze SIP for the first implementation period to EPA on December 30, 2009, and supplemented it on January 5, 2012, and May 8, 2012. EPA approved Minnesota's first implementation period Regional Haze SIP submission as satisfying the applicable requirements in 40 CFR 51.308, except for BART emission limits for the taconite facilities, on June 12, 2012 (77 FR 34801), effective July 12, 2012. These requirements include identifying affected Class I areas, calculating the baseline and natural visibility, establishing RPGs, mandating BART emission reductions for the five electric generating units (EGUs) that were subject to BART (in this case through participation in the Cross-State Air Pollution Rule (CSAPR)), adopting a long-term strategy for making reasonable progress toward visibility goals, providing a monitoring strategy, and consulting with other states and the FLMs before adopting its regional haze

plan. EPA acted on RAVI BART for Northern States Power Company's Sherburne County Generating Station (Sherco) in a separate action (81 FR 11668, March 7, 2016), but approved the Minnesota provided emission limitations for Sherco units 1 and 2 solely as a SIP strengthening measure. The requirements for regional haze SIPs for the first implementation period are contained in 40 CFR 51.308(d) and (e).

EPA promulgated a FIP addressing the BART requirement for taconite plants in Michigan and Minnesota. This FIP was published in the **Federal Register** on February 6, 2013 (78 FR 8705). EPA revised the taconite plant FIP on April 12, 2016 (81 FR 21671) and on April 1, 2021 (86 FR 12095). Most recently, EPA published two notices of proposed settlement agreements on April 23, 2024, setting forth final NO_x BART emission limits for Tilden Mining Company (in Michigan), Hibbing Taconite Company, United Taconite, Minorca Mine, and Keetac, and final SO₂ BART emission limits for Tilden, Minorca, and Northshore Mining Company. Final adoption of these limits would complete the limit-setting process required by the taconite plant FIP. 89 FR 30357 and 30360, April 23, 2024. EPA also issued a FIP addressing RAVI for Sherco, a Minnesota source, on March 7, 2016 (81 FR 11668).

Pursuant to 40 CFR 51.308(g), Minnesota was also responsible for submitting a five-year progress report as a SIP revision for the first implementation period, which it did on December 30, 2014. EPA approved the progress report and incorporated it into the Minnesota SIP on June 28, 2018 (83 FR 30350), effective July 30, 2018.

B. Minnesota's Second Implementation Period SIP Submission and EPA's Evaluation

In accordance with CAA section 169A and the RHR at 40 CFR 51.308(f), on December 20, 2022, Minnesota submitted a revision to the Minnesota SIP to address its regional haze obligations for the second implementation period that runs from 2018 to 2028. Minnesota made its second period Regional Haze SIP submission available for public comment on August 22, 2022. The public comment period lasted until October 7, 2022. Minnesota held a public hearing on September 22, 2022. Minnesota received and responded to public comments. It included the comments and its responses in appendix H of its regional haze SIP submission.

The following sections describe Minnesota's SIP submission, including

analyses conducted by LADCO and Minnesota's determinations based on those analyses, Minnesota's assessment of progress made since the first implementation period in reducing emissions of visibility impairing pollutants, and the visibility improvement progress at its Class I areas and nearby Class I areas. This proposed rulemaking also contains EPA's evaluation of Minnesota's submission against the requirements of the CAA and RHR for the second implementation period of the regional haze program.

C. Identification of Class I Areas

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

EPA explained in the 1999 RHR preamble that the CAA section 169A(b)(2) requirement that states submit SIPs to address visibility impairment establishes “an ‘extremely low triggering threshold’ in determining which States should submit SIPs for regional haze.” 64 FR 35714 at 35721, July 1, 1999. In concluding that each of the contiguous 48 states and the District of Columbia meet this threshold,³¹ EPA relied on “a large body of evidence demonstrat[ing] that long-range transport of fine PM contributes to regional haze,” *id.*, including modeling studies that “preliminarily demonstrated that each State not having a Class I area had emissions contributing to impairment in at least one downwind Class I area.” 64 FR 35714 at 35722, July 1, 1999. In addition to the technical evidence supporting a conclusion that each state contributes to

³¹ EPA determined that “there is more than sufficient evidence to support our conclusion that emissions from each of the 48 contiguous states and the District of Columbia may reasonably be anticipated to cause or contribute to visibility impairment in a Class I area.” 64 FR 35714 at 35721, July 1, 1999. Hawaii, Alaska, and the U.S. Virgin Islands must also submit regional haze SIPs because they contain Class I areas.

existing visibility impairment, EPA also explained that the second half of the national visibility goal—preventing future visibility impairment—requires having a framework in place to address future growth in visibility-impairing emissions and makes it inappropriate to “establish criteria for excluding States or geographic areas from consideration as potential contributors to regional haze visibility impairment.” 64 FR 35714 at 35721, July 1, 1999. Thus, EPA concluded that the agency’s “statutory authority and the scientific evidence are sufficient to require all States to develop regional haze SIPs to ensure the prevention of any future impairment of visibility, and to conduct further analyses to determine whether additional control measures are needed to ensure reasonable progress in remedying existing impairment in downwind Class I areas.” 64 FR 35714 at 35722, July 1, 1999. EPA’s 2017 revisions to the RHR did not disturb this conclusion. See 82 FR 3078 at 3094 January 10, 2017.

Minnesota is home to two mandatory Class I Federal areas: Boundary Waters Canoe Area Wilderness (Boundary Waters) and Voyageurs National Park (Voyageurs). For the second implementation period, Minnesota performed technical analyses to help assess source and state-level contributions to visibility impairment at in and out of state Class I areas. Those results are presented in section 2.2.2 of its plan. Minnesota also assessed the contributions from other states and regions to its two Class I areas. See section 2.2.3 of the Minnesota plan.

Based on modeling completed by the state, Minnesota was found to have the greatest visibility impact on the Class I areas within the state, Boundary Waters and Voyageurs, contributing an estimated 16.2 and 17.6 percent of sulfate plus nitrate visibility impairment, respectively. Minnesota emissions also impact out-of-state Class I areas in Michigan, although the impacts to these out-of-state areas are smaller at 8.2 percent (Isle Royale) and 4.3 percent (Seney). Visibility impacts to the next closest six Class I areas in other states ranged from 0.5 percent at Lostwood Wilderness in North Dakota to 2.6 percent at Mammoth Cave in Kentucky.

Minnesota also assessed the states and regions impacting Minnesota’s Class I areas. It presented the results of its source apportionment modeling in section 2.2.3, including Table 13, of its plan. Minnesota identified itself, Canada, North Dakota, Iowa, Nebraska, Wisconsin, and Missouri as the largest

contributors to visibility impairment in one or both Class I areas in Minnesota.

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

The regulation at 40 CFR 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. 40 CFR 51.308(f)(1)(vi)(B).

Voyageurs has a complete set of ambient IMPROVE data for 2000 to 2004 baseline visibility conditions. Boundary Waters also has a complete, but substitute, ambient dataset for this period because an equipment malfunction in 2002, 2003, and 2004 caused the loss of some PM_{2.5} particle mass data, elemental organic carbon mass data, and coarse particulate (PM₁₀) mass data. The data loss invalidated three out of every seven samples for these components. To use the valid data, Minnesota substituted missing elements with data from Voyageurs. This data substitution is detailed in Minnesota’s plan, appendix A. Minnesota included this data substitution in its first period Regional Haze plan, which EPA approved, effective July 12, 2012. 77 FR 34801, June 12, 2012.

As noted in section 2.1 of Minnesota’s plan, for Boundary Waters, baseline visibility conditions are 6.5 dv on the 20 percent clearest days and 18.5 dv on the 20 percent most impaired days. For Voyageurs, the baseline visibility conditions are 7.2 dv on the 20 percent clearest days and 17.9 dv on the 20 percent most impaired days.

As noted in section 2.1 of Minnesota’s plan, Minnesota calculated natural conditions for Boundary Waters at 6.5 dv on the 20 percent clearest days and 9.1 dv on the 20 percent most impaired days. For Voyageurs, Minnesota calculated the natural conditions at 7.2

dv³² on the 20 percent clearest days and 9.3 dv on the 20 percent most impaired days.

Current conditions, based on 2015–2019 monitoring data, for the days of most impaired visibility, are better than the 2018 interim progress goals for the Boundary Waters and Voyageurs, as depicted in Figure 4 in section 2.1 of Minnesota’s plan. Current conditions for the days of clearest visibility improved and did not degrade from the baseline. Minnesota provides the current visibility conditions for each year and a running five-year average for both Class I areas on Table 5 in section 2.1.3 of its plan. The 2015 to 2019 averages are: Boundary Waters at 4.2 dv on the clearest days and 13.4 dv on the most impaired days and Voyageurs at 5.1 dv on the clearest days and 13.5 dv on the most impaired days.

Minnesota shows the progress to date for both its Class I areas in section 2.1.4, Table 6 of its plan. Table 6 has data for the five-year averages from 2004 to 2019. For Boundary Waters, the five-year average for the most impaired days decreased from 18.5 in 2004 to 13.4 in 2019 while the five-year average for the clearest days trended from 6.5 dv in 2004 to 4.2 in 2019. For Voyageurs, the five-year average for the most impaired days decreased from 17.9 in 2004 to 13.5 in 2019 while the five-year average for the clearest days trended from 7.2 dv in 2004 to 5.1 in 2019. Based on the ambient data trends, steady progress towards natural conditions is being made in both Boundary Waters and Voyageurs.

Minnesota calculated the difference between current visibility and natural visibility conditions in section 2.1.5 of its plan. For Boundary Waters, on the most impaired days, the current visibility is 13.4 dv, which is 4.3 dv above the 2064 end point of 9.1 dv, while the current 4.2 dv visibility on the clearest days is below the end point target of 6.5 dv. The difference is similar at Voyageurs, with the current visibility on the most impaired days of 13.5 dv being 4.2 dv above the 9.3 dv end point in 2064. The current visibility at Voyageurs on the clearest days, 5.1 dv, is also below the 2064 end point target of 7.2 dv.

Minnesota, in section 2.1.6 of its plan, calculated the URP for the Class I areas

³² EPA estimated the natural visibility conditions on the 20 percent clearest days to be 3.48 dv at Boundary Waters and 4.27 dv at Voyageurs. See Technical Addendum including updated visibility data through 2018 for the memo titled “Recommendation for the Use of Patched and Substituted Data and Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program” issued June 2020.

for each implementation period. The URP for 2018 is 16.3 dv at Boundary Waters and 15.9 dv at Voyageurs. The 2018 five-year average for the most impaired days is 13.8 dv at Boundary Waters and 14.0 dv at Voyageurs. The 2028 URP is 14.7 dv at Boundary Waters and 14.5 dv at Voyageurs. Thus, 2018 visibility is below the 2018 URP as well as the 2028 URP. The current visibility continues the decline in visibility impairment seen in 2018. The 2019 five-year average, the most current at submission, improved to 13.4 dv at Boundary Waters and to 13.5 dv at Voyageurs.

EPA proposes to find that Minnesota has submitted a regional haze plan that meets the requirements of 40 CFR 51.308(f)(1) related to the calculations of baseline, current, and natural visibility conditions; progress to date; and the URP for the second implementation period.

E. Long-Term Strategy for Regional Haze

1. Emission Measures Necessary To Make Reasonable Progress

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. CAA 169A(b)(2)(B). As explained in the Background section of this action, reasonable progress is achieved when all states contributing to visibility impairment in a Class I area are implementing the measures determined—through application of the four statutory factors to sources of visibility impairing pollutants—to be necessary to make reasonable progress. 40 CFR 51.308(f)(2)(i). Each state's long-term strategy must include the enforceable emission limitations, compliance schedules, and other measures that are necessary to make reasonable progress. 40 CFR 51.308(f)(2). All new (*i.e.*, additional) measures that are the outcome of four-factor analyses are necessary to make reasonable progress and must be in the long-term strategy. If the outcome of a four-factor analysis and other measures necessary to make reasonable progress is that no new measures are reasonable for a source, that source's existing measures are necessary to make reasonable progress, unless the state can demonstrate that the source will continue to implement those measures and will not increase its emission rate. Existing measures that are necessary to make reasonable progress must also be in the long-term strategy. In developing its long-term strategies, a state must also

consider the five additional factors in 40 CFR 51.308(f)(2)(iv). As part of its reasonable progress determinations, the state must describe the criteria used to determine which sources or group of sources were evaluated (*i.e.*, subjected to four-factor analysis) for the second implementation period and how the four factors were taken into consideration in selecting the emission reduction measures for inclusion in the long-term strategy. 40 CFR 51.308(f)(2)(iii).

The following paragraphs detail how Minnesota's submission addresses the requirements of 40 CFR 51.308(f)(2)(i). Minnesota evaluated and determined the emission reduction measures needed to make reasonable progress. In its submission, Minnesota documents the methodology it used in its selection of sources for analysis and control measures necessary to make reasonable progress, which are discussed later in this section.

States may rely on technical information developed by the RPOs of which they are members to select sources for four-factor analysis and to conduct that analysis, as well as to satisfy the documentation requirements under 40 CFR 51.308(f). States may also satisfy the requirement of 40 CFR 51.308(f)(2)(ii) to engage in interstate consultation with other states that have emissions that are reasonably anticipated to contribute to visibility impairment in a given Class I area under the auspices of intra- and inter-RPO engagement.

Minnesota is a member of an RPO, LADCO, and participated in the RPO's regional approach to developing a strategy for making reasonable progress towards the national visibility goal in the northern Midwest Class I areas.

Minnesota performed its own technical analysis using EPA and LADCO provided elements. Minnesota's modeling used EPA's modeling platform with some portions replaced by those from LADCO.

The technical analyses included in Minnesota's submission are as follows:

- Establishment of RPGs for Boundary Waters and Voyageurs (appendix A)
- Contributions to the 2028 RPGs for Boundary Waters and Voyageurs (appendix A)
- Minnesota's impact on Class I areas (appendix A)
- Assessment of states and regions impacting Minnesota's Class I areas (appendix A)
- Modeling analyses supporting the conclusion that the Long-Term Strategy provides reasonable progress (appendix A)

- LADCO's Technical Support Documentation (appendix C)
- LADCO's Q/d Materials (appendix C)
- LADCO's photochemical modeling and Emissions Modeling results (appendix C)

Minnesota found that the emission reduction measures necessary to make reasonable progress include:

- Permanent and federally enforceable current and future retirements at ten EGUs (Minnesota plan Table 32), Enforceable by permit or administrative order;
 - Existing effective controls for nine other selected sources, two paper mills, one EGU, and six taconite facilities, which are required through permits and the 2013 regional haze taconite plant FIP (Minnesota plan Table 33);³³
 - Additional NO_x emission reductions from Hibbing Public Utilities Commission from its "Hibbing Public Utilities Restorative Plan." These three EGUs will use renewable resources such as wood alongside natural gas as the primary fuels for its boilers. Minnesota established enforceable requirements, via an administrative order, for the proposed NO_x emission limits. These NO_x emission reductions were accounted for in Minnesota's modeling analysis 2028 projection. See section 2.5.1 in the Minnesota plan;
 - Expected emission reductions from the implementation of the Regional Haze taconite plant FIP (Minnesota plan section 2.6.2);³⁴
 - Updated Northeast Minnesota Plan adding voluntary emission reduction targets of 30 percent below 2018 levels by 2025 and 40 percent below 2018 levels by 2028, targeting taconite facilities, EGUs, and paper mills (Minnesota plan section 2.5.7).

2. EPA's Evaluation of Minnesota's Compliance With 40 CFR 51.308(f)(2)(i)
The regulation at 40 CFR 51.308(f)(2)(i) requires states to evaluate and determine the emission reduction measures that are necessary to make reasonable progress by applying the four statutory factors to sources in a control analysis. The emission reduction measures that are necessary to make reasonable progress must be included in the long-term strategy. 40 CFR 51.308(f)(2).

EPA proposes to find that Minnesota appropriately considered the four statutory factors: cost of compliance, time necessary for compliance, the

³³ 78 FR 8706, February 6, 2013.

³⁴ See 89 FR 30357 and 30360, April 23, 2024 for details on the April 2024 proposed settlements prefacing proposed rules that will include emission limitations for taconite facilities in Minnesota and Michigan.

energy and non-air environmental impacts, and the remaining useful life of the source in its source evaluations.

Minnesota detailed its source selection process in section 2.3.6. of its plan. Minnesota originally selected 13 facilities that accounted for about the top 80 percent of emissions impacting visibility at Boundary Waters and Voyageurs. Discussions with the FLMs resulted in Minnesota considering four additional facilities—American Crystal Sugar in Crookston and East Grand Forks, Hibbing Public Utilities, and Southern Minnesota Beet Sugar Cooperative. Thus, Minnesota selected the following 17 facilities, which account for nearly the top 85 percent of visibility impacts at Boundary Waters and Voyageurs and result in an effective Q/d of about 4.6:³⁵

- American Crystal Sugar—Crookston: Boilers 1, 2, and 3;
- American Crystal Sugar—East Grand Forks: Boilers 1 and 2;
- Boise White Paper: Recovery Furnace, Boilers 1 and 2;
- Cleveland Cliffs Minorca Mine: Indurating Furnace;
- Hibbing Public Utilities: Boilers 1A, 2A, 3A, and Wood Fired Boiler;
- Hibbing Taconite Company: Indurating Furnace Lines 1, 2, and 3;
- Minnesota Power—Boswell: Units 1, 2, 3, and 4;
- Minnesota Power—Taconite Harbor: Boilers 1 and 2;
- Northshore Mining—Silver Bay: Power Boilers 1 and 2 and Furnaces 11 and 12;
- Sappi Cloquet LLC: Power Boiler 9 and Recovery Boiler 10;
- Southern Minnesota Beet Sugar Cooperative: Boiler 1;
- United Taconite—Fairlane Plant: Pellet Induration Lines 1 and 2;
- US Steel—Keetac: Grate Kiln;
- US Steel—Minntac: Rotary Kiln Lines 3, 4, 5, 6, and 7;
- Virginia Department of Public Utilities: Boilers 7, 9, and 11;
- Xcel Energy—Allen S. King: Boiler 1; and
- Xcel Energy—Sherburne: Units 1, 2, and 3.

Minnesota then contacted these selected sources and requested they prepare site-specific four-factor analyses. To guide facilities' assessment of selected sources, Minnesota suggested the facilities use the 2016 actual emissions data unless 2028 operations are expected to be significantly different than 2016

³⁵ Tables 43 and 44 of the Minnesota plan include more information on the Q/d, percentile, cumulative percentile, FLM interest, and whether Minnesota required a four-factor analysis.

operations. In its request, Minnesota explained that emissions should be based on representative historical operations and follow the recommendations regarding emissions data in EPA's August 2019 Guidance. Facilities generally provided emissions data that were reported to the most recent Minnesota annual emissions inventory (typically 2018 or 2019), which was at least as recent as the emissions data submitted to EPA's 2017 National Emissions Inventory (NEI), at the time the requested four-factor analyses were provided to Minnesota.

In appendix E of its plan, Minnesota reviewed the emissions data provided in each four-factor analysis and compared that information to the emissions data reported in Minnesota's annual emissions inventory for the years 2016 through 2020. Minnesota compared the emissions data to these years of reported emissions data to verify that the emissions used in the four-factor analyses were similar to historically reported emissions. Where emissions data used by facilities were not representative of typical emissions, Minnesota revised the emissions data used as part of evaluating potential control measures following the methods recommended by the EPA's Air Pollution Control Cost Manual³⁶ (as of June 23, 2022). As an example, the American Crystal Sugar—Crookston facility reports annual NO_x and SO₂ emissions based on a pound per hour value determined during stack testing while the four-factor analysis calculated emissions in pounds per million British thermal units. Minnesota and the facility both reviewed the stack testing results leading the state to conclude the calculated pound per hour values are skewed high, so it used the pounds per million British thermal units value for the four-factor analysis.

Minnesota also evaluated the cost of compliance as detailed in sections 2.4.3 and 2.5.1 of the Minnesota plan. In order to evaluate the reasonableness of potential control measures, Minnesota chose to evaluate those costs compared to available cost information from many sources including first period BART determinations, other states' regional haze plans,³⁷ EPA's RACT/BACT/LAER Clearinghouse,³⁸ and other sources.

³⁶ Available at <https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution>.

³⁷ The state plans from Arkansas, Arizona, Colorado, North Dakota, New Mexico, Oregon, Texas, Washington, and Wisconsin were available at the time, approximately October 2021, of Minnesota's review.

³⁸ RACT is Reasonably Available Control Technology, BACT is Best Available Control

Minnesota identified the units to be analyzed along with the request for facilities to prepare a four-factor analysis following the 2019 Guidance. The 2019 Guidance provides the methods to determine emission control measures to consider and details how the four factors of section 169A(g)(1) of the CAA (cost of compliance, time necessary for compliance, energy and non-air environmental impacts, and remaining useful life of the source) can be considered. Minnesota also let facilities refine the cost estimate with a source-specific vendor quote. In order to make the cost analyses uniform and more accurate, Minnesota further refined the analyses by adjusting the cost information using consistent factors in the calculations including interest rates and retrofit factors. Those analyses are detailed in appendix E, and in Tables 52 and 54 of section 2.4.3 and in section 2.5.1 of its plan.

Minnesota did not set a bright-line cost threshold but considered controls that cost less than approximately \$7,600 per ton as cost effective for the second implementation period. Minnesota used \$10,000 per ton for an initial screening threshold. Minnesota then evaluated potential NO_x and SO₂ control measures and refined the costs of those controls, factoring in interest rates, retrofit factors, and source-specific vendor quotes. After adjustments and further analysis, the most expensive control measure considered to be potentially cost-effective by the state was less than \$7,600 per ton.³⁹ Detail on the controls considered and costs calculated for each facility are provided in section 2.5.1 and in Tables 55 to 60 in Minnesota's plan.

In section 2.5.2 of the Minnesota plan, Minnesota reviewed the time needed for compliance with potential control measures provided by facilities to consider what compliance timeframe would be reasonable for each specific source. The state noted that in general, facilities provided an estimate of the time needed to install the evaluated control options including the time needed for design, engineering, procurement, and installation. Minnesota reviewed the facility's time needed for compliance with potential control measures provided by facilities to consider what compliance timeframe would be reasonable for each specific source. Minnesota considered the time

Technology, and LAER is Lowest Achievable Emission Rate; the Clearinghouse can be accessed at: <https://cfpub.epa.gov/RBLC/index.cfm?action=Home.Home&lang=en>.

³⁹ Original calculation for selective non-catalytic reduction on Sappi Cloquet Boiler 9 was \$7,632 per ton NO_x, which was later revised following a vendor quote and state revision.

necessary for compliance as part of evaluating potential control measures later in the four-factor analysis process in determining if a control measure was needed to make reasonable progress. EPA finds this approach reasonable given that it is consistent with the 2019 Guidance at 41.

In section 2.5.3 of the Minnesota plan, Minnesota stated that it considered the energy and non-air environmental impacts as part of the cost of compliance of potential control measures in determining whether a control measure was necessary to make reasonable progress. Minnesota considered this factor by evaluating the cost impact from the potential control measures such as whether adopting the control would: (1) increase or decrease energy use; (2) impact solid, liquid, and hazardous waste disposal; (3) create reagents that contaminate fly ash making it unsuitable for sale; and (4) require accessory systems such as additional fans. Minnesota considered the remaining useful life of each source as described in section 2.4.6 and 2.5.4 of its plan. Minnesota determined the remaining useful life by considering the remaining duration of operation and the expected lifespan of potential controls. Minnesota noted that facilities generally followed the Control Cost Manual control device recommendations in their calculations. In several cases, Minnesota considered enforceable retirement dates as the end of a source's useful life. Minnesota provided detail on the retirements of 10 units at Minnesota Power—Boswell, Minnesota Power—Taconite Harbor, Virginia Department of Public Utilities, and Xcel Energy—Allen S. King and Sherco facilities on Table 32 in section 2.3.3 of its plan.

In order to ensure that the long-term strategy contains the enforceable emissions limitations necessary for reasonable progress, Minnesota assessed emissions limitations at each of the 17 facilities it considered. For sources for which Minnesota determined that no additional control measures were needed, Minnesota relied on existing federally enforceable emissions limitations in the taconite plant FIP, and on retirement schedules at certain facilities memorialized in administrative orders as described in section 2.5.4 and appendix D of its plan and in the following paragraph. The Minnesota long-term strategy relies on these federally enforceable emissions limitations and retirement schedules as the measures necessary to make reasonable progress. As such, Minnesota concluded that additional control

measures were not necessary to make reasonable progress.

Minnesota entered into an administrative order regarding the Virginia Department of Public Utilities Boiler 7, including a permanent retirement scheduled for Boiler 7 by January 1, 2025. Minnesota also entered into administrative orders for the retirements of Minnesota Power—Taconite Harbor Boilers 1 and 2 by March 31, 2023, Xcel Energy—Allen S. King Boiler 1 by December 31, 2028, and Xcel Energy—Sherco Unit 3 by December 31, 2030. Minnesota also entered into an administrative order requiring the Northshore Mining—Silver Bay Power Company's Power Boiler 1 and Power Boiler 2 units to remain idled through 2031. Finally, at Hibbing Public Utilities commission, Minnesota entered into an administrative order requiring NO_x emission limits at Boilers 1A, 2A, and 3A effective January 1, 2023, that resulted in equivalent reductions that would have been achieved by installing controls on each boiler at the facility. EPA proposes to incorporate by reference these administrative orders.

Several units at selected facilities had permanently retired. In section 2.3.3 of its plan, Minnesota cites the federally enforceable permits for Minnesota Power—Boswell Energy Center Unit 1 and Unit 2, Virginia Department of Public Utilities Boiler 9, and Xcel Energy—Sherco Unit 1 and Unit 2.

Minnesota also considered the following sources to be effectively controlled through federally enforceable emissions limits included in operating permits or in the first regional haze implementation period. Regarding Boise White Paper Boiler 2 and Recovery Furnace, Minnesota determined that the facility's emissions permit included a NO_x limit comparable to recent BACT determinations for similar units. Regarding Minnesota Power's Boswell Energy Center Unit 3, BART NO_x limits were established in the first regional haze implementation period and the facility's emissions permit included BART SO₂ limits established pursuant to the 2012 Mercury Air Toxics Standards (MATS) rule for power plants. See 77 FR 9304, February 16, 2012. Regarding Minnesota Power's Boswell Energy Center Unit 4, Minnesota determined that the facility's emissions permit included a NO_x limit comparable to recent BACT determinations for similar units and a SO₂ limit established pursuant to the 2012 MATS rule. Regarding Sappi Cloquet Recovery Boiler 10, the facility's emissions permit included a NO_x BACT emissions limit.

Minnesota also considered the following sources to be effectively controlled through federally enforceable emissions limits in the taconite plant FIP. Regarding US Steel Minntac Rotary Kiln Lines 3, 4, 5, 6, and 7, EPA published a final rule on March 2, 2021, imposing a facility-wide BART NO_x emission limit for Minntac lines 3–7. 86 FR 12095, March 2, 2021. Regarding Minorca Mine Indurating Furnace, United Taconite Grate Kiln Lines 1 and 2, Hibbing Lines 1, 2, and 3, Northshore Mining—Silver Bay Furnace 11 and 12, and US Steel Keetac Grate Kiln, EPA published two notices of proposed settlement agreements on April 23, 2024. 89 FR 30357 and 30360, April 23, 2024. These actions set forth final NO_x BART emission limits for Hibbing, United Taconite, Minorca, and Keetac, and final SO₂ BART emission limits for Minorca and Northshore. Final adoption of these limits would complete the limit-setting process required by the taconite plant FIP.

In section 2.4.1 of its plan, Minnesota provided the emission control measures considered in Table 45 along with noting the units that have or will retire and were found to be effectively controlled. The NO_x controls generally considered were low NO_x burners (LNB) and/or over-fire air (OFA) systems, selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR). The SO₂ controls generally considered were wet flue gas desulfurization (FGD), dry FGD, and dry sorbent injection (DSI).

Minnesota evaluated potential NO_x and SO₂ controls for both American Crystal Sugar facilities. At American Crystal Sugar—Crookston, Minnesota considered controls for Boilers 1, 2, and 3. The NO_x controls were all over \$12,000 per ton (Minnesota refined) with the maximum 109 tons per year (TPY) for SCR on Boiler 3. The SO₂ controls were over \$12,500 per ton for DSI and over \$16,000 per ton for dry FGD for all three units. At American Crystal Sugar—East Grand Forks, Minnesota evaluated Boilers 1 and 2. Minnesota found that SNCR would cost about \$11,366 per ton NO_x to reduce 35 TPY on each unit, while DSI was calculated at \$11,241 per ton SO₂ to reduce 317 TPY on each unit. Minnesota concluded that neither NO_x nor SO₂ controls appear cost-effective for either American Crystal Sugar facility.

Minnesota also evaluated potential SO₂ controls for Hibbing Public Utilities Commission Boilers 1A, 2A, and 3A and evaluated NO_x controls on the Wood Fired Boiler unit. Minnesota determined

that none of these controls were cost effective.

For Sappi Cloquet LLC, Minnesota considered potential NO_x and SO₂ controls for Power Boiler #9. Minnesota calculated controlling 11 TPY of SO₂ emissions with DSI would cost \$515,275 per ton. Minnesota calculated SNCR on Power Boiler #9 would cost \$7,632 per ton of NO_x controlled. Sappi Cloquet supplied a vendor quote, on which Minnesota revised the expected control cost down to \$8,562 per ton. Minnesota concluded that neither NO_x nor SO₂ controls for Power Boiler #9 appear cost-effective for Sappi Cloquet in the second regional haze implementation period.

Minnesota also evaluated potential NO_x and SO₂ controls for Boiler 1 at Southern Minnesota Beet Sugar Cooperative. For SO₂, Minnesota calculated a Spray Dry Absorber control to cost \$10,097 per ton, which Minnesota found not to be cost effective. Minnesota also evaluated several potential NO_x controls for Boiler 1. Minnesota revised the facility's calculations for SNCR control to \$2,942 per ton that would reduce an expected 447 tons of NO_x. Although Minnesota found NO_x controls to be potentially cost effective, Southern Minnesota Beet Sugar Cooperative refuted Minnesota's determination to install NO_x controls ahead of the SIP submission deadline and provided a technical analysis supporting its position. As a result, Minnesota intends to reevaluate this facility for the 2025 progress report and the third regional haze implementation period.

Minnesota also evaluated potential NO_x controls for Boiler 1 at Boise White Paper. Minnesota refined the facility's four-factor analysis for potential control options and found that SCR is expected to reduce 66 TPY NO_x at \$13,783 per ton with the other option (LNB with OFA and flue gas recirculation) costing nearly twice that (\$26,649 per ton). Minnesota concluded that NO_x controls at Boise White Paper Boiler 1 are not cost effective.

Minnesota evaluated potential NO_x and SO₂ controls for Boiler 7 and potential NO_x controls for Boiler 11 at Virginia Department of Public Utilities. The facility suggested that Boiler 7 may retire during the second regional haze implementation period, but because the retirement was not confirmed, Minnesota analyzed that unit. For Boiler 7, Minnesota calculated a cost-effectiveness of \$9,534 per ton using SNCR to reduce 28 TPY NO_x. Minnesota calculated \$12,724 per ton for SCR on Boiler 11 reducing 81 TPY NO_x. Minnesota calculated \$25,420 per

ton SO₂ for a dry scrubber and \$42,939 per ton SO₂ for a wet scrubber on Boiler 7. On April 6, 2022, the facility informed Minnesota that it planned to retire Boiler 7 by January 1, 2025. Minnesota included an Administrative Order making the retirement of Boiler 7 at Virginia Department of Public Utilities permanent and enforceable that EPA is proposing to incorporate by reference. The calculated cost-effectiveness for potential NO_x control for Boiler 11 at Virginia Department of Public Utilities exceeds Minnesota's screening threshold.

EPA proposes to find that Minnesota has satisfied the requirements of 40 CFR 51.308(f)(2)(i) related to determining the emission reduction measures that are necessary to make reasonable progress by appropriately considering the four statutory factors and providing a long-term strategy that includes the enforceable emission limitations and compliance schedules that are necessary to make reasonable progress.

3. Additional Long-Term Strategy Requirements Consultation

The consultation requirements of 40 CFR 51.308(f)(2)(ii) provide that states must consult with other states that are reasonably anticipated to contribute to visibility impairment in a Class I area to develop coordinated emission management strategies containing the emission reductions measures that are necessary to make reasonable progress. Section 51.308(f)(2)(ii)(A) and (B) require states to consider the emission reduction measures identified by other states as necessary for reasonable progress and to include agreed-upon measures in their SIPs, respectively. Under 40 CFR 51.308(f)(2)(ii)(C) speaks to what happens if states cannot agree on what measures are necessary to make reasonable progress.

As noted in section 2.9.1 of its plan, Minnesota participated in the LADCO Regional Haze Technical Workgroup meetings beginning in January 2018. These meetings are ongoing.

Minnesota also consulted with several states individually. Minnesota met with Iowa on June 30, 2022. Minnesota met with Michigan on June 24, 2022. Minnesota consulted with Missouri on June 21, 2022. Nebraska met with Minnesota three times on June 26, 2020, December 16, 2020, and June 21, 2022. On June 25, 2020, Minnesota and North Carolina met. North Dakota and Minnesota consulted on March 22, 2021, and June 23, 2022. Minnesota met South Dakota on September 15, 2021. Minnesota and Wisconsin met on June

30, 2022. More information on these meetings with individual states and any follow-up is provided in Minnesota's plan at section 2.9.1.

No states notified Minnesota that they identified emissions from Minnesota sources as contributing to visibility impairment at their Class I areas. There are no requests from other states to analyze emissions controls at Minnesota sources or for Minnesota to undertake specific emissions reductions necessary to make reasonable progress for the second regional haze implementation period at out-of-state Class I areas.

EPA proposes to find that Minnesota has met the 40 CFR 51.308(f)(2)(ii)(A) and (B) consultation requirements with its participation in the LADCO Regional Haze Technical Workgroup consultation process plus its individual consultation meetings with contributing states. There were no disagreements with other states, so 40 CFR 51.308(f)(2)(ii)(C) does not apply.

Technical Basis

The regulation at 40 CFR 51.308(f)(2)(iii) requires states to document the technical basis of the long-term strategy. This includes the modeling, monitoring, cost, engineering, and emissions information that the state relied on in determining the emission-reduction measures that are necessary to make reasonable progress. As explored in further detail above, Minnesota specified the control measures necessary to make reasonable progress in section 2.5 of its plan. In summary, Minnesota concluded that the following control measures are necessary for reasonable progress:

- The realized and upcoming emission unit retirements;⁴⁰
- The existing effective controls for non-taconite emission units;⁴¹
- Additional NO_x emission reductions expected for Hibbing Public Utilities Commission;
- The expected emission reductions from implementation of the taconite plant FIP;
- The new, voluntary emission reduction targets in the Northeast Minnesota Plan for 2025 and 2028.

To select these control measures, Minnesota relied on monitoring, as

⁴⁰ Retirements of Minnesota Power's Boswell Energy Center Units 1 and 2, Minnesota Power's Taconite Harbor Energy Center Boilers 1 and 2, the Virginia Department of Public Utilities Boilers 7 and 9, Xcel Energy's Allen S. King Boiler 1, and Sherco's Units 1, 2, and 3, and the idling of Northshore Mining's Silver Bay Power Boilers 1 and 2 through 2031.

⁴¹ Existing effective measures at Boise White Paper Boiler 2 and Recovery Furnace, Minnesota Power's Boswell Energy Center Units 3 and 4, and Sappi Cloquet Recovery Boiler 10.

required in 40 CFR 51.308(f)(2)(iii). Minnesota documented its long-term modeling in detail in section 2.6 of its plan and its technical support document. Minnesota elected to follow EPA modeling guidance to estimate future visibility in its Class I areas to establish the RPGs for Boundary Waters and Voyageurs. Minnesota used an EPA modeling platform with some portions replaced by LADCO. The modeling platform consists of meteorology, emissions, and other inputs needed to run an air quality model.

40 CFR 51.308(f)(2)(iii) also requires the documentation of cost analyses as part of the technical basis for the state's long-term strategy. As explained above, Minnesota satisfactorily complied with the requirement of 40 CFR 51.308(f)(2)(i) to consider cost as one of the four statutory factors to be considered when evaluating control options. EPA is proposing to find that Minnesota's documentation of its cost considerations satisfy its obligation under 40 CFR 51.308(f)(2)(iii).

As noted above, Minnesota considered engineering, one of the technical basis elements of 40 CFR 51.308(f)(2)(iii), in its selection of potential emission control systems and in evaluating the control analyses (such as evaluating reasonableness of the control efficiency and retrofit factor used).

40 CFR 51.308(f)(2)(iii) also 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 EPA (or a more recent year), with a 12-month exemption period for newly submitted data. In section 2.3.2 of its plan, Minnesota used 2016 emissions inventory data to calculate Q/d in an effort to select industrial point sources for an analysis of emissions control measures. The LADCO Regional Haze Technical Workgroup selected the National Emissions Inventory Collaborative 2016 inventory for the Q/d analysis in March 2018 as the best available inventory at that time. LADCO compiled the Q/d analysis, which accounted for the combined emissions of SO₂, NO_x, NH₃, and PM_{2.5} and the distance to the nearest Class I areas.

In section 2.4.2, Minnesota's SIP submission also provided 2028 emission projections based on a modeling platform using the 2016 emissions inventory. Minnesota also considered Clean Air Markets Program Data emissions for EGUs for NO_x and SO₂ in assessing emission reductions from

regional haze SIP strategies. In addition, in developing four-factor analyses, facilities provided emissions data that was reported to the most recent Minnesota annual emission inventory (typically 2018 or 2019), which was at least as recent as the emissions data submitted to EPA's 2017 NEI. Minnesota reviewed the emissions data provided in each four-factor analysis and compared that information to the emissions data reported to Minnesota's annual emission inventory for the years 2016 through 2020. Minnesota compared the emissions data to these years of reported emissions data to verify that the emissions used in the four-factor analysis were reasonably grounded in historical reported emissions. Based on Minnesota's consideration and analysis of the emission data in its SIP submission and supplemental documentation, EPA proposes to find that Minnesota has satisfied the emissions information requirement in 40 CFR 51.308(f)(2)(iii).

Finally, Minnesota also adequately documented adjustments to the factors impacting the RPG, which involved adjustments to reflect changes at facilities occurring after the modeling platform was developed.

EPA proposes to find that Minnesota adequately documented its technical basis for calculating the 2028 RPGs for Boundary Waters and Voyageurs.

Five Additional Factors

EPA also proposes to find that Minnesota reasonably considered the five additional factors in 40 CFR 51.308(f)(2)(iv) in developing its long-term strategy. Minnesota considered these five factors in section 2.3.4 of its plan.

Pursuant to 40 CFR 51.308(f)(2)(iv)(A), Minnesota noted that it considered ongoing state and Federal emission control programs that contribute to emission reductions through 2028 in the modeling that was used to develop the long-term strategy. In addition, the Sherco facility has an existing emissions limit to address RAVI at Minnesota Class I areas. EPA promulgated a RAVI FIP for Sherco on March 7, 2016 (81 FR 11668), and the emission limitations are in 40 CFR 52.1236. Minnesota also provided details on the taconite plant BART FIP that limits visibility impairing emissions from several taconite facilities. Minnesota noted numerous Federal standards and other existing measures that result in emission reductions. In section 3.1 of its plan, Minnesota also noted additional emission reductions from a variety of programs that are not reflected in its

2028 modeling inventory. Those programs include the Ozone and PM Advance programs, Volkswagen Settlement funded projects, and the Clean Cars Minnesota rule.

Pursuant to 40 CFR 51.308(f)(2)(iv)(B), Minnesota considered measures to mitigate the impacts of construction activities by considering EPA standards for nonroad and diesel mobile sources, as well as Minnesota Rule 7011.0150, which requires all reasonable measures to be undertaken to prevent particulate matter from becoming airborne. Minnesota notes the main impacts of construction activities include the impacts of emissions from nonroad mobile and diesel engines and fugitive emissions resulting from land clearing and construction.

Pursuant to 40 CFR 51.308(f)(2)(iv)(C), Minnesota considered source retirement and replacement schedules memorialized in enforceable administrative orders, as discussed above regarding Minnesota's compliance with the requirement of 40 CFR 51.308(f)(2)(i) to consider the remaining useful life of any existing source possibly subject to control requirements. See section 2.3.3 and Table 32 of Minnesota's plan. The source retirements that had already occurred are federally enforceable by permit condition as given by the state.

Pursuant to 40 CFR 51.308(f)(2)(iv)(D), Minnesota considered smoke management by considering the Minnesota Smoke Management Plan. The state noted that prescribed fire and managed wildfire have been used in Minnesota for many years to improve and maintain natural resources. The Minnesota Smoke Management Plan⁴² was created and implemented for three reasons: improving visibility in the Class I areas in Minnesota, enabling the continued use of prescribed fire as a management tool, and using a smoke management program to prevent violations of the particulate matter and ozone NAAQS due to emissions from managed wildland fires. Further, Minnesota highlighted the data from the IMPROVE monitoring sites at the Boundary Waters and Voyageurs Class I areas indicating that elemental and organic carbon, pollutants typically formed from fire, are not large

⁴² Agricultural burning is not covered by Minnesota's Smoke Management Plan. However, Minnesota stated that agricultural burning requires an open burning permit. In general, agricultural burning in Minnesota is limited to grass and stubble burning, particularly of bluegrass and timothy grass. This light fuel type produces short-term smoke events without a lot of combustion of biomass and smoldering. In addition, most agricultural burning occurs in the northwest area of the state, away from the Class I areas.

contributors to visibility impairment in these areas.

Pursuant to 40 CFR 51.308(f)(2)(iv)(E), Minnesota considered the anticipated net effect on visibility due to projected changes in emissions in its submission, in developing the technical information used to support development of the regional haze SIP. Minnesota noted that it used conservative estimates of the visibility improvements due to Minnesota's long-term strategy for the second regional haze implementation period. Minnesota met this requirement by projecting emissions from all sources in Minnesota and other nearby states to the end of the planning period (2028) and performing a detailed modeling analysis of the anticipated impact of those emissions changes on visibility impairment at Class I areas in both Minnesota and nearby states. However, Minnesota did not directly rely on the 2028 modeling analysis to select sources and evaluate controls in developing its long-term strategy. Instead, Minnesota used the Q/d process presented in section 2.3 of its plan to select sources for an analysis of control measures. As detailed in section IV. E.2. of this preamble, Minnesota performed a well-developed analysis resulting in a reasonable selection of sources and performed a sufficient control analysis on the selected sources.

EPA proposes to find that Minnesota's reasonable consideration of each of the five additional factors satisfies the requirements of 40 CFR 51.308(f)(2)(iv).

F. Reasonable Progress Goals

Section 51.308(f)(3) contains the requirements pertaining to RPGs for each Class I area. Minnesota contains two Class I areas, making it subject to 40 CFR 51.308(f)(3)(i). Section 51.308(f)(3)(i) requires a state in which a Class I area is located to establish RPGs—one each for the most impaired and clearest days—reflecting the visibility conditions that will be achieved at the end of the implementation period as a result of the emission limitations, compliance schedules and other measures required under paragraph (f)(2) to be in states' long-term strategies, as well as implementation of other CAA requirements. The long-term strategies as reflected by the RPGs must provide for an improvement in visibility on the most impaired days relative to the baseline period and ensure no degradation on the clearest days relative to the baseline period. 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.

Minnesota determined the 2028 RPGs for Boundary Waters and Voyageurs based on the long-term strategy and other enforceable measures described in its plan.

Minnesota determined the RPGs using its modeling platform, consisting of EPA's 2016 modeling platform, version 1, with some parts replaced with those provided by LADCO. This resulted in a 2016 modeling platform, version 1b, as detailed in the Minnesota plan at section 2.6.1. Minnesota used the National Emissions Inventory Collaborative's emissions inventory 2016 base year for the second implementation period. Minnesota details the meteorology inputs for its emissions model and its air-quality model in its plan. For the base year inventories, Minnesota used the LADCO prepared "actual" and "typical" emissions inventories. Minnesota used the actual emissions inventory for evaluating air-quality model performance. Minnesota used the typical emissions inventory for establishing RPGs and for the contribution assessment. Minnesota notes the only difference between the actual and typical emissions inventories involves the characterization of emissions from the taconite facilities in Minnesota. LADCO prepared a 2028 projected "typical" emissions inventory for Minnesota by incorporating state-provided emissions projections for taconite facilities that apply FIP limits from the first implementation period. LADCO's 2028 future year inventory used the National Emissions Inventory Collaborative's 2016 emissions inventory with updates.

According to the modeling, the 2028 RPGs for the most impaired days are 13.4 dv for Boundary Waters and 13.6 dv for Voyageurs. The 2028 RPGs for the clearest days are 4.5 dv for Boundary Waters and 5.3 dv for Voyageurs. See Table 65 of the Minnesota plan. Minnesota's long-term strategy and the RPGs provide for an improvement in visibility for the most impaired days since the baseline period and ensure no degradation in visibility for the clearest days since the baseline period, in accordance with 40 CFR 51.308(f)(3)(i).

Section 51.308(f)(3)(i) also specifies that RPGs must reflect "enforceable emissions limitations, compliance schedules, and other measures *required under paragraph (f)(2) of this section*" (emphasis added). EPA interprets this provision as requiring that only emission reduction measures that

states—including upwind states—have determined to be necessary for reasonable progress and incorporated into their long-term strategies be reflected in a Class I area's RPGs. This ensures that RPGs include only those measures that are reasonably certain to be implemented. Minnesota detailed these measures in section 2.6.2 of its plan. Minnesota used the known measures at the time when it developed the 2016 model platform. The measures reflected in the modeling for the RPGs for Boundary Waters and Voyageurs are summarized on Table 66 of the Minnesota plan. Emission changes that were not included in the RPG modeling are also noted on Table 66. In determining the RPGs, Minnesota also included the unit retirements at Minnesota Power's Boswell Energy Center Units 1 and 2, Minnesota Power's Taconite Harbor Energy Center, the Virginia Department of Public Utilities, Xcel Energy's Allen S. King, and Sherco's Units 1 and 2. Additionally, Minnesota factored in projected additional use of units to offset the generation capacity from the retiring units. Minnesota reflected additional use of Sherco's Unit 3, Minnesota Power's Boswell Energy Center Units 3 and 4, and Hibbing Public Utilities Units 1A, 2A, and 3A in the RPGs. Minnesota did not know about emission reductions required at Cleveland Cliffs Minorca facility and at Hibbing Taconite at the time modeling was being conducted. As a result, this is not reflected in the RPGs. Minnesota provides the long-term strategy measures reflected in the RPGs for Boundary Waters and Voyageurs in Table 66 of its plan.

The RHR at 40 CFR 51.308(f)(3)(iii) notes that the RPGs are not directly enforceable but will be considered by the Administrator in evaluating the adequacy of the measures in the implementation plan in providing for reasonable progress towards achieving natural visibility conditions at that area.

Under 40 CFR 51.308(f)(3)(ii)(A), a state with a Class I area that establishes an RPG for the most impaired days that provides for a slower rate of improvement in visibility than the URP must calculate the number of years required to reach natural conditions. Because Minnesota's RPGs are below the URP, the demonstration requirement under 40 CFR 51.308(f)(3)(ii)(A) is not triggered.

Under 40 CFR 51.308(f)(3)(ii)(B), if a state contains sources that are reasonably anticipated to contribute to visibility impairment in a Class I area in another state for which a demonstration by the other state is required, then the

state must demonstrate that there are no additional emission reduction measures that would be reasonable to include in its long-term strategy. The out-of-state Class I areas with the largest visibility contributions from Minnesota (primarily the Michigan Class I areas) are well below the URP. Thus, EPA proposes to conclude that the demonstration requirement under 40 CFR 51.308(f)(3)(ii)(B) is not triggered.

In sum, EPA proposes to determine that Minnesota has satisfied the applicable requirements of 40 CFR 51.308(f)(3) relating to RPGs.

G. Monitoring Strategy and Other Implementation Plan Requirements

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

Minnesota uses its participation in the IMPROVE program⁴³ to meet the 40 CFR 51.308(f)(6) monitoring strategy requirements. Minnesota determined that no modifications to its strategy are necessary at this time. See 2.8.4 of the Minnesota plan.

Section 51.308(f)(6)(i) requires SIPs to provide for the establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address regional haze for all mandatory Class I Federal areas within the state are being achieved. The IMPROVE monitoring sites are in the two Class I areas, at Boundary Waters (monitor BOWA1) and Voyageurs (monitor VOYA2). Additionally, an IMPROVE Protocol site is located in southeastern Minnesota near Great River Bluffs State Park (monitor GRR1). See 2.8.4 and Figure 16 of the Minnesota plan.

Section 51.308(f)(6)(ii) requires SIPs to provide for procedures by which monitoring data and other information are used in determining the contribution of emissions from within the state to regional haze visibility impairment at mandatory Class I Federal areas both

within and outside the state. Minnesota used its own modeling analysis to conduct the contribution assessment as detailed in section 2.2.1 and appendix A of its plan.

In 40 CFR 51.308(f)(6)(iii) only applies to states without a Class I area, requiring procedures for using monitoring data in determining the contribution of emissions to visibility impairment at Class I areas in other states. Minnesota has Class I areas, therefore this requirement is inapplicable.

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. The monitoring strategy for Minnesota relies upon the continued availability of the IMPROVE network. Minnesota supports the continued operation of the IMPROVE network through both state and Federal funding mechanisms.

Section 51.308(f)(6)(v) requires SIPs to provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment, including emissions for the most recent year for which data are available and estimates of future projected emissions. It also requires a commitment to update the inventory periodically. The Minnesota emissions inventory includes VOC, NO_x, PM_{2.5}, PM₁₀, NH₃, and SO₂. Minnesota rules require point sources to submit reports of their emissions to the state each year and an annual point source emissions inventory is produced (Minn. R. 7019.3000). Minnesota compiles a full statewide emissions inventory every three years and submits this data to the NEI. See 2.8.5 of the Minnesota plan.

In 40 CFR 51.308(f)(6)(v) also requires states to include estimates of future projected emissions and include a commitment to update the inventory periodically. Minnesota noted its intention to continue to update the full emissions inventory on the three-year NEI cycle. See 2.8.5 of the Minnesota plan.

In 40 CFR 51.308(f)(6)(vi) requires a state to consider other elements necessary to assess and report on visibility, including reporting and recordkeeping. Minnesota has met the other applicable requirements of 40 CFR 51.308(f)(6), therefore no further elements are necessary for Minnesota to assess and report on visibility pursuant to 40 CFR 51.308(f)(6)(vi).

EPA proposes to find that Minnesota has met the requirements of 40 CFR 51.308(f)(6) through its continued participation in the IMPROVE network,

its contribution analysis, its emissions reporting to EPA, and its statewide emissions inventory.

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

Section 51.308(f)(5) requires that periodic comprehensive revisions of states' regional haze plans also address the progress report requirements of 40 CFR 51.308(g)(1) through (5). The purpose of these requirements is to evaluate progress towards the applicable RPGs for each Class I area within the state and each Class I area outside the state that may be affected by emissions from within that state. In 40 CFR 51.308(g)(1) and (2) apply to all states and require a description of the status of implementation of all measures included in a state's first implementation period regional haze plan and a summary of the emission reductions achieved through implementation of those measures. The regulations in 40 CFR 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. The regulations in 40 CFR 51.308(g)(4) applies to all states and requires an analysis tracking changes in emissions of pollutants contributing to visibility impairment from all sources and sectors since the period addressed by the first implementation period progress report. This provision further specifies the year or years through which the analysis must extend depending on the type of source and the platform through which its emission information is reported. Finally, 40 CFR 51.308(g)(5), which also applies to all states, requires an assessment of whether 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.

Minnesota submitted its previous progress report on December 30, 2014. EPA Guidance suggests covering the period approximately from the first full year that was not in the previous progress report through a year that is as close as possible to the submission date of the SIP revision. Thus, Minnesota's

⁴³ The IMPROVE sites also provide PM_{2.5} speciation data. Therefore, these sites are a key component of EPA's national fine particle monitoring in addition to being critical to tracking progress related to regional haze regulations.

progress report covers the period of 2015 to 2021.

Minnesota's plan in section 2.10.1 describes the status of emission reduction measures from the first implementation period as required by 40 CFR 51.308(g)(1). Minnesota worked on implementing BART controls although Minnesota taconite facilities subject to the taconite plant FIP have not fully implemented BART controls pending settlement agreements. Minnesota also implemented its Northeast Minnesota Plan as part of its long-term strategy in the first period. This plan established voluntary combined NO_x and SO₂ emission reduction targets for 2012 and 2018, which have been met.

As noted in section 2.10.2 of its plan, Minnesota met the emission reduction measures during the first implementation period, by 2014. Minnesota notes that emissions continued to fall in the second half of the first period, largely driven by emission reductions from EGUs. Minnesota cited EPA data⁴⁴ on EGU sector emissions. The EGU SO₂ emissions declined from 24,366 tons in 2013 to 6,068 tons in 2021. Similarly, EGU NO_x emissions went from 24,855 tons in 2013 to 11,392 tons in 2021.

EPA proposes to find that Minnesota has met the requirements of 40 CFR 51.308(g)(1) and (2) because its submission gives the status of implementation of first period emission reduction measures and a summary of the emission reductions achieved through such implementation.

States are required by 40 CFR 51.308(g)(3) to assess the visibility progress of its Class I areas. Section 2.10.3 of Minnesota's SIP submission included summaries of the visibility conditions and the trend of the five-year averages through 2019 at the class I areas. For Boundary Waters, the 2019 five-year average visibility impairment is 13.4 dv, down from 15.4 dv in 2014 on the most impaired days. Visibility conditions at Boundary Waters improved from 4.9 dv in 2014 to 4.2 dv in 2019 on the clearest days. At Voyageurs, visibility improved from 16.2 dv in 2014 to 13.5 dv in 2019 on the most impaired days. On the clearest days at Voyageurs, the visibility improved from 5.8 dv to 5.1 dv between 2014 and 2019. EPA proposes to find that Minnesota has satisfied the requirements of 40 CFR 51.308(g)(3).

Pursuant to 40 CFR 51.308(g)(4), Minnesota provided a summary of 2014 to 2021 NH₃, NO_x, PM₁₀, PM_{2.5}, SO₂,

and VOC emissions from all sources and activities, including from point, nonpoint, non-road mobile, and on-road mobile sources. This data is presented by sector in Tables 68 to 82 in its plan at section 2.10.4.

EPA proposes to find that Minnesota has satisfied the requirements of 40 CFR 51.308(g)(4) by providing emissions information for NH₃, NO_x, PM₁₀, PM_{2.5}, SO₂, and VOC emissions by source type.

As for the requirement of 40 CFR 51.308(g)(5) to give an assessment of changes impeding visibility progress, Minnesota evaluated contributions within and outside the state. Minnesota noted in section 2.10.5 of its plan that it has continued to make significant progress in reducing anthropogenic emissions within the state. On the other hand, one significant increase has been VOC contributions from North Dakota, primarily from the oil and gas sector. Minnesota states that this increase has not significantly impeded progress at Minnesota's Class I areas. Minnesota notes these contributions may need evaluation in future implementation periods. EPA proposes to find that Minnesota has met the requirements of 40 CFR 51.308(g)(5).

I. Requirements for State and Federal Land Manager Coordination

Section 169A(d) of the CAA requires states to consult with FLMs before holding the public hearing on a proposed regional haze SIP, and to include a summary of the FLMs' conclusions and recommendations in the notice to the public. In addition, 40 CFR 51.308(i)(2)'s FLM consultation provision requires a state to provide FLMs with an opportunity for consultation that is early enough in the state's policy analyses of its emission reduction obligation so that information and recommendations provided by the FLMs can meaningfully inform the state's decisions on its long-term strategy. If the consultation has taken place at least 120 days before a public hearing or public comment period, the opportunity for consultation will be deemed early enough. Regardless, the opportunity for consultation must be provided at least 60 days before a public hearing or public comment period at the state level. In 40 CFR 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.

On May 11, 2022, Minnesota provided its draft Regional Haze plan to the USFS, FWS, and the NPS for a 60-day review and comment period pursuant to 40 CFR 51.308(i)(2). A FLM consultation meeting was held on June 30, 2022. NPS staff and USFS staff attended. NPS sent a comment letter on July 11, 2022. USFS sent a comment letter on July 12, 2022. Minnesota responded to the FLM comments and included the responses on Table 84 in its plan in accordance with 40 CFR 51.308(i)(3). EPA proposes to find that Minnesota has satisfied the requirements under 40 CFR 51.308(i) to consult with the FLMs on its Regional Haze SIP for the second implementation period.

Minnesota published the public notice for the proposed update to Minnesota's Regional Haze SIP in the State Register on August 22, 2022. The public comment period was from August 22, 2022, to October 7, 2022. During the public notice period, a copy of the SIP revision was made available at Minnesota's office in St. Paul and on its website. A hearing was held on September 22, 2022. Minnesota received five comment letters during the public comment period plus two late comment letters. The comment letters and Minnesota's responses are included in appendix H of its plan.

Further, Minnesota stated in section 3.2 of its plan that it performed specific outreach to Minnesota Tribes.⁴⁵ In these efforts, it contacted Minnesota Tribes to notify them throughout the planning process of opportunities to provide input. EPA's regional office routinely informs the Tribes within the Region of regional haze developments and notifies these Tribes about EPA proposed rulemaking. LADCO, Minnesota's RPO, includes these Tribes on its Regional Haze Technical Workgroup.

V. Environmental Justice Considerations

As explained in the *EPA Legal Tools to Advance Environmental Justice 2022* document, the CAA provides states with the discretion to consider environmental justice (EJ) in developing rules and measures related to the regional haze program. In this instance, Minnesota exercised this discretion. In reviewing Minnesota's analysis, EPA defers to Minnesota's reasonable exercise of its discretion in considering EJ. Minnesota notes that reductions in NO_x and SO₂ can have localized health benefits near facilities. The state further notes its actions required during the

⁴⁴ See U.S. EPA, *Power Sector Emissions Data, CLEAN AIR MARKET'S PROGRAM DATA*.

⁴⁵ See 2.9.3 in Minnesota's plan.

second implementation period are not expected to worsen air quality in any area of the state. It expects benefits will accrue to Class I areas as required by the program and to communities near subject facilities. Based on Minnesota's proposed strategies in the second implementation period, new controls or limits would benefit Minnesota-identified areas of concern for EJ. Minnesota identified the Virginia Department of Public Utilities, Hibbing Public Utilities Commission, and Minnesota Power's Taconite Harbor Energy Center as facilities impacting Minnesota-identified areas of concern for EJ. The state also selected Minnesota Power's Boswell Energy Center as near a Minnesota-identified areas of concern for EJ. A summary of the facilities Minnesota identified as impacting an area of environmental-justice concern is given in Table 83 of Minnesota's plan.

In sum, EPA is proposing approval of the SIP revision because it meets minimum requirements pursuant to the CAA and relevant implementing regulations. EPA also finds that Minnesota's consideration of EJ analyses in this context is reasonable. EPA encourages air agencies generally to evaluate EJ considerations of their actions and carefully consider impacts to communities. EPA considers Minnesota's EJ analysis but that is not the basis for EPA's decision making; Minnesota's SIP met the minimum applicable requirements, as explained above.

VI. Proposed Action

EPA is proposing to approve the Regional Haze SIP revision submitted by Minnesota on December 20, 2022, as satisfying the regional haze requirements for the second implementation period contained in 40 CFR 51.308(f).

VII. Incorporation by Reference

In this rule, EPA is proposing to include in a final EPA rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is proposing to incorporate by reference Minnesota Administrative Orders for Hibbing Public Utilities Commission, effective August 19, 2022; Minnesota Power—Taconite Harbor Energy Center, effective May 27, 2021, and May 17, 2022; Northshore Mining Company, effective August 18, 2022; Virginia Department of Public Utilities, effective August 16, 2022; Xcel Energy—Allen S. King, effective July 16, 2021; and Xcel Energy—Sherburne Generating Plant, effective July 16, 2021, discussed in section IV.E.1. of this preamble. EPA

has made, and will continue to make, these documents generally available through www.regulations.gov and at the EPA Region 5 Office (please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information).

VIII. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this 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), and 14094 (88 FR 21879, April 11, 2023);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, this proposed rulemaking action, pertaining to Minnesota Regional Haze SIP submission for the second planning period, 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).

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994) directs Federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. EPA defines EJ as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies."

Minnesota evaluated EJ considerations as part of its SIP submission even though the CAA and applicable implementing regulations neither prohibit nor require an evaluation. EPA's evaluation of Minnesota's EJ considerations is described above in the section titled, "Environmental Justice Considerations." The analysis was done for the purpose of providing additional context and information about this rulemaking to the public, not as a basis of the action. EPA is taking action under the CAA on bases independent of Minnesota's evaluation of EJ. Due to the nature of the action being taken here, this action is expected to have a neutral to positive impact on the air quality of the affected area. In addition, there is no information in the record upon which this decision is based that is inconsistent with the stated goal of E.O. 12898 of achieving EJ for people of color, low-income populations, and Indigenous peoples.

List of Subjects in 40 CFR Part 52

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

Dated: July 1, 2024.

Debra Shore,

Regional Administrator, Region 5.

[FR Doc. 2024–14851 Filed 7–10–24; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 240508–0132]

RIN 0648–BM49

Endangered and Threatened Wildlife and Plants; Protective Regulations for the Oceanic Whitetip Shark (*Carcharhinus longimanus*); Extension of Public Comment Period

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

ACTION: Proposed rule; extension of public comment period and announcement of public hearing.

SUMMARY: We, NMFS, announce the extension of the public comment period on our May 14, 2024, proposed rule to issue protective regulations under section 4(d) of the Endangered Species Act (ESA) for the conservation of the threatened oceanic whitetip shark (*Carcharhinus longimanus*). As part of that proposed action, we solicited comment on the proposed rule, a draft environmental assessment (EA), and an initial regulatory flexibility analysis (IRFA) over a 60-day period, to end on July 15, 2024. Today, we extend the public comment period by 60 days to September 15, 2024, and announce that we will be holding one or more public hearings on the proposed rule.

Comments previously submitted do not need to be resubmitted, as they will be fully considered in the agency's proposed action.

DATES: The deadline for receipt of comments is extended from July 15, 2024, until September 15, 2024.

ADDRESSES: You may submit comments on this proposed rule, identified by NOAA–NMFS–2023–0117 by any one of the following methods:

- **Electronic Submissions:** Submit all electronic comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA–NMFS–2023–0117 in the Search box. Click the “Comment” icon, complete the required fields, and enter or attach your comments.

- **Mail or hand-delivery:** Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are part of the public record and will generally be posted for public viewing on <https://www.regulations.gov> without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous).

The proposed rule and other supporting materials are available electronically at: <https://www.fisheries.noaa.gov/species/oceanic-whitetip-shark/conservation-management>.

FOR FURTHER INFORMATION CONTACT:

Adrienne Lohe, NMFS Office of Protected Resources, 301–427–8442; Adrienne.Lohe@noaa.gov.

SUPPLEMENTARY INFORMATION:

Background

On May 14, 2024, we published a proposed rule to issue protective regulations under section 4(d) of the ESA for the threatened oceanic whitetip shark (*Carcharhinus longimanus*) (89 FR 41917). In that notification, we also announced a 60-day public comment period and the availability of a draft EA and IRFA.

We received a request to extend the public comment period and hold public hearings for fishing communities in Hawaii, the Territories of American Samoa and Guam, and the Commonwealth of the Northern Mariana Islands in order to better understand the potential impact of the proposed rule and for communities to provide comments on the proposed rule. We considered the request and concluded that a 60-day extension should allow sufficient time for responders to submit comments without significantly delaying finalization of the proposed rule. We are therefore extending the close of the public comment period from July 15, 2024, to September 15, 2024. In addition to extending the public comment period, we are announcing that we will hold one or more public hearings on the proposed rule. Details on the date(s), time(s) and location(s) of the public hearing(s) will be announced in an upcoming **Federal Register** notice.

Authority: 16 U.S.C. 1531 *et seq.*

Dated: July 5, 2024.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

[FR Doc. 2024–15177 Filed 7–10–24; 8:45 am]

BILLING CODE 3510–22–P