ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R05–OAR–2021–0545; FRL–12100–01–R5]

Air Plan Approval; Wisconsin; Second Period Regional Haze Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to partially approve and partially disapprove the Wisconsin regional haze state implementation plan (SIP) revision submitted by the Wisconsin Department of Natural Resources (Wisconsin or WDNR) on July 30, 2021. In the alternative, EPA is proposing to approve the Wisconsin regional haze SIP in its entirety so long as WDNR provides evidence to EPA that operation of coal-fired cyclone Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased. In the event evidence is provided confirming the federally enforceable and permanent shutdown of the Ahlstrom-Munksjö—Rhinelander Mill Boiler B26, EPA proposes to find that Wisconsin'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, and 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 Clean Air Act (CAA).

DATES: Written comments must be received on or before September 9, 2024.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R05–OAR–2021–0545 at *https://www.regulations.gov* or via email to *langman.michael@epa.gov*. For comments submitted at *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: Charles Hatten, Air and Radiation Division (AR–18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886–6031, *hatten.charles@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 July 30, 2021, WDNR submitted a revision to its SIP to address regional haze for the second implementation period. WDNR made this SIP submission to satisfy the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and the Regional Haze Rule (RHR) at 40 CFR 51.308(f). EPA is proposing to partially approve and partially disapprove the Wisconsin regional haze SIP. In the alternative, EPA is proposing to approve the Wisconsin regional haze SIP in its entirety in the event that WDNR provides sufficient evidence to EPA, before final action in this rulemaking, that coal-fired cyclone Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operating, which typically includes evidence that Boiler B26 is being dismantled and/or decommissioned. In the event that WDNR is able to provide sufficient evidence of the federally enforceable and permanent shutdown of the Ahlstrom-Munksjö—Rhinelander Mill Boiler B26, EPA is proposing to find that the Wisconsin regional haze SIP submission for the second implementation period meets the applicable statutory and regulatory requirements and thus proposes to approve Wisconsin's submission into its SIP. However, without evidence that the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operation of Boiler B26, EPA proposes to partially approve and partially disapprove the Wisconsin regional haze SIP for the second implementation period. In the event that WDNR does not provide sufficient evidence of the federally enforceable and permanent shutdown of Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill, EPA is proposing, for the reasons described in this document, to approve the elements of Wisconsin's regional haze SIP related to requirements contained in 40 CFR 51.308(f)(1), (f)(3) through (6), (g)(1)

through (5), and (i)(2) through (4), and disapprove the elements of Wisconsin's SIP related to the requirements of 40 CFR 51.308(f)(2) due to insufficient information regarding cessation of operations at Boiler B26.

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 to address visibility impairment in mandatory Class I Federal areas (hereinafter referred to as ''Class I areas'') that is ''reasonably attributable'' to a single source or small group of sources. 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 visibility impairment that is produced by a multitude of anthropogenic sources and activities which are located across a broad geographic area and that emit pollutants that impair visibility. Visibility impairing pollutants include fine and coarse particulate matter (PM) (*e.g.,* sulfates, nitrates, organic carbon, elemental carbon, and soil dust) and their precursors (*e.g.,* sulfur dioxide (SO_2), nitrogen oxides (NO_X), and, in some cases, volatile organic compounds (VOC) and ammonia (NH_3)). Fine particle precursors react in the atmosphere to form fine particulate matter ($PM_{2.5}$), which impairs visibility by scattering and absorbing light. Visibility impairment reduces the perception of clarity and color, as well as visible distance.[3]

To address regional haze visibility impairment, the 1999 RHR established an iterative planning process that requires both states in which Class I areas are located and states ''the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility'' in a Class I area to periodically submit SIP revisions to address such impairment. CAA 169A(b)(2);[4] *see also* 40 CFR 51.308(b), (f) (establishing submission dates for iterative regional haze SIP revisions); (64 FR 35714 at 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 35714 at 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 35714 at 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 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 implementation 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

[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.

[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 deciview, since it is not a logarithmic function. See, *e.g.,* 2019 Guidance at 16, 19, *https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period,* EPA Office of Air Quality Planning and Standards, Research Triangle Park (August 20, 2019). The formula for the deciview is $10 \ln (b^{ext})/10\ Mm - 1$). 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).

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 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 states' SIPs contain long-term strategies for making reasonable progress towards the national visibility goal. The reasonable progress requirements as revised in the 2017 rulemaking (referred to here as the 2017 RHR Revisions) are codified at 40 CFR 51.308(f). Among other changes, the 2017 RHR Revisions adjusted the deadline for states to submit their second implementation period SIPs from July 31, 2018 to July 31, 2021, clarified the order of analysis and the relationship between RPGs and the long-term strategy, and focused on making visibility improvements on the days with the most anthropogenic visibility impairment, as opposed to the days with the most visibility impairment overall. 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.

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 to date. EPA also recognizes that analyses regarding reasonable progress are state-specific and that, based on states' and sources' individual circumstances, what constitutes reasonable reductions in visibility impairing pollutants will vary from state-to-state. While there exist many opportunities for states to leverage both ongoing and upcoming emission reductions under other CAA programs, EPA 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 (PSD) programs, as further emission reductions may be necessary to adequately protect visibility in Class I areas throughout the country.[12]

[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 start point for the URP analysis is 2004 and the endpoint was calculated based on the amount of visibility improvement that was anticipated to result from implementation of existing CAA programs over the period from the mid-1990s to approximately 2005. Assuming this rate of progress would continue into the future, 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).

[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.

[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/sites/default/files/2021-03/documents/tracking.pdf* 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).

[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

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 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) is the Midwest RPO, and includes the states of Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. LADCO's work 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 corridor of the United States. The Federal partner members of LADCO are 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 analysis [14] 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 must then develop a long-term strategy that includes the enforceable emission limitations, compliance schedules, and other measures that are necessary to make reasonable progress in such areas. A reasonable progress determination is based on applying the four factors in CAA section 169A(g)(1) to sources of visibility-impairing pollutants that the state has selected to assess for controls for the second implementation period. Additionally, as further explained below, the RHR at 40 CFR 51.3108(f)(2)(iv) separately provides five ''additional factors'' [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 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

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.

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

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

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, where appropriate, using 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 section apply only to states having Class I areas within their borders; the required calculations must be made for each such Class I area. EPA's 2018 Visibility Tracking Guidance [16] 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 dv, 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).

Section 51.308(f)(2)(i) provides the requirements for the four-factor

[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% 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.

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 SO_2 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 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 metrics, trajectory analyses, residence time analyses, and/or photochemical modeling, must also be appropriately documented, as required by 40 CFR 51.308(f)(2)(iii).

Once a state has selected the set of sources, the next step is to determine the emissions reduction measures for those sources that are necessary to make reasonable progress for the second implementation period.[21] This is accomplished by considering the four factors: ''the costs of compliance, the time necessary for compliance, and the energy and 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 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

[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).

[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 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.

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 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 remedying existing and preventing future visibility impairment.

The four statutory factors (and potentially visibility) are used to determine what emission reduction measures for selected sources must be included in a state's long-term strategy for making reasonable progress. Additionally, the RHR at 40 CFR 51.308(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; (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

[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.

[24] States may choose to, but are not required to, include measures in their long-term strategies beyond just the emission reduction measures that are necessary for reasonable progress. *See* 2021 Clarifications Memo at 16. For example, states with smoke management programs may choose to submit their smoke management plans to EPA for inclusion in their SIPs but are not required to do so. *See, e.g.,* 82 FR 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).

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

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

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 implementation 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. 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

RPGs ''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. RPGs 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 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

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

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

40 CFR 51.308(f)(6) requires states to have certain strategies and elements in place for assessing and reporting on visibility. Individual requirements under this section apply either to states with Class I areas within their borders, states with no Class I areas but that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area, or both. 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 percent most anthropogenically impaired and 20 percent clearest sets of days every year at each Class I area and tracks visibility impairment over time.

All states' SIPs must provide for procedures by which monitoring data and other information are used to determine the contribution of emissions from within the state to regional haze visibility impairment in affected Class I areas. 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 (AERR) in 40 CFR part 51, subpart A satisfies the requirement to provide for an emissions inventory for the most recent year for which data are available. To satisfy the requirement to provide estimates of future projected emissions, a state may explain in its SIP how projected emissions were developed for use in establishing RPGs for its own and nearby Class I areas.[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 reasonably attributable visibility impairment, the state must include in its SIP revision for the second implementation period an appropriate strategy for evaluating such impairment.

[28] *See* ''Step 8: Additional requirements for regional haze SIPs'' in 2019 Guidance at 55.

[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.

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 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 Wisconsin's Regional Haze Submission for the Second Implementation Period

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

Wisconsin submitted its regional haze SIP for the first implementation period for 2009 through 2018 to EPA on January 18, 2012. EPA approved Wisconsin's first implementation period regional haze SIP submission on August 7, 2012 (77 FR 46952, August 7, 2012). EPA's approval included, but was not limited to, the portions of the plan that address the reasonable progress requirements, Wisconsin's implementation of BART on eligible sources, and adoption of limitations as necessary to implement a long-term strategy for reducing visibility impairment. The requirements for regional haze SIPs for the first implementation period are contained in 40 CFR 51.308(d) and (e). See 40 CFR 51.308(b). WDNR met the requirements of 40 CFR 51.308(g) by submitting its five-year progress report for the first implementation period on March 17, 2017. EPA approved this progress report as a revision to the Wisconsin SIP on June 15, 2018 (83 FR 27910, June 15, 2018).

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

In accordance with CAA sections 169A and the RHR at 40 CFR 51.308(f), on July 30, 2021, WDNR submitted a revision to the Wisconsin SIP to address its regional haze obligations for the second implementation period, which runs through 2028. Wisconsin provided a public comment period on the regional haze SIP for the second implementation period from April 29 through June 2, 2021. Wisconsin received and responded to public comments and included the comments and responses to those comments in appendix 8 of its submission. Subsequently, Wisconsin provided additional information regarding the likely permanent cessation of coal-fired cyclone Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill.

The following sections describe Wisconsin's SIP submission, including Wisconsin's assessment of progress made since the first implementation period in reducing emissions of visibility impairing pollutants, and the visibility improvement progress at nearby Class I areas. Also described is the additional information which Wisconsin provided on November 10, 2023, and January 3, 2024, regarding the newly planned retirement of two sources evaluated under the four-factor analysis and the current retirement plan for a third source. The following section also contains EPA's evaluation of Wisconsin's submission against the requirements of the CAA and the 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 51.308(f)(2), which requires each state's plan to include a long-term strategy that addresses regional haze in such Class I areas.

Wisconsin has no Class I areas within its borders that are among the 156 mandatory Class I Federal areas where EPA deemed visibility to be an important value.[31] *See* 40 CFR part 81, subpart D. Thus, WDNR only considered out-of-state mandatory Class I areas covered under the RHR.

Wisconsin is a member of LADCO and participated in LADCO's regional approach for developing a strategy for making reasonable progress towards national visibility in the northern Midwest Class I areas. WDNR reviewed technical analyses conducted by LADCO to determine which Class I areas outside the state are affected by Wisconsin emission sources. For the second regional haze implementation period, to determine LADCO member state contributions to impaired visibility in all Class I areas, LADCO used the Comprehensive Air quality Model with extensions Particulate Matter Source Apportionment tool (PSAT). LADCO tagged states and regions as well as individual point sources and inventory source groups to apportion emissions to states and regions. LADCO assessed

[31] Rainbow Lake Wilderness Area is a mandatory Class I Federal area located in Wisconsin but has not been identified by the Secretary of the Interior in consultation with other FLMs as an area where visibility is an important value. 44 FR 69122, November 30, 1979. Therefore, Rainbow Lake Wilderness Area is not among the list of areas to which the requirements of the visibility protection program apply in 40 CFR part 81, subpart D.

relative visibility impacts in 2028 by projecting representative emissions inventories and known emission controls from 2016.[32] For modeling purposes, 2016 was chosen as the base year. A group of RPOs, states, and EPA established 2016 as the base year for a national air quality modeling platform for future ozone, $PM_{2.5}$ and regional haze SIP development because of fairly typical ozone conditions and wildfire conditions.[33] LADCO relied upon EPA's inventory estimates from the 2016 modeling platform for most emission sectors. For Electric Generating Units (EGUs), LADCO used forecasts from the Eastern Regional Technical Advisory Committee (ERTAC) based on continuous emissions monitoring data from 2016 instead of the Integrated Planning Model used in EPA's 2016 modeling platform. LADCO also incorporated state-reported changes to EGUs received through September 2020 to estimate 2028 EGU emissions, which was considered by LADCO to be the best available information on EGU forecasts for the Midwest and Eastern U.S. available at the time.

Wisconsin identified affected Class I areas where progress toward natural visibility conditions may be impacted by emissions from sources in Wisconsin. Wisconsin used LADCO's modeled emissions projections for 2028 as a framework to assess the potential for future growth in visibility-impairing emissions. Like the metrics used in the first implementation period, WDNR retained the 2 percent light extinction threshold for determining Wisconsin's contribution to visibility at Class I areas for the second regional haze implementation period. LADCO's modeling results showed that a 2 percent light extinction threshold applied to all six LADCO states as well as seven other states would account for 92 percent or more of the total light extinction at the Class I areas located in the LADCO states on the most impaired days. Using a 2 percent total light extinction threshold, WDNR determined that Wisconsin emissions continue to impact visibility impairment at Isle Royale National Park (Isle Royale) and Seney Wilderness Area (Seney) in Michigan and Boundary Waters Canoe Wilderness Area (Boundary Waters) in Minnesota. Although Wisconsin's contribution to total light extinction at Voyageurs National Park (Voyageurs) in Minnesota is 1 percent based on LADCO's 2016-based PSAT projections for 2028, Wisconsin included Voyageurs because it met the 2 percent threshold during the first regional haze implementation period. These four Class I areas in Michigan and Minnesota are collectively referred to as the ''LADCO Class I Areas.'' During the first implementation period, LADCO estimated Wisconsin's average annual impact on visibility in the LADCO Class I Areas ranged from 6 to 16 percent, whereas LADCO's 2028 projections forecast a reduction in Wisconsin's average annual impact on visibility of 1 to 6.2 percent for the second implementation period.

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. Section 51.308(f)(1) 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).

Wisconsin has no mandatory Federal Class I areas identified in 40 CFR part 81, subpart D, located within the state to which the requirements of the visibility protection program apply. Therefore, 40 CFR 51.308(f)(1) and its requirements do not apply.

E. Long-Term Strategy for Regional Haze

Each state having a Class I area within its borders or emissions that may affect visibility in a Class I area must develop a long-term strategy for making reasonable progress towards the national visibility goal. CAA 169A(b)(2)(B). As explained in the Background section of this preamble, 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).

1. Selection of Sources for Analysis

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.

This section summarizes how Wisconsin's SIP submission addresses the requirements of 40 CFR 51.308(f)(2)(i) of the RHR. Specifically, it describes the criteria WDNR used to determine the selection of sources or groups of sources it evaluated for an analysis of potential emission control measures.

WDNR considered NO_X, SO_2, $PM_{2.5}$, and NH_3 in selecting sources to determine possible additional control measures during the second

[32] *See* appendix 2 of WDNR's SIP submittal. Details of the analysis and source-apportioned visibility contributions at Class I areas within the LADCO region for regional haze second implementation period are documented in LADCO's modeling technical support document (TSD), dated June 17, 2021.

[33] *See* ''Base Year Selection Workgroup Final Report,'' April 5, 2017.

implementation period. To assist states with their source selection, using the 2016 base year emissions, LADCO generated source lists based on total process-level emissions (Q) divided by distance (d) to the nearest Class I area, where Q/d is used as a quantitative metric of visibility impact. Total emissions of Q refer to the sum of NO_X, SO_2, $PM_{2.5}$, and NH_3. The National Emissions Inventory (NEI) Collaborative 2016 alpha inventory was selected by participants in the LADCO Regional Haze Technical Workgroup for the Q/d analysis in 2018 as the best available inventory at that time. LADCO identified unit level sources above Q/d thresholds of 1, 4, and 10, providing key information the states could use to select potential sources to be subject to the four-factor analysis. For details on the data and methods used in the Q/d analysis, see section 5 of LADCO's Technical Support Document ''Modeling and Analysis for Demonstrating Reasonable Progress for the Regional Haze Rule 2018—2028 Planning Period,'' contained in appendix 2 of Wisconsin's SIP submission.

WDNR used the Q/d information developed by LADCO to select emission units with a Q/d threshold greater than a value of 10 for a four-factor analysis. WDNR set the Q/d threshold of 10 to capture the significant point source emissions in Wisconsin for analysis. WDNR identified units with a Q/d threshold greater than a value of 10 at three facilities: Alliant Energy—Edgewater Generating Station; Ahlstrom-Munksjö NA Specialty Solutions, LLC—Kaukauna Kraft Pulp and Paper Mill (Ahlstrom-Munksjö Kaukauna Mill); and the Ahlstrom-Munksjö NA Specialty Solutions, LLC—Rhinelander Paper Mill (Ahlstrom-Munksjö—Rhinelander Mill). The emission units selected at each facility meeting WDNR's threshold for four-factor analysis are described below. Consistent with the first regional haze implementation period, WDNR focused on NO_X and SO_2 emissions in considering potential additional control measures at these facilities since they lead to the formation of the particulate species of nitrate and sulfate that currently contribute more to visibility impairment in the LADCO Class I Areas than $PM_{2.5}$, NH_3, and VOC as demonstrated by the analysis in LADCO's Technical Support Document of the IMPROVE monitoring data. As shown in Tables 6, 12 and A2–2 of its submittal, WDNR's selected sources represent more than 38 percent of the total SO_2 emissions and 13 percent of the total NOx emissions for Wisconsin point sources with a Q/d greater than 1 based on 2016 emissions, with the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills representing 23 percent and 6 percent of the SO_2 emissions, respectively, and 1 percent of the NOx emissions each.

Alliant Energy—Edgewater

Alliant Energy is a coal-fired electric generating facility located in Sheboygan, Wisconsin. WDNR selected coal-fired Boilers B24 and B25 for the control analysis. Boiler B25 has a nameplate capacity of 380 MW. Boiler B24 was retired in 2018.

Ahlstrom-Munksjö—Kaukauna Mill

The Ahlstrom-Munksjö—Kaukauna Mill is a kraft pulp and paper mill located in Kaukauna, Wisconsin that manufactures unbleached pulp. For the control analysis, WDNR selected single cyclone steam Boiler B09, which has a fuel capacity of 192 million British Thermal Units per hour (MMBtu/hr), and twin cyclone Boiler B11, which has a fuel capacity of 379 MMBtu/hr. Boilers B09 and B11 operate in tandem and share a common stack S09. Boilers B11 and B09 are used to produce steam for the mill production process and electricity generation, and both are capable of combusting multiple fuels that include bituminous coal, pet coke, natural gas, #6 fuel oil, paper broke, or tire derived fuel.

Ahlstrom-Munksjö—Rhinelander Mill

The Ahlstrom-Munksjö—Rhinelander Mill is a paper mill located in Rhinelander, Wisconsin producing a variety of specialty papers including greaseproof, label backing, and wet strength papers. For the control analysis, WDNR selected coal-fired cyclone Boiler B26 which has a fuel capacity of 300 MMBtu/hr. Boiler B26 is used to produce steam for the manufacturing operations.

Other Sources

During the FLM consultation period, the USFS and NPS encouraged WDNR to lower the Q/d source selection threshold to 4 on a facility-wide basis, thereby identifying the following additional facilities for further analysis: WE Energies—Oak Creek Power Plant, Wisconsin Public Service Corporation—Weston Power Plant, Wisconsin Rapids Paper Mill, Catalyst Paper—Biron Mill, Graymont Superior, Ahlstrom-Munksjö—Mosinee Mill, and Calumet Superior Refinery.[34]

The USFS and NPS recognized that the Wisconsin Rapids Paper Mill has been idled and that the Wisconsin Public Service Corporation—Weston Power Plant and the WE Energies—Oak Creek Power Plant are effectively controlled. However, USFS and NPS recommended that WDNR perform a four-factor analysis for Catalyst Paper—Biron Mill, Graymont Superior, Ahlstrom-Munksjö—Mosinee Mill, and Calumet Superior Refinery.[35]

WDNR provided information in appendices 2 and 3 demonstrating that while the additional sources identified by the FLMs exhibited Q/d values greater than 4 on a facility-wide basis, none of the Q/d values on a unit basis were greater than 4.3 for the EGUs or 4 for the non-EGUs except Catalyst Paper—Biron Mill Boiler B23 with a Q/d of 7. Although WDNR's source selection threshold based on unit Q/d greater than 10 did not identify these sources for further analysis, WDNR provided information in appendix 3 as summarized below, describing that these sources flagged by the FLMs are already well-controlled and have federally enforceable limits in title V operating permits.

The Wisconsin Public Service Corporation—Weston Power Plant is subject to limits of 0.10 pounds per million British thermal units (lbs/MMBtu) NO_X and 0.08 lbs/MMBtu SO_2. The WE Energies—Oak Creek Power Plant utilizes selective catalytic reduction (SCR) and wet flue gas desulfurization (FGD), is subject to limits of 0.07 lbs/MMBtu NO_X and 0.03 lbs/MMBtu SO_2 and will retire four of its six boilers in 2025. The Wisconsin Rapids Paper Mill has been idled since 2020, but in the event the facility resumes operation, the units are subject to permit limits of 1.2 lbs/MMBtu SO_2 and 0.80 lbs/MMBtu NO_X, low sulfur coal requirements, and SO_2 modeling to demonstrate compliance with the 2010 1-hour SO_2 NAAQS. For Catalyst Paper—Biron Mill, Boiler B23 switched to natural gas in 2017. For Graymont Superior, units are subject to Best Available Control Technology (BACT) for NO_X as well as permit requirements based on SO_2 modeling to demonstrate compliance with the 2010 1-hour SO_2 NAAQS. For the Ahlstrom-Munksjö—Mosinee Mill, Boiler B20 is subject to a permit limit of 3.2 lbs-SO_2/MMBtu as well as permit requirements based on SO_2 modeling to demonstrate compliance with the 2010 1-hour SO_2 NAAQS. Calumet Superior Refinery is

[34] Comments from USFS and NPS referenced by WDNR with a provided link in the Regional Haze SIP submittal are provided in the docket.

[35] Wisconsin provided a link to WDNR's website with comments from USFS and NPS, which are included in the docket.

subject to a Federal consent decree with limits that were incorporated into its title I construction permit 11–DCF–138 and title V operating permit to achieve NO_X and SO_2 reductions from boilers, fluid catalytic cracking units, and heaters.

Additionally, Wisconsin noted that the Alliant Energy—Columbia Power Plant has two units, B21 and B22, each with a Q/d of 6, that are also well-controlled and scheduled to shut down in 2025. Although not selected for further analysis, Wisconsin indicated that for NO_X, B21 has low NO_X burners (LNB) and over-fire air (OFA) with a 0.15 lbs/MMBtu limit, and B22 has SCR/LNB/OFA with a 0.07 lbs/MMBtu limit. For SO_2, both B21 and B22 have dry FGD with a 0.075 lbs/MMBtu limit, well below the SO_2 limit of 0.2 lbs/MMBtu in the Mercury and Air Toxics Standards (MATS) rule for coal-fired EGUs. Wisconsin also pointed out that the planned shutdown of Alliant Energy—Columbia was not relied upon in assessing visibility impacts in the LADCO modeling.

2. Emission Measures Necessary To Make Reasonable Progress

Section 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).

Wisconsin's plan initially relied on four-factor analyses compiled by LADCO in 2015 for the second implementation period, which evaluated potential control scenarios for various types of coal-fired industrial boilers at pulp and paper mills that could be implemented by LADCO states to reduce emissions from large sources of NO_X and SO_2 to make reasonable progress toward visibility goals. LADCO evaluated control options for NO_X that included combustion modifications consisting of boiler tuning, LNB, ultra-low NO_X burners (ULNB), LNB and flue gas recirculation, and LNB and OFA, as well as post-combustion controls consisting of SCR, selective noncatalytic reduction, and regenerative selective catalytic reduction (RSCR). For SO_2, LADCO evaluated control options for conventional dry FGD and dry sorbent injection (DSI), conventional dry FGD and spray dryer, advanced FGD, and wet FGD. LADCO's four-factor analyses included ranges in values for removal efficiencies and cost effectiveness based on retrofitting controls on boilers from various sources, noting that the actual costs depend on utilization and size of the boiler as well as capital costs. LADCO also provided analyses for the other statutory factors: time necessary for compliance, energy and non-air impacts, and remaining useful life.

To build upon the 2015 LADCO four-factor analyses with site specific data, WDNR conducted four-factor analyses specifically for the sources selected during the second implementation period: the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills.[36] The four-factor analyses examined control options and costs for SO_2 and NO_X by drawing on a BART analysis that WDNR performed during the first implementation period for the Georgia Pacific—Broadway Mill in Green Bay, another Wisconsin paper mill with a boiler of similar design and configuration to those at the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills. WDNR examined control options for SO_2 that included DSI, dry FGD, and wet FGD as well as options for NO_X that included OFA, RSCR, and OFA/RSCR. WDNR scaled the boiler size and associated costs from the Georgia Pacific—Broadway Mill to fit the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills. WDNR also adjusted the cost figures from 2007 to 2019 using the 2020 Chemical Engineering Plant Cost Index as recommended by EPA's Control Cost Manual.[37]

After submitting its plan on July 30, 2021, WDNR indicated on November 10, 2023, and January 3, 2024, updates on the delayed retirement of a boiler at Alliant Energy—Edgewater and the newly planned retirements of boilers at the Ahlstrom-Munksjö—Rhinelander and Kaukauna Mills. As described below, WDNR's additional information documented existing effective measures for Alliant Energy—Edgewater and the enforceable retirement of Boiler B11 at the Ahlstrom-Munksjö—Kaukauna Mill, and described WDNR's plans to issue a title V permit with the enforceable retirement of Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill in 2024.

Alliant Energy—Edgewater

Of the two coal-fired boilers selected for further analysis by WDNR at Alliant Energy—Edgewater, Boiler B24 was retired in 2018. Then WDNR noted that in 2020, Alliant Energy publicly announced plans to close the Edgewater electrical generation facility and retire the remaining coal-fired boiler, Boiler B25, by the end of 2022. Since Boiler B25 was expected to retire in 2022, WDNR initially determined no further analysis of additional or new emission control measures was necessary. However, in June 2022, Alliant Energy announced the retirement of Boiler B25 would be delayed until June 2025. Therefore, on November 10, 2023, WDNR updated EPA with additional information, described below, explaining its decision to forgo a full four-factor analysis on the basis that the existing controls for Boiler B25 are effective and not necessary for reasonable progress.

The coal-fired Boiler B25 has operated a dry flue gas desulfurization scrubber for SO_2 control since 2016 and an SCR system for NO_X control since 2014. Based on Clean Air Markets Program Data for Boiler B25 in 2022, SO_2 control performance of 0.0515 lbs/MMBtu is among the top 20 percent nationally, and NO_X control performance of 0.0499 lbs/MMBtu is among the top 10 percent nationally for dry bottom wall-fired boilers with FGDs and SCRs. In addition, as part of a Federal consent decree, the SO_2 and NO_X emissions for Boiler B25 are both subject to permanent and enforceable plant-wide tonnage limitations as well as a 30-day rolling average limit of 0.075 lbs/MMBtu of SO_2 and 0.080 lbs/MMBtu of NO_X and a 12-month rolling average limit of 0.070 lbs/MMBtu of SO_2 and 0.070 lbs/MMBtu of NO_X. *See* 85 FR 28550 (May 13, 2020). The conditions of this consent decree were made permanent by inclusion in the title I construction permit No. 13–POY–154–R1 and are also contained in the facility's current title V Federal operating permit No. 460033090–P31. With SO_2 limits below those in the 2012 MATS rule for power plants, and controls that were recently installed, including an FGD for SO_2 control that has been operating since 2016 and an SCR for NO_X control that has been operating since 2014, an analysis of control measures would be unlikely to conclude that more stringent controls are necessary for reasonable progress. As such, even with the delay in retirement, WDNR determined that no further analysis of additional or new emission control measures was necessary and reiterated in the additional information that WDNR considers Boiler B25 effectively controlled.

[36] Details derived from the 2015 LADCO four-factor analysis and BART analysis can be found in appendices 2 and 4 of Wisconsin's plan.

[37] See ''EPA Air Pollution Control Cost Manual, section 1, Chapter 2, Cost Estimation: Concepts and Methodology,'' November 2017, available at: *https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution.*

As explained in EPA's July 8, 2021, Clarifications Memo (section 4.1), a source's existing measures are generally needed to prevent future visibility impairment (*i.e.,* to prevent future emission increases) and are thus necessary to make reasonable progress. Measures that are necessary to make reasonable progress must be included in the SIP. However, if a state can demonstrate that a source will continue to implement its existing measures and will not increase its emission rate, it may not be necessary to require those measures under the regional haze program in its long-term strategy or SIP in order to prevent future emission increases.

WDNR provided a weight-of-evidence demonstration as described in the 2021 Clarifications Memo to demonstrate that the source has consistently implemented its existing measures and has achieved, using those measures, a reasonably consistent emission rate. This demonstration included heat input and emission rates for Boiler B25 from 2017 through 2022, ranging from 0.0435 to 0.0557 lbs/MMBtu for SO_2 and from 0.0336 to 0.0499 lbs/MMBtu for NO_X, while remaining below the limits in the Federal consent decree across a range of heat inputs from 12,373,316 to 25,629,492 MMBtu. With historical data from 2016 through 2022 showing reasonably consistent emission rates, WDNR demonstrated that NO_X and SO_2 emission rates for Boiler B25 are not expected to increase in the future since consent decree emission limits and associated control technologies will remain in place and compliance with the emission rate limits have already been demonstrated under a wide range of heat input conditions.[38] With the combination of recently installed SO_2 and NO_X controls along with limits in the Federal consent decree that ensure emission rates will not increase, including an SO_2 limit well below the SO_2 limit of 0.2 lbs/MMBtu in the MATS rule for coal-fired EGUs, WDNR determined the existing measures are not necessary to make reasonable progress or prevent future emission increases and, thus, do not need to be included in the regulatory portion of the SIP.

Ahlstrom-Munksjö—Rhinelander Mill

At the Ahlstrom-Munksjö—Rhinelander Mill, coal-fired Boiler B26 is equipped with an electrostatic precipitator (ESP) for control of particulate matter and a DSI system for hydrochloric acid control to achieve Boiler Maximum Achievable Control Technology (MACT) limits and some SO_2 control as a co-benefit. The SO_2 emissions from Boiler B26 were previously limited during the first implementation period to 3.50 lbs/MMBtu under a consent order issued by WDNR and then later to 3.00 lbs/MMBtu, averaged over 24 hours, included in title V Federal operating permit No. 744008100–P21, which became effective in 2017.

In December 2020, the Ahlstrom-Munksjö—Rhinelander Mill was identified as a primary source of SO_2 emissions in the Rhinelander area, and EPA designated a portion of Oneida County as nonattainment for the 2010 1-hour SO_2 NAAQS. The Ahlstrom-Munksjö—Rhinelander Mill was subject to SO_2 modeling requirements to demonstrate compliance with the SO_2 NAAQS in the Rhinelander area pursuant to Wisconsin's air pollution control rule Chapter NR 404 of the Wisconsin Administrative Code. On March 29, 2021, Wisconsin submitted a SIP and an attainment plan for the 2010 SO_2 NAAQS. On July 28, 2021, WDNR submitted a request for EPA to redesignate the Rhinelander nonattainment area to attainment of the 2010 SO_2 NAAQS. On October 22, 2021, EPA approved Wisconsin's attainment plan for the Rhinelander area, which relied on federally enforceable and permanent emissions limits specified in title I Air Pollution Control Construction Permit Revision 15–DMM–128–R1 [39] with a more stringent SO_2 limit (2.38 lbs/MMBtu on a 24-hour average basis) than the previously permitted limit (3.00 lbs/MMBtu on a 24-hour average basis) as well as a heat input limit of 260 MMBtu/hr. WDNR's Preliminary Determination for permit 15–DMM–128–R1 demonstrated that the new limits for SO_2 and heat input reduce the potential to emit NO_X by 13 percent and SO_2 by 31 percent. These limits were incorporated into Wisconsin's SIP at 40 CFR 52.2570(144)(i). 86 FR 58577 (October 22, 2021). Effective January 12, 2022, EPA redesignated the Rhinelander area to attainment. 87 FR 1685 (January 12, 2022).

For Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill, WDNR's four-factor analysis compiled information from the 2015 LADCO four-factor analysis and previous BART analysis on boilers with similar design and configuration that assessed cost-effectiveness of retrofitting controls onto industrial coal boilers at paper mills. For SO_2, WDNR found the analysis indicated that operating existing DSI equipment at full capacity or installing wet or dry flue gas desulfurization (FGD) could be cost-effective for addressing visibility impairment. For NO_X, WDNR found that use of OFA, RSCR, or OFA/RSCR could also be cost-effective for addressing visibility impairment. During Wisconsin's public review period of its regional haze SIP for the second implementation period, however, members of the public commented that many of the NO_X and SO_2 control technologies, the least expensive of which was estimated at $8,696,521 in capital costs and $2,952,350 in annual operating costs for SO_2 controls, may not be affordable to facilities and could force facility closure.

While WDNR found that additional SO_2 and NO_X controls for the Ahlstrom-Munksjö—Rhinelander Mill could be cost effective, WDNR did not find it necessary to determine a cost-effectiveness threshold for point sources during the second implementation period. In considering the potential costs, WDNR evaluated potential reductions from the additional controls alongside those resulting from the new limits on SO_2 emissions and heat input as well as trends in actual emissions.

For SO_2, DSI would provide a maximum reduction of 40 percent at a cost effectiveness of $3,854/ton, while wet FGD and dry FGD would provide a maximum reduction of 95 percent and 93 percent at $5,463/ton and $3,804/ton, respectively. For NO_X, OFA would offer 50 percent control efficiency at a cost effectiveness of $225/ton, RSCR would provide 70 percent control efficiency at $2,389/ton, and OFA/RSCR would provide a control efficiency of 85 percent at $1,678/ton. Comparing actual emissions from 2016 to 2019 during the first implementation period when the SO_2 limits changed from 3.5 to 3.0 lbs/MMBtu with an allowable heat input of 300 MMBtu, WDNR documented a decrease in SO_2 of 33 percent from 1,596 to 1,067 tons/year with a corresponding decrease in NO_X from 1,145 to 811 tons/year. With the new lower limits for SO_2 of 2.38 lbs/MMBtu and heat input of 260 MMBtu that were incorporated into the SIP in 2021, WDNR expected 2028 emissions would be at or below the 2019 actual emissions. After weighing the results of the four-factor analysis against the 2028 projected emissions with the new 2021 limits along with the five additional factors discussed below, WDNR concluded that the new 2021 limits provide reductions beyond those

[38] See November 10, 2023, supplemental information.

[39] Documents referenced by WDNR for the title I Construction Permit 15–DMM–128–R1 are provided in the docket.

included in the first implementation period and that requiring additional controls would be unnecessary to demonstrate reasonable progress in the second implementation period. Subsequently, on November 10, 2023, WDNR provided additional information on recent significant operational changes that occurred at the Ahlstrom-Munksjö—Rhinelander Mill. Specifically, the Ahlstrom-Munksjö—Rhinelander Mill stopped operating its coal-fired cyclone Boiler B26 in 2022 and decided to retire it. In its place, the facility intends to install a new natural gas fired Boiler B40 under title I construction permit 22–MMC–035 that WDNR issued in May 2022.[40] The facility's applications for the construction permit indicate that Boiler B26 will be retired, and WDNR stated that the shutdown of Boiler B26 will be reflected under the list of emissions units that have ceased operation in the title V operating permit renewal 74400810A–P30. WNDR indicated the title V operating permit renewal is scheduled to be issued in 2024. WDNR explained that when finalized, the retirement of Boiler B26 will be reflected in the permitting action and would serve to reduce emissions of NO_X and SO_2 from the Ahlstrom-Munksjö—Rhinelander Mill impacted Class I areas.

Furthermore, WDNR explained that if the Ahlstrom-Munksjö—Rhinelander Mill were to resume the operation of Boiler B26 or replace it with a comparable coal-fired boiler after the title V operation permit 74400810A–P30 is renewed, either boiler would be considered a new source and the emissions would be limited by WDNR's construction permitting process requiring a PSD review and BACT.

Ahlstrom-Munksjö—Kaukauna Mill

At the Ahlstrom-Munksjö—Kaukauna Mill, Boilers B09 and B11 are equipped with a multi-cyclone and an ESP in series for control of particulate matter, and a DSI system for control of SO_2. Boiler B11 shares the ESP and exhaust stack with Boiler B09, which was below WDNR's source selection threshold with a Q/d of 4. The combined SO_2 emissions from each of the Boilers B09 and B11 were limited to 5.5 lbs/MMBtu, averaged over 30 days, in title V permit 445031180–P22. Beginning in April of 2019, the mill has fired only natural gas in Boiler B09, which lowered the unit's Q/d below the FLM's threshold of 4 for further consideration.

For Boiler B11 at the Ahlstrom-Munksjö—Kaukauna Mill, WDNR's four-factor analysis compiled information from the 2015 LADCO four-factor analysis and applied site-specific information to the previous BART analysis from the Georgia Pacific—Broadway Mill. WDNR's analysis found that installing new controls could be cost-effective for addressing visibility impairment. For SO_2, DSI would provide a maximum reduction of 40 percent at a cost effectiveness of $2,466/ton, while wet FGD and dry FGD would provide a maximum reduction of 95 percent and 93 percent at $3,807 and $1,968/ton, respectively. For NO_X, OFA would offer 50 percent control efficiency at a cost effectiveness of $316/ton, RSCR would provide 70 percent control efficiency at $2,770/ton, and OFA/RSCR would provide a control efficiency of 85 percent at $2,130/ton. While WDNR found that additional SO_2 and NO_X controls for the Ahlstrom-Munksjö—Kaukauna Mill could be cost effective, WDNR did not find it necessary to determine a cost-effectiveness threshold, similar to its decision for the Ahlstrom-Munksjö—Rhinelander Mill. In considering the potential costs, WDNR evaluated potential reductions from the additional controls alongside those resulting from anticipated new limits on SO_2 emissions, which WDNR expected would require a commitment to lower SO_2 emissions below 2016 base year levels. After weighing the results of the four-factor analysis against the potential for new lower limits for SO_2, WDNR concluded that the anticipated SO_2 limits would provide reductions beyond those included in the first implementation period and that requiring additional controls would be unnecessary to demonstrate reasonable progress in the second implementation period.

In its initial SIP submission, WDNR planned to address a lower SO_2 permit limit for Boiler B11 when EPA designated portions of Outagamie County, Wisconsin as a nonattainment area for the 2010 1-hour SO_2 NAAQS on December 21, 2020, but EPA withdrew the nonattainment designation when Wisconsin provided data showing attainment before the effective date of the designation. *See* 86 FR 16055 (March 26, 2021), 86 FR 19576 (April 14, 2021).

On November 10, 2023, and January 3, 2024, WDNR provided information on operational changes at Boiler B11. Specifically, Boiler B11 experienced a boiler tube failure that caused an explosion in August 2022, and is no longer in operation. The Ahlstrom-Munksjö—Kaukauna Mill made the decision not to bring Boiler B11 back into operation and to retire the unit due to the damage.

The Ahlstrom-Munksjö—Kaukauna Mill is replacing coal-fired Boiler B11 with a natural gas-fired package boiler. A title I construction permit 23–JAM–079[41] was issued on October 4, 2023, to construct a new natural gas-fired package boiler (Unit B84) with rated heat input capacity of 286 MMBtu/hour. Boiler B84 will be equipped with LNB and FGR to minimize NO_X emissions. In addition to the installation of Boiler B84, WDNR issued a title I construction permit 23–JAM–017 in 2022 to the Ahlstrom-Munksjö—Kaukauna Mill to replace a portion of the steam previously supplied by Boiler B11 by increasing the usage of two smaller natural gas-fired package boilers (B82 and B83).

WDNR's Analysis for Preliminary Determination for the Boiler B84 construction permit 23–JAM–079, which was noticed for public comment on September 2, 2023, determined that the combined potential emissions from Boilers B82, B83, and B84 minus the emissions from Boiler B11 results in a decrease of contaminants regulated under New Source Review (NSR). This determination was based on potential emissions from new Boiler B84 (0.74 tons per year (tpy) SO_2, 45.1 tpy NO_X) along with the increased use of B82 (0.257 tpy SO_2 and 15.7 tpy NO_X) and B83 (0.257 SO_2 and 15.7 NO_X) minus the emissions from retired Boiler B11 based on 2018–2019 actual emissions (3,968 tpy SO_2 and 965 tpy NO_X).

On January 2, 2024, WDNR issued the title V operation permit renewal 44503118A–P30 for the Ahlstrom-Munksjö—Kaukauna Mill, which lists coal-fired cyclone Boiler B11 under ''Emissions units that have ceased operation.''[42] The title I Construction Permit 23–JAM–079 for the new natural gas-fired Boiler B84 sets forth the Ahlstrom-Munksjö—Kaukauna Mill's reasons and intent to retire Boiler B11. Under Wisconsin Administrative Code NR 407.09(2)(d), operation permits must contain provisions consistent with any condition in a previously issued permit if the provisions are still applicable to the source. As such, when conditions in a previously issued construction permit

[40] The title I construction permit 22–MMC–035 documents WDNR referenced are included in the docket.

[41] The title I Construction Permit 23–JAM–079 for the new natural gas-fired Boiler B84 at the Ahlstrom-Munksjö—Kaukauna Mill and the Preliminary Determination referenced by WDNR are included in the docket for this rulemaking.

[42] The title V Operation Permit 44503118A–P30 for the Ahlstrom-Munksjö—Kaukauna Mill referenced by WDNR is included in the docket for this rulemaking.

are not included in the operation permit, those conditions are no longer applicable. WDNR explained that this permitting action is federally enforceable and permanent and if Ahlstrom-Munksjö—Kaukauna Mill seeks to resume operation of Boiler B11 or replace it with a comparable coal-fired boiler, either would be considered a new source and the emissions would be limited by WDNR's construction permitting process, requiring a PSD review and BACT. WDNR explained that this change reflected in the permitting action serves to reduce emissions of NO_X and SO_2 from the Ahlstrom-Munksjö—Kaukauna Mill impacting Class I Areas.

3. Wisconsin's Long-Term Strategy

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). After considering information regarding existing effective controls, analyses under the four statutory factors in 40 CFR 51.308(f)(2)(i), and the five additional factors in 40 CFR 51.308(f)(2)(iv) in addition to other requirements in 40 CFR 51.308(f)(2)(ii) described below, WDNR determined the state's long-term strategy for the second implementation period is comprised of the following measures. These measures represent reductions beyond those planned in the first implementation period, changes in emissions since the first implementation period, as well as emission reductions due to ongoing air pollution control programs, source retirements, and replacements. All the following measures are either incorporated into the regulatory portion of Wisconsin's SIP at 40 CFR 52.2570(c) or are otherwise federally enforceable and permanent except where noted.

- On-the-books retirements at Wisconsin coal-fired EGUs: These include retirements that go beyond those planned during the first implementation period. The retirements are reflected in revoked title V permits and title V operation permits as emissions units that have ceased operation: WPL—Edgewater Unit B24 (2018), WE Energies—Pleasant Prairie Units B20 and B21 (2018); Dairyland Power Coop Alma Site Units B23 and B24 (2014); Wisconsin Public Service Corp—JP Pulliam Plant Units B26 and B27 (2018); Dairyland Power Coop Genoa Station-Eop Unit B20 (2021); and E J Stoneman Station Units B21 and B22 (2015).
- On-the-books controls affecting Wisconsin mobile sources: These include state and Federal regulations for onroad and nonroad mobile sources, which continue to reduce emissions nationwide as fleets turn over to newer vehicles and engines. For onroad mobile sources, WDNR cited to Federal regulations for passenger vehicles, trucks, motorcycles, compression engines, ignition engines, air toxics, and light duty vehicle corporate average fuel economy (CAFE) standards. Among the controls for onroad mobile sources was the Wisconsin-administered Federal inspection and maintenance (I/M) program, codified at Wisconsin Administrative Code NR 485 and Trans 131, that limits onroad VOC and NO_X emissions for southeastern counties of the state and continues to provide incremental reductions as fleets turn over to new vehicles. For nonroad mobile sources, WDNR cited to Federal regulations limiting NO_X emissions and fuel sulfur content for various aircraft, marine, locomotive, recreational, and hand-held engines that continue to lower emissions as equipment fleets turn over and older, higher-emitting equipment is removed from service.
- Permitted control requirements and shutdowns at non-EGU point sources: For non-EGU point sources below WDNR's Q/d source selection threshold listed in appendix 3 of Wisconsin's plan, permitted control requirements and shutdowns are not intended to be included in the regulatory portion of the SIP. For permitted control requirements, this includes an annual heat input limitation for the Ahlstrom-Munksjö—NA Specialty Solutions LLC—DePere Boilers B23 and B24 (2017) as well as a switch from coal to natural gas for Catalyst Paper—Biron Mill Boiler B23 (2017), Georgia-Pacific Green Bay Boilers B26 and B28 replacements (2019), Green Bay Packaging Inc Mill Division Boiler B26 replacement (2019), and Domtar A W LLC Nekoosa Boilers B20, B21, and B24 (2014). For shutdowns at non-EGU point sources, this includes Georgia-Pacific Green Bay Boilers B27, B29, B26, and B28 (2015, 2018, 2019), Green Bay Packaging Inc. Mill Division Boiler B26 (2019), Procter & Gamble Paper Products Co. B06 (2015), and Packaging Corporation of America—Tomahawk Boilers B24, B27, and B28 (2015). For shutdowns at non-EGU point sources above WDNR's Q/d source selection threshold, this includes the retirement of Boiler B11 at the Ahlstrom-Munksjö—Kaukauna Mill with the issuance of the title V Operation Permit 44503118A–P30 on January 2, 2024. This provision of the long-term strategy would also include the retirement of coal-fired cyclone Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill when WDNR provides sufficient evidence that Boiler B26 has permanently ceased operation.
- SO_2 NAAQS requirements for the Ahlstrom-Munksjö—Kaukauna Mill, Ahlstrom-Munksjö—Rhinelander Mill, and other Wisconsin non-EGU point sources: Although WDNR initially listed the Ahlstrom-Munksjö—Kaukauna Mill Boiler B11 under this provision, the provision above for shutdowns at non-EGU point sources became applicable when it retired. For the Ahlstrom-Munksjö—Rhinelander Mill Boiler B26, this includes limits on heat input of 260 MMBtu/hr and SO_2 of 2.38 lb/MMBtu (24-hour average), which are included in title I Construction Permit 15–DMM–128–R1 and are incorporated into Wisconsin's SIP at 40 CFR 52.2570(144)(i). For other Wisconsin non-EGUs, WNDR's plan at appendix 3 lists those that are subject to required SO_2 modeling in title V permits to demonstrate compliance with the 2010 SO_2 NAAQS pursuant to Wisconsin Administrative Code NR 404. However, they are below WDNR's Q/d source selection threshold and are not intended to be made permanent by incorporation into the regulatory portion of the SIP. These include Wisconsin Rapids Paper Mill, Ahlstrom-Munksjö—Mosinee, Graymont LLC Superior, Domtar A W LLC—Nekoosa, Flambeau River Papers LLC, Appleton Coated LLC, and Ahlstrom-Munksjö NA Specialty Solutions LLC—DePere.

4. EPA's Evaluation of Wisconsin's Compliance With 40 CFR 51.308(f)(2)(i)

EPA is proposing to determine that WDNR's source selection was reasonable and consistent with the requirements of 40 CFR 51.308(f)(2)(i). WDNR's source selection methodology targeted the sources with the highest potential to impair visibility at mandatory Class I areas. WDNR included a thorough description of its source selection methodology. Using a unit Q/d greater than 10, WDNR selected four units for further analysis, including three non-EGUs at the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills and one EGU at WPL—Edgewater. WDNR conducted four-factor analyses on two of the non-EGUs for the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills. The sources WDNR selected for further analysis represented more than 38 percent of the total SO_2 emissions and 13 percent of the total NOx emissions for Wisconsin point sources with a Q/d greater than 1 based on 2016 emissions. Of the sources with facility Q/d greater than 4 and less than 10,

Wisconsin provided adequate justification for its decision not to perform further analysis. For non-EGUs, all but two were below a unit Q/d of 4 based on 2016 emissions, and those two have since instituted enforceable measures for reductions: Catalyst Paper—Biron Boiler B23 switched to natural gas in 2017, and Cardinal FG—Menomonie Boiler P01 installed SCR in 2020. For EGUs, there are three with a unit Q/d between 4 and 10. Two EGUs are scheduled to shut down in 2025, at WPL—Columbia, B21 and B22. The third EGU is located at JP Madgett where B25 has LNB/SCR with a NOx limit of 0.14 lbs/MMBtu and DSI with an SO_2 limit of 0.09 lbs/MMBtu. The SO_2 limit is below the limit of 0.2 lbs/MMBtu specified in the MATS rule for coal-fired EGUs.

Wisconsin's plan shows that the existing measures will achieve SO_2 and NOx emission reductions beyond those included in its first implementation period and LADCO's modeled 2028 projections. WDNR determined than no additional controls would be necessary for reasonable progress based on its source selection process, shutdowns, and consideration of existing effective controls that have achieved a reasonably consistent emission rate and will continue to be implemented.

WDNR identified shutdowns, committed controls, and replacement or fuel switching for coal-fired boilers to natural gas-fired boilers for several units below WDNR's Q/d source selection threshold, including sources flagged by the FLMs, that were not relied upon in assessing visibility impacts included in LADCO's 2028 modeling but will contribute to lower emissions than those projected. In section 3.3.3 of its submittal, WDNR adjusted LADCO's 2028 projections lower for these EGUs and non-EGUs by 7,787 tpy NOx and 5,960 tpy SO_2 by considering reductions at the following sources:

- Alliant Energy—Columbia shutdown of boilers B21 and B22 (2025)
- WE Energies—Oak Creek Power Plant shutdown of Boilers B25, B26, B27, and B28 (2023–2024)
- Georgia-Pacific Green Bay Broadway Mill—retirement of coal Boiler B29 (2018) as well as replacement of coal Boilers B26 and B28 with three natural gas boilers (2019–2020)
- Catalyst Paper—Biron Mill—coal Boiler B23 fuel switch to natural gas (2017)
- Cardinal FG—Menominee—installation of SCR (2020)
- Cardinal FG—Portage—installation of SCR (2019)
- Green Bay Packaging Inc. Mill—replacement of coal-fired Boiler B26 with two natural gas boilers (2019)
- Ahlstrom-Munksjö—De Pere Mill—10 percent annual heat input limitation for coal Boilers B23 and B24 (2017).

The shutdowns, committed controls, replacements of coal-fired boilers with natural gas-fired boilers, and fuel switching from coal to natural gas at other boilers contribute to Wisconsin's emission reductions and the associated visibility improvements at the affected LADCO Class I Areas for the second implementation period. Except for Alliant Energy—Columbia, since these units were below WDNR's Q/d source selection threshold and not selected for a further analysis, WDNR did not rely on the reductions from these sources to make reasonable progress.

The retirement of coal-fired Boiler B11 at the Ahlstrom-Munksjö—Kaukauna Mill serves to minimize emissions from this source moving forward. Coal-fired Boiler B11 is being replaced by natural gas-fired boilers B82, B83, and B84. This replacement results in greater than a 92 percent decrease in NO_X and greater than a 99 percent decrease in SO_2 emissions, surpassing the reductions that would have been achieved with the addition of controls evaluated in the four-factor analysis that WDNR considered potentially cost effective. As a result, the retirement of Boiler B11 constitutes reasonable progress. EPA proposes to find that since B11 experienced a catastrophic failure, is no longer permitted to operate, has been replaced by natural gas units, the retirement is already federally enforceable and permanent, and it does not need to be included in the regulatory portion of the SIP.

The pending retirement of coal-fired Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill will also provide federally enforceable and permanent emission reductions from another one of Wisconsin's largest sources. Ahlstrom-Munksjö—Rhinelander Mill plans to rely on the retirement of coal-fired Boiler B26 and replacement with a lower emitting natural-gas fired Boiler B40, reducing the potential to emit NO_X by 13 percent and SO_2 by 31 percent.

While the Ahlstrom-Munksjö—Rhinelander Mill proceeds with retirement as the actual control measure in lieu of reliance on new limits or new control systems for Boiler B26, EPA finds that Wisconsin must provide sufficient evidence that Boiler B26 has permanently ceased operation and incorporate this measure into the long-term strategy to make reasonable progress. As such, EPA proposes to find that the retirement of Boiler B26 is necessary for reasonable progress and must be included in the SIP or made federally enforceable and permanent elsewhere.

Without evidence that Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operation, EPA proposes to partially approve and partially disapprove the Wisconsin regional haze SIP for the second implementation period. In the event that WDNR does not provide sufficient evidence of the federally enforceable and permanent shutdown of Boiler B26 at the Ahlstrom Munksjo—Rhinelander Mill, EPA proposes to approve the elements of Wisconsin's regional haze SIP related to requirements contained in 40 CFR 51.308(f)(1), (f)(3) through (6), (g)(1) through (5), and (i)(2) through (4), and disapprove the elements of Wisconsin's SIP related to the requirements of 40 CFR 51.308(f)(2) due to insufficient information regarding cessation of operations at Boiler B26. EPA proposes to find that Wisconsin has not satisfied the requirements of 40 CFR 51.308(f)(2) related to evaluating and determining the emission reduction measures that are necessary to make reasonable progress by applying the four statutory factors to sources in a control analysis, because Wisconsin's analysis determined that additional controls would be appropriate at Boiler 26 of the Ahlstrom-Munksjö—Rhinelander Mill if that boiler were to continue operating. At the time of this action, Boiler 26 is still permitted to operate.

In the alternative, if WDNR provides sufficient evidence that the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operation of Boiler B26 before final action of this rulemaking, EPA proposes to find that Wisconsin has satisfied the requirements of 40 CFR 51.308(f)(2)(i) related to evaluating and determining the emission reduction measures that are necessary to make reasonable progress by applying the four statutory factors to sources in a control analysis. EPA proposes to find that Wisconsin's SIP submission, including sufficient evidence that Boiler 26 has ceased operation, indicates that WDNR reasonably applied the Q/d source selection process in relying on the closest Class I areas and the emissions of NO_X, SO_2, $PM_{2.5}$, NH_3 and VOC. EPA proposes to find that WDNR examined a reasonable set of sources, including sources flagged by FLMs. EPA proposes to find that WDNR adequately demonstrated that selecting additional sources below Wisconsin's selected threshold for four-factor analysis as

suggested by FLMs would not have resulted in additional emission reduction measures being determined to be necessary to make reasonable progress for the second implementation period based on information provided by WDNR that the sources are already well-controlled, currently retired, or retiring by 2025.

EPA proposes to find that WDNR adequately explained its decision to focus on the two pollutants, SO_2 and NO_X, that currently drive visibility impairment within the LADCO region. In the event that Wisconsin provides evidence that Boiler 26 at Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operation, EPA proposes to find that WDNR adequately supported its conclusions for its top-impacting sources in determining new controls would not be necessary for reasonable progress. EPA would base this proposed finding on the state's examination of the existing effective controls at its largest operating EGU Alliant Energy—Edgewater, the retirement at its non-EGU source Ahlstrom-Munksjö—Kaukauna Mill, which are both federally enforceable and permanent, as well as the pending retirement at the Rhinelander Mill. EPA proposes to find the state's approach reasonable because it demonstrated that the sources with the greatest modeled impacts on visibility, as well as other sources above Q/d of 4 and below the state's Q/d threshold, either have shut down, reduced their emissions significantly, or are subject to stringent emission control measures.

5. Consultation With States

The consultation requirements of 40 CFR 51.308(f)(2)(ii), provides that states must consult with other states that are reasonably anticipated to contribute to visibility impairment in a Class I area to develop coordinated emission management strategies containing the emission reductions measures that are necessary to make reasonable progress. Section 51.308(f)(2)(ii)(A) and (B) require states to consider the emission reduction measures identified by other states as necessary for reasonable progress and to include agreed upon measures in their SIPs, respectively. Section 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.

WDNR consulted with other LADCO states to develop a coordinated emission management approach to its regional haze SIP and address Wisconsin's impact on nearby Class I areas. Wisconsin participated in the LADCO Regional Haze Technical Workgroup meetings beginning in January 2018. These meetings are on-going. WDNR, through LADCO, also participated in intra and inter-RPO informal discussions.

No states have notified WDNR that they identified emissions from Wisconsin sources as contributing to visibility impairment at their Class I areas. There were no requests of Wisconsin from other states to undertake specific emissions reductions necessary to make reasonable progress for the second regional haze implementation period.

WDNR has met the 40 CFR 51.308(f)(2)(ii)(A) and (B) requirements with its participation in the LADCO consultation process plus its individual consultation meetings with contributing states. There were no disagreements with another state, so 40 CFR 51.308(f)(2)(ii)(C) does not apply to Wisconsin. EPA proposes that Wisconsin has satisfied the consultation requirements of 40 CFR 51.308(f)(2)(ii).

The requirements of 40 CFR 51.308(f)(2)(iii) provide that a state must document the technical basis for its decision making to determine the emission reductions measures that are necessary to make reasonable progress. WDNR has documented the technical basis, including the modeling, monitoring, cost, engineering, and emissions information that was relied on in determining the emission reduction measures that are necessary to make reasonable progress. As described in more detail above, WDNR documented the modeling done by LADCO to determine visibility projections and contributions to impairment at the Class I areas, including justification for the 2016 base year selection and the 2028 emission projections based on ERTAC forecasts and state-reported changes. For monitoring, Wisconsin documented the statewide monitoring network, which is maintained by WDNR along with its Tribal partners, to measure various air pollutants, including those that contribute to visibility impairment at Class I areas, and to report data used to determine area attainment with the NAAQS. For emissions information, WDNR provided annual emissions by source category for 2005, 2011, 2016, 2017, and 2019 plus emissions for sources selected for a four-factor analysis from 2005, 2016, and 2019 emissions, as well as 2028-projected statewide emissions by unit and source category. In addition, WDNR provided annual emissions data for Alliant Energy—Edgewater B25 for 2016—2022. For costs and engineering, WDNR provided four-factor analyses complied by LADCO, which evaluated potential control scenarios and costs for coal-fired industrial boilers at pulp and paper mills as well as site-specific four-factor analyses for the Ahlstrom-Munksjö—Kaukauna and Rhinelander Mills. Such documentation of the technical basis of the long-term strategy satisfies the requirements of 40 CFR 51.308(f)(2)(iii).

Section 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. As previously mentioned above, WDNR participated in the development of technical analyses, including emission inventory information, by LADCO and its member states, and is relying in part on those analyses to satisfy the emission inventory requirements. WDNR explained, in section 3.5.4 of its submission, that emissions for the 2016 base year and the 2028 projected year used in LADCO modeling address elements of section 51.308(f)(6)(v) of the RHR, which requires that states provide recent and future year emissions inventories of pollutants anticipated to contribute to visibility impairment in any Class I areas. WDNR's SIP submission also included 2017 NEI emission data, as it corresponds to the year of the most recent triennial NEI, required under 40 CFR 51.308(f)(2)(iii) of the RHR. Based on Wisconsin's consideration and analysis of the 2017 emission data in its SIP submittal, EPA proposes to find that WDNR has satisfied the emissions information requirement in 40 CFR 51.308(f)(2)(iii).

6. Five Additional Factors

In addition to the four statutory factors, states must also consider the five additional factors listed in 40 CFR 51.308(f)(2)(iv) in developing their long-term strategies.

Pursuant to 40 CFR 51.308(f)(2)(iv)(A), WDNR noted that ongoing state and Federal emission control programs that have and will continue to contribute to Wisconsin's emission reductions through 2028 would impact emissions of visibility impairing pollutants from point, nonpoint, and mobile sources in the second implementation period. For point sources, this includes Federal transport rules for NO_X and SO_2, Wisconsin NO_X Reasonable Available Control Technology (RACT) and Reasonable Available Control Measures (RACM), Boiler MACT, title V

permitting actions, and 2010 SO_2 NAAQS requirements. For onroad mobile sources, Wisconsin cited to Federal regulations for passenger vehicles, trucks, motorcycles, compression engines, ignition engines, air toxics, and light duty vehicle CAFE standards. Among the controls for onroad mobile sources was the Wisconsin-administered Federal I/M program, codified at Wisconsin Administrative Code NR 485 and Trans 131, that limits onroad VOC and NO_X emissions for southeastern counties of the state and continues to provide incremental reductions as fleets turn over to new vehicles. For nonroad mobile sources, Wisconsin cited to Federal regulations for engines, including aircraft, locomotive, recreational vehicle, compression ignition, marine compression ignition, marine spark ignition, large spark ignition, and small spark ignition. WDNR included in their SIP comprehensive lists of control measures with their effective dates, pollutants addressed, and corresponding Wisconsin Administrative Code provisions.[43]

As required by 40 CFR 51.308(f)(2)(iv)(B), Wisconsin's consideration of measures to mitigate the impacts of construction activities includes, in section 3.5.2 of its SIP submission, a list of measures that WDNR has implemented to mitigate the impacts from such activities. WDNR has implemented standards that reduce fugitive dust emissions from construction, including rules ensuring that permitting of new and modified sources through WDNR's NSR program is consistent with making reasonable progress toward the visibility goals of the second implementation period haze SIP.

Pursuant to 40 CFR 51.308(f)(2)(iv), source retirements and replacement schedules are addressed in section 3.5.3 and appendix 3 of WDNR's SIP submission as well as the additional information WDNR provided on November 10, 2023, and January 3, 2024. Wisconsin point source EGU and non-EGU retirements and on-the-books controls as of September 2020 were considered in developing the 2028 emission projections for LADCO's modeling. However, retirements and replacements for several units listed in section 3.3.3 of Wisconsin's SIP submission along with the Ahlstrom-Munksjö Rhinelander and Kaukauna Mills were not listed, making the modeled 2028 projections conservative. These retirements and replacements contribute to Wisconsin's emission reductions and the associated visibility improvements at the affected LADCO Class I Areas for the second implementation period.

In considering smoke management for prescribed burns as required in 40 CFR 51.308(f)(2)(iv)(D), WDNR explained, in section 3.5.4 of its submission, that WDNR has worked with land managers in Wisconsin to prepare a plan to address controllable fire activities that can impact visibility locally. Appendix 6 contains the ''Wisconsin Smoke Management Plan: Best Management Practices for Prescribed Burns'' (April 2021).

As required by 40 CFR 51.308(f)(2)(iv), WDNR considered the anticipated net effect on visibility improvements at the LADCO Class I Areas due to projected changes in emissions in section 3.5.5 of its plan. The visibility improvement expected during the second implementation period is calculated from LADCO's 2028 modeled emission projections (appendix 2 of WDNR's submission), which accounts for on-the-books and on-the-way controls, including scheduled EGU shutdowns that were publicly announced as of September 2020. Current visibility conditions at the LADCO Class I Areas on the most impaired days are below their respective glidepaths (Figure 3 of WDNR's submission). LADCO's 2028 projections are similarly below the glidepath at the end of the second implementation period (Figure 3 of WDNR's submission). Also, WDNR's submission shows that current visibility conditions on the clearest days have resulted in continued improvement relative to baseline conditions (Figure 2 of WDNR's submission). Table 18 of WDNR's submission lists the expected improvement in visibility on the most impaired days over the course of the second implementation period at the LADCO Class I Areas. As noted in section 3.7 of WDNR's submission, an even larger improvement in visibility will be achieved by the end of the second implementation period than is presented in Table 18 of WDNR's submission due to the implementation of additional control measures in Wisconsin that are not included in LADCO's 2028 Modeled emissions.

Beyond the additional controls noted in section 3.3.3 of Wisconsin's plan, WDNR also considered the net effect on visibility improvements at the LADCO Class I Areas with the hypothetical elimination of emissions from Boilers B26 and B11 at the Ahlstrom-Munksjö—Rhinelander and Kaukauna Mills, two of Wisconsin's largest sources. Boilers B26 and B11 accounted for 6 percent and 23 percent of Wisconsin's total 2028 modeled SO_2 emissions, respectively. WDNR estimated that eliminating the emissions from boilers B26 and B11 that contribute to particulate sulfate and nitrate would yield a cumulative visibility improvement of $0.65 Mm^{-1}$ (~0.14 dv), accounting for approximately 9 percent of Wisconsin's total contribution to visibility impairment in the LADCO Class I Areas.[44]

WDNR concludes that, when weighing the four-factor analyses and the five additional required factors along with the retirement of Boiler B11 at Ahlstrom-Munksjö—Kaukauna and the planned retirement of Boiler B26 Ahlstrom-Munksjö—Rhinelander Mill both in 2024, it is not necessary to require any additional controls at the these facilities to meet second implementation period regional haze SIP requirements.[45] EPA proposes to find that Wisconsin reasonably considered and satisfied the requirements for each of the five additional factors in 40 CFR 51.308(f)(2)(iv) in developing its long-term strategy, with the exception of the control measures for Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill unless WDNR meets the condition specified above to provide evidence of the permanent shutdown of Boiler B26 before final action in this rulemaking.

F. Reasonable Progress Goals

The provision 40 CFR 51.308(f)(3) contains the requirements pertaining to RPGs for each Class I area. Section 51.308(f)(3)(i) requires a state in which a mandatory 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 40 CFR 51.308(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

[43] *See* section 3.5.1 of the Wisconsin Regional Haze SIP for the Second Implementation Period 2018–2028 (July 30, 2021).

[44] *See* appendix 2, Table A2–3 of the Wisconsin Regional Haze Plan for the Second Implementation Period 2018–2028 (July 30, 2021).

[45] *See* sections 3.2, 3.3, and 3.5 of the Wisconsin Regional Haze Plan for the Second Implementation Period 2018–2028 (July 30, 2021).

51.308(f)(3)(ii) applies in circumstances in which a Class I area's RPG for the most impaired days represents a slower rate of visibility improvement than the URP calculated under 40 CFR 51.308(f)(1)(vi). Under 40 CFR 51.308(f)(3)(ii)(A), if the state in which a mandatory Class I area is located establishes an RPG for the most impaired days that provides for a slower rate of visibility improvement than the URP, the state must demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the state that would be reasonable to include in its long-term strategy. Section 51.308(f)(3)(ii)(B) requires that if a state contains sources that are reasonably anticipated to contribute to visibility impairment in a Class I area in *another* state, and the RPG for the most impaired days in that Class I area is above the URP, the upwind state must provide the same demonstration. Because Wisconsin has no mandatory Class I areas within its borders to which the requirements of the visibility protection program apply in 40 CFR part 81, subpart D, Wisconsin is subject only to 40 CFR 51.308(f)(3)(ii)(B), but not 40 CFR 51.308(f)(3)(i) or (f)(3)(ii)(A).

Under 40 CFR 51.308(f)(3)(ii)(B), a state that 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 under 40 CFR 51.308(f)(3)(ii)(B) must demonstrate that there are no additional emission reduction measures that would be reasonable to include in its long-term strategy. WDNR's SIP submission included glidepath checks for LADCO Class I Areas, which show that the RPG for the 20 percent most impaired days for the affected LADCO Class I Areas are not above the URP glidepath, and that the RPG for the 20 percent clearest days shows no degradation. In addition, LADCO's visibility projections at the LADCO Class I Areas show that the visibility projections for 2028 for the most impaired days are below the respective points for 2028 on the URPs.[46] Therefore, we propose it is reasonable that the demonstration requirement under 40 CFR 51.308(f)(3)(ii)(B) as it pertains to these areas will not be triggered.

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

G. Monitoring Strategy and Other Implementation Plan Requirements

40 CFR 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 section 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.

Section 51.308(f)(6)(i) requires SIPs to provide for the establishment of any additional monitoring sites or equipment needed to assess whether RPGs to address regional haze for all mandatory Class I Federal areas within the state are being achieved. 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. As noted above, Wisconsin has no mandatory Federal Class I areas identified in 40 CFR part 81, subpart D, located within the state to which the requirements of the visibility protection program apply. Therefore, 40 CFR 51.308(f)(6)(i) and (ii) do not apply.

Section 51.308(f)(6)(iii) requires states with no Class I areas to include 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 Class I areas in other states. States with Class I areas must establish a monitoring program and report data to EPA that is representative of visibility at the Class I Federal areas. The IMPROVE network meets this requirement. WDNR stated that, as a participant in LADCO, it reviewed information about the chemical composition of baseline monitoring data at LADCO Class I Areas to understand the sources of haze causing pollutants. WDNR does not operate any monitoring sites under the Federal IMPROVE program and, therefore, does not require approval of its monitoring network under the RHR. WDNR commits to continuing support of ongoing visibility monitoring in Class I Federal areas, agrees that the IMPROVE network is an appropriate monitoring network to track regional haze progress, and commits to working with neighboring states and FLMs to meet the goals of the IMPROVE program. WDNR also commits to using monitoring data and procedures consistent with EPA's guidance to review progress and trends in visibility at Class I Federal areas that may be affected by emissions from Wisconsin, both for comprehensive periodic revisions of this implementation plan and for periodic reports describing progress towards the RPGs for those areas.[47]

Section 51.308(f)(6)(iv) requires the SIP to provide for the reporting of all visibility monitoring data to the Administrator at least annually for each Class I area in the state. As noted above, Wisconsin does not have any mandatory Class I Federal areas located within its borders to which the requirements of the visibility protection program apply in 40 CFR part 81, subpart D, and, therefore, 40 CFR 51.308(f)(6)(iv) does not apply.

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. Wisconsin provides for emissions inventories and estimates for future projected emissions by participating in the LADCO RPO and complying with EPA's AERR. In 40 CFR part 51, subpart A, the AERR requires states to submit updated emissions inventories for criteria pollutants to EPA's Emissions Inventory System every three years. The emission inventory data is used to develop the NEI, which provides for, among other things, a triennial statewide inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment. Section 3.3.2 of Wisconsin's submission includes a table of NEI data. The source categories of the emissions inventories included are: (1) point sources, (2) nonpoint sources, (3) nonroad mobile sources, and (4) onroad mobile sources. The point source category is further divided into EGU point sources and non-EGU point sources. Wisconsin included NEI emissions inventories for 2017 for the following pollutants: SO_2, NO_X, $PM_{2.5}$, VOCs, and NH_3. Wisconsin also provided a summary of SO_2, NO_X, $PM_{2.5}$, VOCs, and NH_3 emissions for the same source categories sources for 2016 that LADCO used in developing the 2016 base year emissions inventory to

[46] *See* section 3.2.2, 3.7, and appendix 2 of the Wisconsin Regional Haze Plan for the Second Implementation Period 2018–2028 (July 30, 2021).

[47] *See* section 3.9 of the Wisconsin Regional Haze SIP for the Second Implementation Period 2018–2028 (July 30, 2021).

project emissions to year 2028 as well a summary of 2005 and 2019 SO_2 and NO_X emissions for EGU and non-EGU point sources.[48]

Section 51.308(f)(6)(v) also requires states to include estimates of future projected emissions and include a commitment to update the inventory periodically. For future projected emissions, Wisconsin relied on the LADCO modeling and analysis, which estimated 2028 projected emissions of SO_2 and NO_X for specific facilities in the LADCO states to provide an assessment of expected future year air quality based on 2016 emissions and ERTAC forecasts. WDNR also adjusted the 2028 projections to account for additional emission reductions from retirements and committed controls for several units that were not included in LADCO's modeling. WDNR commits to periodically updating Wisconsin's emissions inventories for pollutants anticipated to cause or contribute to visibility impairment in Class I areas to support future regional haze progress reports and SIP revisions.

No further elements are necessary for Wisconsin to assess and report on visibility pursuant to 40 CFR 51.308(f)(6)(vi).

EPA proposes to find that Wisconsin has met the requirements of 40 CFR 51.308(f)(6) as described above, including through its continued participation in LADCO, its statewide emissions inventory, and its emissions reporting to EPA.

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

Wisconsin's progress report for the first implementation period, submitted on March 17, 2017, documented emissions of SO_2 and NO_X from 2005–2015. EPA published a final rule approving the Wisconsin regional haze progress report as a revision to the Wisconsin SIP on June 15, 2018 (83 FR 27910). For the second implementation period SIP submittal, the 2019 Guidance recommends the progress report cover the first full year that was not incorporated into the previous progress report through a year that is as close as possible to the submission date of the 2021 SIP.

To address the progress report elements of 40 CFR 51.308(g)(1) and (2), sections 3.3.2 and 3.3.3 of Wisconsin's SIP recounts the measures and emissions reductions achieved from 2016, the first year following its previous progress report, through 2017, the most recent NEI year available at the time for sector level emissions. During the first implementation period, measures that WDNR relied upon in developing its long-term strategy focused on reducing NO_X and SO_2 emissions. WDNR describes these measures in section 3.5.1 of Wisconsin's submittal, including RACT, RACM, MACT, 2010 SO_2 NAAQS requirements, and the Cross-State Air Pollution Rule to satisfy certain BART requirements for EGUs. The status of each of these measures is ongoing, and WDNR summarizes the emissions reductions achieved. Table 8 of the progress report documents emissions changes from 2016 to 2017 for the point-EGU, point-non-EGU, area, onroad, and nonroad sectors, showing overall emission reductions in NO_X and SO_2 despite increases in point-EGU and nonroad sectors. For point-EGUs and non-EGUs, table 10 of WDNR's submission further demonstrates the emission reductions in NO_X and SO_2 from 2005 to 2016 to 2019. EPA proposes to find that WDNR has met the requirements of 40 CFR 51.308(g)(1) and (2) because its SIP submission describes the measures included in the long-term strategy from the first implementation period, as well as the status of their implementation and the emission reductions achieved through such implementation.

Section 51.308(g)(3) requires states to assess RPGs, including current visibility conditions and changes, for any Class I areas within the state. As described above, Wisconsin has no mandatory Class I Federal areas within its borders that are among the 156 mandatory Class I Federal areas where EPA deemed visibility to be an important value. Therefore, 40 CFR 51.308(g)(3) does not apply.

Pursuant to 40 CFR 51.308(g)(4), in section 3.3.2 and 3.3.3 of their submission, WDNR provided an analysis tracking the change in emissions of NO_X, SO_2, $PM_{2.5}$, NH_3, and VOC from all sources and activities, including from point, nonpoint, nonroad mobile, and onroad mobile sources from 2016 through 2017, the most recent NEI year available at the time for sector level emissions. As discussed above, Table 8 shows overall emission reductions in NO_X and SO_2 despite increases in point-EGU and nonroad sectors. While overall emissions showed increases in $PM_{2.5}$, NH_3, and VOC due primarily to point-EGU and nonroad sectors, WDNR notes that these pollutants contribute less to visibility impairment than emissions of NO_X and SO_2 and that the increases are outweighed by emission reductions in NO_X and SO_2. In further analysis under table 10, WDNR summarized emissions from the EGU and non-EGU sectors for 2005, 2016, and 2019, demonstrating reductions of 62 percent in NO_X and 86 percent in SO_2 from 2005 to 2016 and additional reductions of 18 percent in NO_X and 41 percent in SO_2 from 2016 to 2019. WDNR also compared 2018 projected emissions from the first implementation period to the 2028 modeled emissions for the second implementation period that had been adjusted for shutdowns and committed controls not included in the LADCO modeling, showing reductions of 58 percent in NO_X and 85 percent in SO_2.

[48] *See* section 3.3.3 of the Wisconsin Regional Haze SIP for the Second Implementation Period 2018–2028 (July 30, 2021).

EPA is proposing to find that Wisconsin has satisfied the requirements of 40 CFR 51.308(g)(4) by tracking the change in emissions of NO_X, SO_2, $PM_{2.5}$, VOCs, and NH_3 identified by type of source since the first progress report.

To address 40 CFR 51.308(g)(5), WDNR assessed significant changes in anthropogenic emissions since the first implementation period, whether they were anticipated, and their impact on progress in improving visibility. Tables 8 and 10 of Wisconsin's plan summarize actual and projected emission reductions from 2016 to 2017, 2019, and 2028. Additional information summarizing process level emissions and visibility improvements can be found in appendix 2 and appendix 3 of Wisconsin's submittal. The 2028 projected emissions modeled by LADCO included shutdowns and other on-the books controls for EGUs as of September 2020, while the non-EGU projections were primarily carried forward from the 2016 base year emissions. In addition, section 3.3. and appendix 3 of Wisconsin's submittal, WDNR lists emission reductions from unit shutdowns, fuel switches, and controls measures in Wisconsin that were not included in LADCO's 2028 modeled emissions. As such, WDNR developed 2028 adjusted emission projections. However, at the time, WDNR did not anticipate the retirement of Boilers B26 and B11 at the Ahlstrom-Munksjö—Rhinelander and Kaukauna Mills and the resulting greater reductions in SO_2 and NO_X as described in the November 10, 2023, and January 3, 2024, additional information. The reductions identified in LADCO's projections and WDNR's adjusted projections have led to improvements in visibility at the LADCO Class I Areas as described in section 3.5.5 of Wisconsin's submittal. Further improvements in visibility are anticipated with the emission reductions to be realized by the retirement of Boilers B26 and B11. The emissions trend data in Wisconsin's SIP submission and the subsequent clarifying information support an assessment that anthropogenic haze-causing pollutant emissions in Wisconsin have decreased during the reporting period and that changes in emissions have not limited or impeded progress in reducing pollutant emissions and improving visibility. EPA is proposing to find that Wisconsin has met the requirements of 40 CFR 51.308(g)(5).

I. Requirements for State and Federal Land Manager Coordination

CAA section 169A(d) requires states to consult with FLMs before holding the public hearing on a proposed regional haze SIP and to include a summary of the FLMs' conclusions and recommendations in the notice to the public. In addition, 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. Section 51.308(i)(2) also provides two substantive topics on which FLMs must be provided an opportunity to discuss with states: assessment of visibility impairment in any Class I area and recommendations on the development and implementation of strategies to address visibility impairment. Section 51.308(i)(3) requires states, in developing their implementation plans, to include a description of how they addressed FLMs' comments.

On February 22, 2021, WDNR 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 consultation meeting between the FLMs and representatives of WDNR was held on March 23, 2021. NPS sent a comment letter on July 11, 2021. To address 40 CFR 51.308(i)(3), Wisconsin's submittal summarized FLM comments and included WDNR's responses in appendix 7. In addition, WDNR summarized additional written comments from the National Park Service during the public comment period and provided responses in appendix 8. EPA proposes to find that WDNR 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.[49]

The public notice for WDNR's second implementation period regional haze SIP was scheduled following the FLM comment period to meet the minimum 60-day FLM consultation period required under 40 CFR 51.308(i)(2). The public comment period was from April 28, 2021, to June 2, 2021. A virtual public hearing was held on June 1, 2021, at 3:00 p.m. CDT online via Zoom and open conference call. No verbal comments were received at the public hearing. As noted above, appendix 8 of Wisconsin's plan contains WDNR's responses to the written comments received during the public comment period from EPA, NPS, and the Ahlstrom-Munksjö—Rhinelander Mill. WDNR considered input from FLMs and the public when finalizing this SIP revision.

Wisconsin's SIP submission includes a commitment to revise and submit a regional haze SIP by July 31, 2028, and every ten years thereafter. The state's commitment includes submitting periodic progress reports in accordance with 40 CFR 51.308(f) and a commitment to evaluate progress towards the reasonable progress goal for each mandatory Class I Federal area located outside the state that may be affected by emissions from within the state in accordance with 40 CFR 51.308(g).

V. Proposed Action

EPA is proposing to partially approve and partially disapprove Wisconsin's July 30, 2021, SIP submission. In the alternative, in the event that WDNR provides sufficient evidence to EPA, before final action in this rulemaking, that coal-fired cyclone Boiler B26 at the Ahlstrom-Munksjö—Rhinelander Mill has permanently ceased operating, EPA proposes to approve Wisconsin's SIP submission, including the information regarding the permanent cessation of operations at Boiler 26, as satisfying the regional haze requirements for the second implementation period contained in 40 CFR 51.308(f).

VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the 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

[49] *See* section 3.8 of Wisconsin's July 30, 2021 Regional Haze SIP submission.

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

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 environmental justice (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.''

WDNR did not evaluate EJ considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. EPA did not perform an EJ analysis and did not consider EJ in this action. Due to the nature of the action being taken here, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of E.O. 12898 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 31, 2024.

Debra Shore,

Regional Administrator, Region 5.

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