OMB Control Numbers 0651–0050 (Response to Office Action and Voluntary Amendment Forms) and 0651–0055 (Post Registration (Trademark Processing).

Notwithstanding any other provision of law, no person is required to respond to nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB control number.

P. E-Government Act Compliance: The USPTO is committed to compliance with the E-Government Act to promote the use of the internet and other information technologies to provide increased opportunities for citizen access to Government information and services, and for other purposes.

Katherine K. Vidal,

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

[FR Doc. 2024–15472 Filed 7–18–24; 8:45 am]

BILLING CODE 3510–16–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R01–OAR–2023–0186; FRL–12105–01–R1]

Approval and Promulgation of Air Quality Implementation Plans; Connecticut; Regional Haze State Implementation Plan for the Second Implementation Period

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve the regional haze state implementation plan (SIP) revision submitted by Connecticut on January 5, 2022, as satisfying applicable requirements under the Clean Air Act (CAA) and EPA's Regional Haze Rule for the program's second implementation period. Connecticut's SIP submission addresses the requirement that states must periodically revise their long-term strategies for making reasonable progress towards the national goal of preventing any future, and remedying any existing, anthropogenic impairment of visibility, including regional haze, in mandatory Class I Federal areas. The SIP submission also addresses other applicable requirements for the second implementation period of the regional haze program. The EPA is taking this action pursuant to the CAA.

DATES: Written comments must be received on or before August 19, 2024.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R01–OAR–2023–0186 at *https://www.regulations.gov*. For comments submitted at *Regulations.gov,* follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov*. For either manner of submission, the EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

FOR FURTHER INFORMATION CONTACT: Eric Rackauskas, U.S. Environmental Protection Agency, Region 1, Air Quality Branch, 5 Post Office Square, Suite 100, (Mail code 5–MI), Boston, MA 02109–3912, telephone number: (617) 918–1628, email address: *rackauskas.eric@epa.gov.*

SUPPLEMENTARY INFORMATION:

Table of Contents

I. What action is the EPA proposing?

On January 5, 2022, the Connecticut Department of Energy and Environmental Protection (CT DEEP) submitted a revision to its SIP to address regional haze for the second implementation period. CT DEEP made this SIP submission to satisfy the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and 40 CFR 51.308. The EPA is proposing to find that the Connecticut regional haze SIP submission for the second implementation period meets the applicable statutory and regulatory requirements and thus proposes to approve Connecticut's submission into its SIP.

II. Background and Requirements for Regional Haze Plans

A. Regional Haze Background

In the 1977 CAA Amendments, Congress created a program for protecting visibility in the nation's mandatory Class I Federal areas, which include certain national parks and wilderness areas.[1] CAA section 169A. The CAA establishes as a national goal

[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 section 162(a). There are 156 mandatory Class I areas. The list of areas to which the requirements of the visibility protection program apply is in 40 CFR part 81, subpart D.

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 section 169A(a)(1). The CAA further directs the EPA to promulgate regulations to assure reasonable progress toward meeting this national goal. CAA section 169A(a)(4). On December 2, 1980, the EPA promulgated regulations to address visibility impairment in mandatory Class I Federal areas (hereinafter referred to as ''Class I areas'') that is ''reasonably attributable'' to a single source or small group of sources. (45 FR 80084, December 2, 1980). These regulations, codified at 40 CFR 51.300 through 51.307, represented the first phase of the EPA's efforts to address visibility impairment. In 1990, Congress added section 169B to the CAA to further address visibility impairment, specifically, impairment from regional haze. CAA section 169B. The EPA promulgated the Regional Haze Rule (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 the EPA's comprehensive visibility protection program for Class I areas.

Regional haze is visibility impairment that is produced by a multitude of anthropogenic sources and activities which are located across a broad geographic area and that emit pollutants that impair visibility. Visibility impairing pollutants include fine and coarse particulate matter (PM) (*e.g.,* sulfates, nitrates, organic carbon, elemental carbon, and soil dust) and their precursors (*e.g.,* sulfur dioxide (SO_2), nitrogen oxides (NO_X), and, in some cases, volatile organic compounds (VOC) and ammonia (NH_3)). Fine particle precursors react in the atmosphere to form fine particulate matter ($PM_{2.5}$), which impairs visibility by scattering and absorbing light. Visibility impairment reduces the perception of clarity and color, as well as visible distance.[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 section 169A(b)(2);[4] see also 40 CFR 51.308(b), (f) (establishing submission dates for iterative regional haze SIP revisions); (64 FR 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 section 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 section 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 at 35768, July 1, 1999). The EPA established in the 1999 RHR that all states either have Class I areas within their borders or ''contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area''; therefore, all states must submit regional haze SIPs.[5] *Id.* at 35721.

Much of the focus in the first implementation period of the regional haze program, which ran from 2007 through 2018, was on satisfying states' BART obligations. First implementation period SIPs were additionally required to contain long-term strategies for making reasonable progress toward the national visibility goal, of which BART is one component. The core required elements for the first implementation period SIPs (other than BART) are laid out in 40 CFR 51.308(d). Those provisions required that states containing Class I areas establish reasonable progress goals (RPGs) that are measured in deciviews and reflect the anticipated visibility conditions at the end of the implementation period including from implementation of states' long-term strategies. The first planning period RPGs were required to provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period. In establishing the RPGs for any Class I area in a state, the state was required to consider four statutory factors: the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources. CAA section 169A(g)(1); 40 CFR 51.308(d)(1).

States were also required to calculate baseline (using the five-year period of 2000–2004) and natural visibility conditions (*i.e.,* visibility conditions without anthropogenic visibility impairment) for each Class I area, and to calculate the linear rate of progress needed to attain natural visibility conditions, assuming a starting point of baseline visibility conditions in 2004 and ending with natural conditions in 2064. This linear interpolation is known as the uniform rate of progress (URP) and is used as a tracking metric to help states assess the amount of progress they are making towards the national visibility goal over time in each Class I area.[6] 40 CFR 51.308(d)(1)(i)(B), (d)(2).

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

[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). The EPA's Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (''2019 Guidance'') offers the flexibility for the use of light extinction in certain cases. Light extinction can be simpler to use in calculations than deciviews, since it is not a logarithmic function. See, *e.g.,* 2019 Guidance at 16, 19, *https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period,* The 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, the 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).

[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 at 35731–32. That is, the URP and the 2064 date are not enforceable targets, but are rather tools that ''allow for analytical comparisons between the rate of progress that would be achieved by the state's

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 section 169A(d) and 40 CFR 51.308(i).

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

The EPA provided guidance to the states for their second implementation period SIP submissions in the preamble to the 2017 RHR Revisions as well as in subsequent, stand-alone guidance documents. In August 2019, the EPA issued ''Guidance on Regional Haze State Implementation Plans for the Second Implementation Period'' (''2019 Guidance'').[8] On July 8, 2021, the EPA issued a memorandum containing ''Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period'' (''2021 Clarifications Memo'').[9] Additionally, the EPA further clarified the recommended procedures for processing ambient visibility data and optionally adjusting the URP to account for international anthropogenic and prescribed fire impacts in two technical guidance documents: the December 2018 ''Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program'' (''2018 Visibility Tracking Guidance''),[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 previously 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. The Agency also recognizes that analyses regarding reasonable progress are state-specific and that, based on states' and sources' individual circumstances, what constitutes reasonable reductions in visibility impairing pollutants will vary from state-to-state. While there exist many opportunities for states to leverage both ongoing and upcoming emission reductions under other CAA programs, the Agency expects states to undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements. 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 and Prevention of Significant Deterioration programs, as further emission reductions may be necessary to adequately protect visibility in Class I areas throughout the country.[12]

B. Roles of Agencies in Addressing Regional Haze

Because the air pollutants and pollution affecting visibility in Class I areas can be transported over long distances, successful implementation of the regional haze program requires long-term, regional coordination among multiple jurisdictions and agencies that have responsibility for Class I areas and the emissions that impact visibility in those areas. In order to address regional haze, states need to develop strategies in coordination with one another, considering the effect of emissions from

chosen set of control measures and the URP.'' (82 FR 3078, 3084, January 10, 2017).

[7] The EPA's regulations define ''Federal Land Manager'' as ''the Secretary of the department with authority over the Federal Class I area (or the Secretary 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.* The 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.* The EPA Office of Air Quality Planning and Standards, Research Triangle Park (July 8, 2021).

[10] Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program. *https://www.epa.gov/visibility/technical-guidance-tracking-visibility-progress-second-implementation-period-regional.* The 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.* The 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 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'').

one jurisdiction on the air quality in another. Five regional planning organizations (RPOs),[13] which include representation from state and tribal governments, the EPA, and FLMs, were developed in the lead-up to the first implementation period to address regional haze. RPOs evaluate technical information to better understand how emissions from State and Tribal land impact Class I areas across the country, pursue the development of regional strategies to reduce emissions of particulate matter and other pollutants leading to regional haze, and help states meet the consultation requirements of the RHR.

The Mid-Atlantic/Northeast Visibility Union (MANEVU), one of the five RPOs described above, is a collaborative effort of state governments, tribal governments, and various Federal agencies established to initiate and coordinate activities associated with the management of regional haze, visibility, and other air quality issues in the Mid-Atlantic and Northeast corridor of the United States. Member states and tribal governments (listed alphabetically) include: Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Penobscot Indian Nation, Rhode Island, St. Regis Mohawk Tribe, and Vermont. The Federal partner members of MANEVU are EPA, U.S. National Parks 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 section 169A(b)(2)(B). To this end, § 51.308(f) lays out the process by which states determine what constitutes their long-term strategies, with the order of the requirements in § 51.308(f)(1) through (f)(3) generally mirroring the order of the steps in the reasonable progress analysis [14] and (f)(4) through (f)(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. See 40 CFR 51.308(f)(2). Additionally, as further explained below, the RHR at 40 CFR 51.308(f)(2)(iv) separately provides five ''additional factors'' [15] that states must consider in developing their long-term strategies. 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)–(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 § 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 the EPA according to the requirements applicable to all SIP revisions under the CAA and EPA's regulations. See CAA section 169(b)(2); CAA section 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 the EPA finds that a state's SIP is incomplete or if disapproves the SIP, the Agency must promulgate a federal implementation plan (FIP) that satisfies the applicable requirements. CAA section 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, the EPA determined that all states contribute to visibility impairment in at least one Class I area, 64 FR at 35720–22, 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.'' *Id.* at 35721.

A state must determine which Class I areas must be addressed by its SIP by evaluating the total emissions of visibility impairing pollutants from all sources within the state. While the RHR does not require this evaluation to be conducted in any particular manner, EPA's 2019 Guidance provides recommendations for how such an assessment might be accomplished, including by, 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

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

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

[15] The five ''additional factors'' for consideration in § 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.

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 § 51.308(f)(1) related to tracking visibility improvement over time. The requirements of this subsection apply only to states having Class I areas within their borders; the required calculations must be made for each such Class I area. EPA's 2018 Visibility Tracking Guidance [16] provides recommendations to assist states in satisfying their obligations under § 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 at 3103–05.

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% clearest (the 20% of monitored days in a calendar year with the lowest values of the deciview index) and 20% most impaired days (the 20% 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% clearest and 20% 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 in order 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 per year, measured in deciviews, that would need to be achieved during each implementation period in order 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, the EPA provided states the option of proposing to adjust the endpoint of the URP to account for impacts of anthropogenic sources outside the United States and/or impacts of certain types of wildland prescribed fires. These adjustments, which must be approved by the EPA, are intended to avoid any perception that states should compensate for impacts from international 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 3107 footnote 116.

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 § 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 in order 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 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

[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://www3.epa.gov/ttnamti1/files/ambient/visible/tracking.pdf.*

[17] This document also refers to the 20% 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 3098: ''In the final version of 40 CFR 51.308(f)(1)(ii), an occurrence of ''or'' has been corrected to ''and'' to indicate that natural visibility conditions for both the most impaired days and the clearest days must be based on available monitoring information.''

[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 at 3093.

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 section 169A(g)(1). The EPA has explained that the four-factor analysis is an assessment of potential emission reduction measures (*i.e.,* control options) for sources; ''use of the terms 'compliance' and 'subject to such requirements' in CAA section 169A(g)(1) strongly indicates that Congress intended the relevant determination to be the requirements with which sources would have to comply in order to satisfy the CAA's reasonable progress mandate.'' 82 FR at 3091. 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. *Id.* at 3088. 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 emission 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 emission rate than a source has achieved or could potentially achieve using its existing measures should also consider lower emission 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. The EPA's recommendations to analyze potential efficiency improvements and achievable lower emission rates apply to both sources that have been selected for four-factor analysis and those that have forgone a four-factor analysis on the basis of existing ''effective controls.'' See 2021 Clarifications Memo at 5, 10.

After identifying a reasonable set of potential control options for the sources it has selected, a state then collects information on the four factors with regard to each option identified. The EPA has also explained that, in addition to the four statutory factors, states have flexibility under the CAA and RHR to reasonably consider visibility benefits as an additional factor alongside the four statutory factors.[23] The 2019 Guidance provides recommendations for the types of information that can be used to

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

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

[22] ''Each source'' or ''particular source'' is used here as shorthand. While a source-specific analysis is one way of applying the four factors, neither the statute nor the RHR requires states to evaluate individual sources. Rather, states have ''the flexibility to conduct four-factor analyses for specific sources, groups of sources or even entire source categories, depending on state policy preferences and the specific circumstances of each state.'' 82 FR at 3088. However, not all approaches to grouping sources for four-factor analysis are necessarily reasonable; the reasonableness of grouping sources in any particular instance will 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.

[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.

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, § 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, § 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 § 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 section 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 emission rate, it may not be necessary to have those measures in the long-term strategy in order to prevent future emission 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 § 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, § 51.308(f)(2)(iii) plays an important function in requiring a state to document the technical basis for its decision making so that the public and the EPA can comprehend and evaluate the information and analysis the state relied upon to determine what emission reduction measures must be in place to make reasonable progress. The technical documentation must include the modeling, monitoring, cost, engineering, and emissions information on which the state relied to determine the measures necessary to make reasonable progress. 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 51.3108(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 analysis, when performing that analysis, or both, and that not every one of the additional factors needs to be considered at the same stage of the process. See 2019 Guidance at 21. EPA provided further guidance on the five additional factors in the 2021 Clarifications Memo, explaining that a state should generally not reject cost-effective and otherwise reasonable controls merely because there have been emission reductions since the first planning period owing to other ongoing air pollution control programs or merely

[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 at 3108–09 (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 Alaska Dep't of Envtl. Conservation* v. *EPA,* 540 U.S. 461, 485, 490 (2004); *Nat'l Parks Conservation Ass'n* v. *EPA,* 803 F.3d 151, 165 (3d Cir. 2015).

[26] The five ''additional factors'' for consideration in § 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.

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, § 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). The EPA will consider the technical information and explanations presented by the submitting state and the state with which it disagrees when considering whether to approve the state's SIP. See *id.;* 2019 Guidance at 53. Under all circumstances, a state must document in its SIP submission all substantive consultations with other contributing states. 40 CFR 51.308(f)(2)(ii)(C).

D. Reasonable Progress Goals

Reasonable progress goals ''measure the progress that is projected to be achieved by the control measures states have determined are necessary to make reasonable progress based on a four-factor analysis.'' 82 FR at 3091. Their primary purpose is to assist the public and the EPA in assessing the reasonableness of states' long-term strategies for making reasonable progress towards the national visibility goal. See 40 CFR 51.308(f)(3)(iii)–(iv). States in which Class I areas are located must establish two RPGs, both in deciviews—one representing visibility conditions on the clearest days and one representing visibility on the most anthropogenically impaired days—for each area within their borders. 40 CFR 51.308(f)(3)(i). The two RPGs are intended to reflect the projected impacts, on the two sets of days, of the emission reduction measures the state with the Class I area, as well as all other contributing states, have included in their long-term strategies for the second implementation period.[27] The RPGs also account for the projected impacts of implementing other CAA requirements, including non-SIP based requirements. Because RPGs are the modeled result of the measures in states' long-term strategies (as well as other measures required under the CAA), they cannot be determined before states have conducted their four-factor analyses and determined the control measures that are necessary to make reasonable progress. See 2021 Clarifications Memo at 6.

For the second implementation period, the RPGs are set for 2028. Reasonable progress goals are not enforceable targets, 40 CFR 51.308(f)(3)(iii); rather, they ''provide a way for the states to check the projected outcome of the [long-term strategy] against the goals for visibility improvement.'' 2019 Guidance at 46. While states are not legally obligated to achieve the visibility conditions described in their RPGs, § 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 show 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 at 3097–98.

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 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

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

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 at 3093, 3099–3100; 2019 Guidance at 22; 2021 Clarifications Memo at 15–16.

E. Monitoring Strategy and Other State Implementation Plan Requirements

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

All states' SIPs must provide for procedures by which monitoring data and other information are used to determine the contribution of emissions from within the state to regional haze visibility impairment in affected Class I areas. 40 CFR 51.308(f)(6)(ii), (iii). Section 51.308(f)(6)(v) further requires that all states' SIPs provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area; the inventory must include emissions for the most recent year for which data are available and estimates of future projected emissions. States must also include commitments to update their inventories periodically. The inventories themselves do not need to be included as elements in the SIP and are not subject to EPA review as part of the Agency's evaluation of a SIP revision.[28] All states' SIPs must also provide for any other elements, including reporting, recordkeeping, and other measures, that are necessary for states to assess and report on visibility. 40 CFR 51.308(f)(6)(vi). Per the 2019 Guidance, a state may note in its regional haze SIP that its compliance with the Air Emissions Reporting Rule (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 § 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 the EPA or the FLM of an affected Class I area has advised a state that additional monitoring is needed to assess reasonably attributable visibility impairment, the state must include in its SIP revision for the second implementation period an appropriate strategy for evaluating such impairment.

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

Section 51.308(f)(5) requires a state's regional haze SIP revision to address the requirements of paragraphs 40 CFR 51.308(g)(1) through (5) so that the plan revision due in 2021 will serve also as a progress report addressing the period since submission of the progress report for the first implementation period. The regional haze progress report requirement is designed to inform the public and the EPA about a state's implementation of its existing long-term strategy and whether such implementation is in fact resulting in the expected visibility improvement. See 81 FR 26942, 26950 (May 4, 2016), (82 FR 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, § 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)(B), and then to calculate the difference between those current conditions and baseline (2000–2004) visibility conditions in order to assess progress made to date. See 40 CFR 51.308(g)(3)(ii)(B). 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(g)(3)(iii)(B), (f)(5). 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(g)(4), (f)(5). 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 include an explanation of 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.

[28] See ''Step 8: Additional requirements for regional haze SIPs'' in 2019 Regional Haze 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.

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). In order for the EPA to evaluate whether FLM consultation meeting the requirements of the RHR has occurred, the SIP submission should include documentation of the timing and content of such consultation. The SIP revision submitted to the EPA must also describe how the state addressed any comments provided by the FLMs. 40 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. The EPA's Evaluation of Connecticut's Regional Haze Submission for the Second Implementation Period

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

CT DEEP submitted its regional haze SIP for the first implementation period to the EPA on November 18, 2009, and supplemented it on February 24, 2012, and March 12, 2012. The EPA approved Connecticut's first implementation period regional haze SIP submission on July 10, 2014 (79 FR 39322). EPA's approval included, but was not limited to, the portions of the plan that address the reasonable progress requirements, Connecticut's maintenance of nitrogen oxide emissions controls, as well as Connecticut's low sulfur fuel program. The requirements for regional haze SIPs for the first implementation period are contained in 40 CFR 51.308(d) and (e). 40 CFR 51.308(b). Pursuant to 40 CFR 51.308(g), Connecticut was also responsible for submitting a five-year progress report as a SIP revision for the first implementation period, which it did on June 30, 2015. The EPA approved the progress report into the Connecticut SIP on November 26, 2019 (84 FR 65007).

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

In accordance with CAA sections 169A and the RHR at 40 CFR 51.308(f), on January 5, 2022, Connecticut submitted a revision to the Connecticut SIP to address its regional haze obligations for the second implementation period, which runs through 2028. Connecticut made a draft Regional Haze SIP submission available for public comment on December 3, 2020. Connecticut has included the public comments and its responses to those comments in the submission.

The following sections describe Connecticut's SIP submission, including analyses conducted by MANEVU and Connecticut's determinations based on those analyses, Connecticut'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. This document also contains EPA's evaluation of Connecticut's submission against the requirements of the CAA and RHR for the second implementation period of the regional haze program.

C. Identification of Class I Areas

Section 169A(b)(2) of the CAA requires each state in which any Class I area is located or ''the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility'' in a Class I area to have a plan for making reasonable progress toward the national visibility goal. The RHR implements this statutory requirement at 40 CFR 51.308(f), which provides that each state's plan ''must address regional haze in each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State that may be affected by emissions from within the State,'' and (f)(2), which requires each state's plan to include a long-term strategy that addresses regional haze in such Class I areas. Connecticut has no mandatory Class I Federal area within its borders.

For the second implementation period, MANEVU performed technical analyses [31] to help assess source and state-level contributions to visibility impairment and the need for interstate consultation. MANEVU used the results of these analyses to determine which states' emissions ''have a high likelihood of affecting visibility in MANEVU's Class I areas.'' [32] Similar to metrics used in the first implementation period,[33] MANEVU used a greater than 2 percent of sulfate plus nitrate emissions contribution criteria to determine whether emissions from individual jurisdictions within the region affected visibility in any Class I areas. The MANEVU analyses for the second implementation period used a combination of data analysis techniques, including emissions data, distance from Class I areas, wind trajectories, and CALPUFF dispersion modeling. Although many of the analyses focused only on SO_2 emissions and resultant particulate sulfate contributions to visibility impairment, some also incorporated NO_X emissions to estimate particulate nitrate contributions.

One MANEVU analysis used for contribution assessment was CALPUFF air dispersion modeling. The CALPUFF model was used to estimate sulfate and nitrate formation and transport in MANEVU and nearby regions originating from large electric generating unit (EGU) point sources and other large industrial and institutional sources in the eastern and central United States. Information from an initial round of CALPUFF modeling was collated for the 444 EGUs that were determined to warrant further scrutiny based on their emissions of SO_2 and NO_X. The list of EGUs was based on an enhanced ''Q/d'' analysis [34] that considered recent SO_2

[31] The contribution assessment methodologies for MANEVU Class I areas are summarized in CT RH SIP appendix ''Selection of States for MANEVU Regional Haze Consultation (2018),'' MANEVU TSC. September 5, 2017.

[32] *Id.*

[33] See docket EPA–R01–OAR–2023–0186 for MANEVU supporting materials.

[34] ''Q/d'' is emissions (Q) in tons per year, typically of one or a combination of visibility-impairing pollutants, divided by distance to a class I area (d) in kilometers. The resulting ratio is commonly used as a metric to assess a source's

emissions in the eastern United States and an analysis that adjusted previous 2002 MANEVU CALPUFF modeling by applying a ratio of 2011 to 2002 SO_2 emissions. This list of sources was then enhanced by including the top five SO_2 and NO_X emission sources for 2011 for each state included in the modeling domain. A total of 311 EGU stacks (as opposed to individual units) were included in the CALPUFF modeling analysis. Initial information was also collected on the 50 industrial and institutional sources that, according to 2011 Q/d analysis, contributed the most to visibility impact in each Class I area. The ultimate CALPUFF modeling run included a total of 311 EGU stacks and 82 industrial facilities. The summary report for the CALPUFF modeling included the top 10 most impacting EGUs and the top 5 most impacting industrial/institutional sources for each Class I area and compiled those results into a ranked list of the most impacting EGUs and industrial sources at MANEVU Class I areas.[35] Overall, MANEVU found that emission sources located close to Class I areas typically show higher visibility impacts than similarly sized facilities further away. However, visibility degradation appears to be dominated by the more distant emission sources due to their larger emissions. Connecticut had three EGUs identified in the CALPUFF modeling as having a magnitude of emissions located close enough to a Class I area that they could have the potential for visibility impacts: Middletown Unit 4, Bridgeport Harbor Station Unit 3, and New Haven Harbor Unit 1.[36]

As explained above, the EPA concluded in the 1999 RHR that ''all [s]tates contain sources whose emissions are reasonably anticipated to contribute to regional haze in a Class I area,'' 64 FR at 35721, and this determination was not changed in the 2017 RHR. Critically, the statute and regulation both require that the cause-or-contribute assessment consider all emissions of visibility-impairing pollutants from a state, as opposed to emissions of a particular pollutant or emissions from a certain set of sources. Consistent with these requirements, the 2019 Guidance makes it clear that ''all types of anthropogenic sources are to be included in the determination'' of whether a state's emissions are reasonably anticipated to result in any visibility impairment. 2019 Guidance at 8.

The screening analyses on which MANEVU relied are useful for certain purposes. MANEVU used information from its technical analysis to rank the largest contributing states to sulfate and nitrate impairment in the seven MANEVU Class I areas and three additional, nearby Class I areas.[37] The rankings were used to determine upwind states that MANEVU deemed important to include in state-to-state consultation based on an identified visibility impact screening threshold. Additionally, large individual source impacts were used to target MANEVU control analysis ''Asks'' [38] of states and sources both within and upwind of MANEVU.[39] The EPA finds the nature of the analyses generally appropriate to support decisions on states with which to consult. However, we have cautioned that source selection methodologies that target the largest regional contributors to visibility impairment across multiple states may not be reasonable for a particular state if it results in few or no sources being selected for subsequent analysis. 2021 Clarifications Memo at 3.

With regard to the analysis and determinations regarding Connecticut's contribution to visibility impairment at out-of-state Class I areas, the MANEVU technical work focuses on the magnitude of visibility impacts from certain Connecticut emissions on nearby Class I areas. The MANEVU contribution screening results estimate Connecticut's highest percent mass-weighted sulfate and nitrate contribution to be 1.4% at Moosehorn Wilderness and Roosevelt Campobello International Park, with Acadia National Park and the Lye Brook Wilderness the next closest Class I areas impacted by Connecticut emissions at 1.3% and 1.2%, respectively.[40] However, the MANEVU analyses did not account for all emissions and all components of visibility impairment (*e.g.,* primary PM emissions, and impairment from fine PM, elemental carbon, and organic carbon). In addition, Q/d analyses with a relatively simplistic accounting for wind trajectories and CALPUFF applied to a very limited set of EGUs and major industrial sources of SO_2 and NO_X are not scientifically rigorous tools capable of evaluating contribution to visibility impairment from all emissions in a state. The EPA acknowledges that the contribution to visibility impairment from Connecticut's emissions at nearby out-of-state Class I areas is smaller than that from numerous other states. While some MANEVU states noted that the contributions from several states outside the MANEVU region are significantly larger than its own, we again clarify that each state is obligated under the CAA and RHR to address regional haze visibility impairment resulting from emissions from within the state, irrespective of whether another state's contribution is greater. See 2021 Clarifications Memo at 3. Additionally, we note that the 2 percent or greater sulfate-plus-nitrate threshold used to determine whether Connecticut emissions contribute to visibility impairment at a particular Class I area may be higher than what EPA believes is an ''extremely low triggering threshold'' intended by the statute and regulations. In sum, based on the information provided, it is clear that emissions from Connecticut have relatively small contributions to Class I areas. However, due to the low triggering threshold implied by the Rule and the lack of rigorous modeling analyses, we do not necessarily agree with the level of the State's 2% contribution threshold.

In any event, pursuant to the regulatory requirements, Connecticut took part in the emission control strategy consultation process as a member of MANEVU. As part of that process, MANEVU developed a set of emissions reduction measures identified as being necessary to make reasonable progress in the seven MANEVU Class I areas. This strategy consists of six Asks for states within MANEVU and five Asks for states outside the region that were found to impact visibility at Class I areas within MANEVU.[41] Connecticut's submission discusses each of the Asks and explains why or why not each is applicable and how it has complied with the relevant components of the emissions control strategy the MANEVU states laid out. Connecticut worked with MANEVU to determine potential reasonable

potential visibility impacts on a particular class I area.

[35] See ''2016 MANEVU Source Contribution Modeling Report—CALPUFF Modeling of Large Electrical Generating Units and Industrial Sources.'' MANEVU TSC. April 4, 2017.

[36] Connecticut Regional Haze SIP Revision at 45.

[37] The Class I areas analyzed were Acadia National Park in Maine, Brigantine Wilderness in New Jersey, Great Gulf Wilderness and Presidential Range—Dry River Wilderness in New Hampshire, Lye Brook Wilderness in Vermont, Moosehorn Wilderness in Maine, Roosevelt Campobello International Park in New Brunswick, Shenandoah National Park in Virginia, James River Face Wilderness in Virginia, and Dolly Sods/Otter Creek Wildernesses in West Virginia.

[38] As explained more fully in section IV.E.a., MANEVU refers to each of the components of its overall strategy as an ''Ask ''of its member states.

[39] The MANEVU consultation report explains that ''[t]he objective of this technical work was to identify states and sources from which MANEVU will pursue further analysis. This screening was intended to identify which states to invite to consultation, not a definitive list of which states are contributing.''

[40] See table 4–1 of the CT RH SIP.

[41] See section 5.1 of the CT RH SIP.

measures that could be implemented by 2028, considering the cost of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts, and the remaining useful life of any potentially affected sources.[42] As discussed in further detail below, the EPA is proposing to find that Connecticut has submitted a regional haze plan that meets the requirements of 40 CFR 51.308(f)(2) related to the development of a long-term strategy. Thus, we propose to find that Connecticut has satisfied the applicable requirements for making reasonable progress towards natural visibility conditions in Class I areas that may be affected by emissions from the state.

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

Section 51.308(f)(1) requires states to determine the following for ''each mandatory Class I Federal area located within the State'': baseline visibility conditions for the most impaired and clearest days, natural visibility conditions for the most impaired and clearest days, progress to date for the most impaired and clearest days, the differences between current visibility conditions and natural visibility conditions, and the URP. This section also provides the option for states to propose adjustments to the URP line for a Class I area to account for visibility impacts from anthropogenic sources outside the United States and/or the impacts from wildland prescribed fires that were conducted for certain, specified objectives. 40 CFR 51.308(f)(1)(vi)(B).

Connecticut has no Class I areas. MANEVU Class I areas, as well as other nearby Class I areas that MANEVU examined, are listed below. MANEVU used certain areas (as noted below) to represent nearby Class I areas where monitors do not exist.[43]

The MANEVU Class I Areas are Lye Brook Wilderness Area (Vermont), Great Gulf Wilderness Area (New Hampshire) (used to represent Presidential Range—Dry River Wilderness Area), Presidential Range—Dry River Wilderness Area (New Hampshire), Acadia National Park (Maine), Moosehorn Wildlife Refuge (Maine) (used to represent Roosevelt Campobello International Park), Roosevelt Campobello International Park (New Brunswick, Canada), Brigantine Wildlife Refuge (New Jersey). Nearby Class I Areas consist of Dolly Sods Wilderness Area (West Virginia) (used to represent Otter Creek Wilderness Area), Otter Creek Wilderness Area (West Virginia), Shenandoah National Park (Virginia), and James River Face Wilderness Area (Virginia).

E. Long-Term Strategy for Regional Haze

a. Connecticut's Response to the Six MANEVU Asks

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 section 169A(b)(2)(B). As explained in the Background section of this document, 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 § 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)(i).

The following section summarizes how Connecticut's SIP submission addressed the requirements of § 51.308(f)(2)(i); specifically, it describes MANEVU's development of the six Asks and how Connecticut addressed each. The regulations Connecticut identifies as a result of its responses to the six Asks comprise Connecticut's long-term strategy for the second planning period to address regional haze visibility impairment for each mandatory Class I Federal area that may be affected by emissions from Connecticut. When developing the Asks with the other MANEVU states and applying them to sources in Connecticut, the State considered the four statutory factors and the additional regulatory factors and identified emissions control measures necessary to make reasonable progress towards the goal of preventing of any future, and remedying any existing, anthropogenic visibility impairment in Class I areas that may be affected by emissions from Connecticut. Connecticut's SIP submission describes how it plans to meet the long-term strategy requirements defined by the State and MANEVU via its responses to the ''Asks.'' The EPA's evaluation of Connecticut's long-term strategy is contained in section IV.E.b.

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 § 51.308(f). Where an RPO has performed source selection and/or four-factor analyses (or considered the five additional factors in § 51.308(f)(2)(iv)) for its member states, those states may rely on the RPO's analyses for the purpose of satisfying the requirements of § 51.308(f)(2)(i) so long as the states have a reasonable basis to do so and all state participants in the RPO process have approved the technical analyses. 40 CFR 51.308(f)(2)(iii). States may also satisfy the requirement of § 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.

Connecticut is a member of the MANEVU RPO and participated in the RPO's regional approach to developing a strategy for making reasonable progress towards the national visibility goal in the MANEVU Class I areas. MANEVU's strategy includes a combination of: (1) measures for certain source sectors and groups of sectors that the RPO determined were reasonable for

[42] *See* 42 U.S.C. 7491(g)(1); 40 CFR 51.308(f)(2)(i).

[43] Mid-Atlantic/Northeast U.S. Visibility Data, 2004–2017 (2nd RH SIP Metrics). MANEVU (prepared by Maine Department of Environmental Protection). December 18, 2018 revision. p.2–1 (appendix 22).

states to pursue, and (2) a request for member states to conduct four-factor analyses for individual sources that it identified as contributing to visibility impairment. MANEVU refers to each of the components of its overall strategy as an ''Ask'' of its member states. On August 25, 2017, the Executive Director of MANEVU, on behalf of the MANEVU states and tribal nations, signed a statement that identifies six emission reduction measures that comprise the Asks for the second implementation period.[44] The Asks were ''designed to identify reasonable emission reduction strategies that must be addressed by the states and tribal nations of MANEVU through their regional haze SIP updates.'' [45] The statement explains that ''[i]f any State cannot agree with or complete a Class I State's Asks, the State must describe the actions taken to resolve the disagreement in the Regional Haze SIP.'' [46]

MANEVU's recommendations as to the appropriate control measures were based on technical analyses documented in the RPO's reports and included as appendices to, or referenced in, Connecticut's regional haze SIP submission. One of the initial steps of MANEVU's technical analysis was to determine which visibility-impairing pollutants should be the focus of its efforts for the second implementation period. In the first implementation period, MANEVU determined that sulfates were the most significant visibility impairing pollutant at the region's Class I areas. To determine the impact of certain pollutants on visibility at Class I areas for the purpose of second implementation period planning, MANEVU conducted an analysis comparing the pollutant contribution on the clearest and most impaired days in the baseline period (2000–2004) to the most recent period (2012–2016) [47] at MANEVU and nearby Class I areas. MANEVU found that while SO_2 emissions were decreasing and visibility was improving, sulfates still made up the most significant contribution to visibility impairment at MANEVU and nearby Class I areas. According to the analysis, NO_X emissions have begun to play a more significant role in visibility impacts in recent years as SO_2 emissions have decreased. The technical analyses used by Connecticut are included in its submission and are as follows: [48]

- 2016 Updates to the Assessment of Reasonable Progress for Regional Haze in MANEVU Class I Areas;
- Impact of Wintertime SCR/SNCR Optimization on Visibility Impairing Nitrate Precursor Emissions. November 2017;
- High Electric Demand Days and Visibility Impairment in MANEVU. December 2017;
- Benefits of Combined Heat and Power Systems for Reducing Pollutant Emissions in MANEVU States. March 2016;
- 2016 MANEVU Source Contribution Modeling Report—CALPUFF Modeling of Large Electrical Generating Units and Industrial Sources. April 4, 2017;
- Contribution Assessment Preliminary Inventory Analysis. October 10, 2016;
- Four-Factor Data Collection Memo. March 2017;
- Status of the Top 167 Stacks from the 2008 MANEVU Ask. July 2016;
- Mid-Atlantic/Northeast U.S. Visibility Data, 2004–2019 (2nd RH SIP Metrics);
- Selection of States for MANEVU Regional Haze Consultation 2018;
- Ozone Transport Commission/MANEVU 2011 Based Modeling Platform Support Document October (2018 Update).

MANEVU gathered information on each of the four statutory factors for six source sectors it determined, based on an examination of annual emission inventories, ''had emissions [of SO_2 and/or NO_X] that were reasonabl[y] anticipated to contribute to visibility degradation in MANEVU:'' electric generating units (EGUs), industrial/commercial/institutional boilers (ICI boilers), cement kilns, heating oil, residential wood combustion, and outdoor wood combustion.[49] MANEVU also collected data on individual sources within the EGU, ICI boiler, and cement kiln sectors.[50] Information for the six sectors included explanations of technically feasible control options for SO_2 or NO_X, illustrative cost-effectiveness estimates for a range of model units and control options, sector-wide cost considerations, potential time frames for compliance with control options, potential energy and non-air-quality environmental impacts of certain control options, and how the remaining useful lives of sources might be considered in a control analysis.[51] Source-specific data included SO_2 emissions [52] and existing controls [53] for certain existing EGUs, ICI boilers, and cement kilns. MANEVU considered this information on the four factors as well as the analyses developed by the RPO's Technical Support Committee when it determined specific emission reduction measures that were found to be reasonable for certain sources within two of the sectors it had examined—EGUs and ICI boilers.[54] The Asks were based on this analysis and looked to either optimize the use of existing controls, have states conduct further analysis on EGU or ICI boilers with considerable visibility impacts, implement low sulfur fuel standards, or lock-in lower emission rates.

MANEVU Ask 1 is ''Electric Generating Units (EGUs) with a nameplate capacity larger than or equal to 25 MW with already installed NO_X and/or SO_2 controls—ensure the most effective use of control technologies on a year-round basis to consistently minimize emissions of haze precursors or obtain equivalent alternative emission reductions.'' MANEVU observed that EGUs often only run NO_X emissions controls to comply with ozone season trading programs and consequently, NO_X sources may be uncontrolled during the winter and non-peak summer days. MANEVU found that: (1) running existing installed controls [selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR)] is one of the most cost-effective ways to control NO_X emissions from EGUs; and (2) that running existing controls year-round could substantially reduce the NO_X emissions in many of the states upwind of Class I areas in MANEVU that lead to visibility impairment during the winter from nitrates.[55] MANEVU included this as an emission management strategy because large EGUs had already been identified as dominant contributors to visibility impairment and the low cost of running already installed controls made it reasonable.

Connecticut identified 33 EGU units that meet the criteria of 25 MW or larger

[44] See ''MANEVU Regional Haze Consultation Report and Consultation Documentation—Final.''

[45] *Id.*

[46] *Id.*

[47] The period of 2012–2016 was the most recent period for which data were available at the time of analysis.

[48] These documents can be found in the docket for this rulemaking.

[49] *See* ''MANEVU Four Factor Data Collection Memo,'' at 1, March 30, 2017.

[50] *See* ''2016 Updates to the Assessment of Reasonable Progress for Regional Haze in MANEVU Class I Areas,'' Jan. 31, 2016.

[51] *Id.*

[52] *See* ''Four Factor Data Collection Memo.''

[53] *See* ''Status of the Top 167 Stacks from the 2008 MANEVU Ask. July 2016.''

[54] *See* ''Four Factor Data Collection Memo''; 2016 Updates to the Assessment of Reasonable Progress for Regional Haze in MANEVU Class I Areas.''

[55] *See* ''Impact of Wintertime SCR/SNCR Optimization on Visibility Impairing Nitrate Precursor Emissions.''

with installed controls.[56] Connecticut explained that all of these units identified are turbines with Selective Catalytic Reduction (SCR) to control nitrogen oxides with the exception of Middletown Unit 3, which is a boiler controlled by Selective Non-Catalytic Reduction (SNCR) to reduce emissions of nitrogen oxides. Connecticut further explained that these sources are subject to requirements to maintain and operate the control equipment to minimize emissions and are made enforceable through record keeping and reporting requirements contained in Regulations of Connecticut State Agencies (RCSA) section 22a–174–7 and the indicated new source review permits. These units are all Title V sources, and the requirements and enforceability are reviewed at least once every five years and are federally enforceable as well. Connecticut also noted that are no electric generating units of 25 MW or more with control devices to treat emissions of sulfur oxides and that Connecticut generally addresses sulfur emissions ''on the front end'' via sulfur-in-fuel restrictions.[57] Connecticut concluded that it has therefore met the requirements of Ask 1.

MANEVU Ask 2 consists of a request that states ''Emission sources modeled by MANEVU that have the potential for 3.0 Mm^{-1} or greater visibility impacts at any MANEVU Class I area, as identified by MANEVU contribution analyses . . . perform a four-factor analysis for reasonable installation or upgrade to emission controls.'' Based on an examination of visibility impact modeling results, MANEVU concluded that a 3.0 Mm^{-1} cutoff captured an appropriately-sized group of sources contributing the largest percentage of visibility impairing pollutants to Class I areas in the MANEVU states.[58] For units identified for the Ask 2 analysis, MANEVU requested that states determine reasonable controls through the consideration of the four factors on a state-by-state and unit-by-unit basis. MANEVU's analysis for Ask 2 did not identify any units in Connecticut with a potential impact of at least 3.0 Mm^{-1}.[59] Connecticut notes that the highest estimated impact from any Connecticut source to any Class I area is just over 1.0 Mm^{-1}. Furthermore, this particular source—Bridgeport Harbor Station Unit 3—shuttered in 2021.[60] Based on the lack of identified sources at or above the 3.0 Mm^{-1} threshold, Connecticut concluded that it met Ask 2.

MANEVU Ask 3 is: ''Each MANEVU State that has not yet fully adopted an ultra-low sulfur fuel oil standard as requested by MANEVU in 2007—pursue this standard as expeditiously as possible and before 2028, depending on supply availability, where the standards are as follows: a. distillate oil to 0.0015% sulfur by weight (15 ppm); b. #4 residual oil within a range of 0.25 to 0.5% sulfur by weight; and c. #6 residual oil within a range of 0.3 to 0.5% sulfur by weight.'' Connecticut explained that the State has an ultra-low sulfur fuel program, with the most recent sulfur content limitations effective as of July 1, 2018. Connecticut's ultra-low sulfur fuel program consists of Connecticut General Statutes (CGS) section 16a–21a and RCSA sections 22a–174–19a and 22a–174–19b. CGS 16a–21a and RCSA 22a–174–19a limit the sulfur content of home heating oil to 15ppm and the sulfur content of off-road diesel to 3000 ppm (0.3%S). RCSA 22a–174–19b further limits sulfur content of fuel oil sold in Connecticut for use in stationary sources to 15 ppm for distillate and 3000 ppm (0.3%S) for aviation and residual fuels. EPA approved the latest revisions of these rules into Connecticut's SIP on May 25, 2016 (81 FR 33134). Based on the above, Connecticut concluded that the State's low sulfur fuel program meets Ask 3.

MANEVU Ask 4 requests states to update permits to ''lock in'' lower emissions rates for NO_X, SO_2, and PM at emissions sources larger than 250 million British Thermal Units (MMBtu) per hour heat input that have switched operations to lower emitting fuels. Connecticut explained that EGUs and large sources in the State are subject to Title V permitting requirements under RCSA section 22a–174–33, and that the permits for these sources are reviewed every five years and specify allowable operating scenarios, including the type of fuels fired. Connecticut further explained that Title V permit conditions for these sources related to lower emitting fuels stem from Connecticut's sulfur-in-fuel regulations (RCSA sections 22a–174–19a and –19b), New Source Review (NSR) permits, and trading orders that restrict oil firing in favor of natural gas. A change in fuel type not allowed by permit would trigger requirements for a new or modified permit under RCSA section 22a–174–3a and –33. Connecticut concluded that it therefore met the requirements of Ask 4.

Ask 5 requests that MANEVU states ''control NO_X emissions for peaking combustion turbines that have the potential to operate on high electric demand days'' by either: (1) Meeting NO_X emissions standards specified in the Ask for turbines that run on natural gas and fuel oil, (2) performing a four-factor analysis for reasonable installation of or upgrade to emission controls, or (3) obtaining equivalent emission reductions on high electric demand days.[61] The Ask requests states to strive for NO_X emission standards of no greater than 25 ppm for natural gas and 42 ppm for fuel oil, or at a minimum, NO_X emissions standards of no greater than 42 ppm for natural gas and 96 ppm at for fuel oil.

Connecticut identified two state regulations EPA previously approved into Connecticut's SIP that limit NO_X emissions from electric generating units and other stationary sources. RCSA section 22a–174–22e (86 FR 37053) prescribes averaging times and emission limits for units at major sources of NO_X. RCSA section 22a–174–22f (82 FR 35454) applies to generators at non-major facilities during the summer season, and section 22a–174–22f(e)(4) requires that any affected unit that exceeds the allowable daily thresholds is to be subject to the same limits that apply to sources in RCSA section 22a–174–22e. The requirements of RCSA section 22a–174–22e were phased-in over two implementation periods. The first phase became effective June 1, 2018, and the second phase became effective June 1, 2023. Under Phase 2, daily NO_X limits for combined cycle turbines are set at 25 ppm for natural gas and 42 ppm for fuel oil, RCSA section 22a–174–22e(d)(5)(C), and daily NO_X limits for simple cycle turbines are set at 40 ppm for natural gas and 50 ppm for fuel oil, *id.* section 22a–174–22e(d)(4)(C). Connecticut noted that these already adopted rules to control nitrogen oxide emissions from peaking turbines are at least as stringent as the limits in Ask 5.[62] Therefore, Connecticut concluded that it fully addressed Ask 5.

The last Ask for states within MANEVU (Ask 6) requests states to report in their regional haze SIPs about programs that decrease energy demand

[56] See table 5–1 of the Connecticut submittal.

[57] See, for example, the discussion of Ask 3 below.

[58] Units with smaller contributions of visibility-impairing pollutants were captured by other Asks.

[59] See MANEVU Intra-Regional Ask Final August 25, 2017.

[60] CT DEEP revoked the operating permit for Bridgeport Harbor Station Unit 3 on October 28, 2021. See ''Combined NSR & Registration Revocation Letter'' in the docket for this rulemaking.

[61] See ''MANEVU Regional Haze Consultation Report and Consultation Documentation—Final.''

[62] See table 5–2 of the CT RH SIP.

and increase the use of combined heat and power (CHP) and other distributed generation technologies such as fuel cells, wind and solar. Connecticut asserted that the state continues to support programs to increase energy efficiency, CHP, and other clean energy technologies. The submittal provides as an example Energize Connecticut℠, which it describes as an initiative of the Connecticut Energy Efficiency Fund, the Connecticut Green Bank, the State, and local utilities dedicated to saving energy and building a clean energy future for everyone in the state. The initiative has funding support from a charge on customer energy bills. Connecticut reports that energy savings efforts through 2018 have resulted in emissions avoidance of the equivalent of one 130 MW power plant. Connecticut also identified off-shore wind programs, State Executive Order No. 3 (which commits the CT DEEP, in consultation with the Connecticut Public Utilities Regulatory Authority to analyze and recommend strategies for achieving a carbon emissions free goal for the electricity-generating sector by 2040), and the state's membership in the Regional Greenhouse Gas Initiative (RGGI) as programs that provide air quality benefits. Connecticut therefore concluded that it satisfies Ask 6.

In summary, Connecticut identified the following SIP-approved programs as necessary for reasonable progress and therefore included in the State's long term strategy: RCSA 22a–174–19a, Control of sulfur dioxide emissions from power plants and other large stationary sources of air pollution; RCSA 22a–174–19b, Fuel sulfur content limitations for stationary sources; RCSA 22a–174–22e, Control of nitrogen oxides emissions from fuel-burning equipment at major stationary sources of nitrogen oxides; RCSA 22a–174–22f, High daily NO_X emitting units at non-major sources of NO_X; and RCSA 22a–174–38, Municipal Waste Combustors.[63]

b. The EPA's Evaluation of Connecticut's Response to the Six MANEVU Asks and Compliance With § 51.308(f)(2)(i)

The EPA is proposing to find that Connecticut has satisfied the requirements of § 51.308(f)(2)(i) related to evaluating sources and determining the emission reduction measures that are necessary to make reasonable progress by considering the four statutory factors. We are proposing to find that Connecticut has satisfied the four-factor analysis requirement through its analysis and actions to address MANEVU Ask 3.

As explained above, Connecticut relied on MANEVU's technical analyses and framework (*i.e.,* the Asks) to select sources and develop its long-term strategy. MANEVU conducted an inventory analysis to identify the source sectors that produced the greatest amount of SO_2 and NO_X emissions in 2011; inventory data were also projected to 2018. Based on this analysis, MANEVU identified the top-emitting sectors for each of the two pollutants, which for SO_2 include coal-fired EGUs, industrial boilers, oil-fired EGUs, and oil-fired area sources including residential, commercial, and industrial sources. Major-emitting sources of NO_X include on-road vehicles, non-road vehicles, and EGUs.[64] The RPO's documentation explains that ''[EGUs] emitting SO_2 and NO_X and industrial point sources emitting SO_2 were found to be sectors with high emissions that warranted further scrutiny. Mobile sources were not considered in this analysis because any ask concerning mobile sources would be made to EPA and not during the intra-RPO and inter-RPO consultation process among the states and tribes.'' [65] EPA proposes to find that Connecticut reasonably evaluated the two pollutants—SO_2 and NO_X—that currently drive visibility impairment within the MANEVU region and that it adequately explained and supported its decision to focus on these two pollutants through its reliance on the MANEVU technical analyses cited in its submission.

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. As explained previously, the MANEVU Asks are a mix of measures for sectors and groups of sources identified as reasonable for states to address in their regional haze plans. Several of the Asks include analyses of emissions controls, and Connecticut identifies numerous existing controls that are in the SIP and are included in the long-term strategy. While MANEVU formulated the Asks to be ''reasonable emission reduction strategies'' to control emissions of visibility impairing pollutants,[66] Ask 3 (adoption of ultra-low sulfur fuel oil) engages with the requirement that states determine the emission reduction measures that are necessary to make reasonable progress through consideration of the four factors. As laid out in further detail below, the EPA is proposing to find that MANEVU's four-factor analysis conducted to support the emission reduction measures in Ask 3, satisfies the requirement of § 51.308(f)(2)(i). The emission reduction measures that are necessary to make reasonable progress must be included in the long-term strategy, *i.e.,* in Connecticut's SIP. 40 CFR 51.308(f)(2).

Connecticut asserted that it satisfies Ask 1 because the state permits for the EGUs covered by this Ask include year-round emission limits and require that controls be run at all times the units are in operation and emitting air pollutants. Furthermore, the requirements to maintain and operate the control equipment to minimize emissions are made enforceable through record keeping and reporting requirements contained in previously SIP-approved RCSA section 22a–174–7 (79 FR 41427) and New Source Review permits. As each of these units are at Title V sources, the requirements are federally enforceable, and Connecticut renews the permits every five years. EPA thus agrees that Connecticut satisfied Ask 1.

Ask 2 addresses the sources MANEVU determined have the potential for larger than, or equal to, 3.0 Mm^{-1} visibility impact at any MANEVU Class I area; the Ask requests MANEVU states to conduct four-factor analyses for the specified sources within their borders. This Ask explicitly engages with the statutory and regulatory requirement to determine reasonable progress based on the four factors; MANEVU considered it ''reasonable to have the greatest contributors to visibility impairment conduct a four-factor analysis that would determine whether emission control measures should be pursued and what would be reasonable for each source.'' [67]

As an initial matter, EPA does not generally agree that 3.0 Mm^{-1} visibility impact is a reasonable threshold for source selection. The RHR recognizes that, due to the nature of regional haze visibility impairment, numerous and sometimes relatively small sources may need to be selected and evaluated for control measures in order to make reasonable progress. See 2021 Clarifications Memo at 4. As explained

[63] *See* CT RH Submittal at 75, 78.

[64] See ''Contributions to Regional Haze in the Northeast and Mid-Atlantic United States: Mid-Atlantic/Northeast Visibility Union (MANEVU) Contribution Assessment. NESCAUM. August 2006.''

[65] See ''Mid-Atlantic/Northeast U.S. Visibility Data, 2004–2019 (2nd RH SIP Metrics). MANEVU (prepared by Maine Department of Environmental Protection). January 21, 2021, revision.''

[66] *Id.*

[67] See ''MANEVU Regional Haze Consultation Report and Consultation Documentation—Final.''

in the 2021 Clarifications Memo, while states have discretion to choose any source selection threshold that is reasonable, ''[a] state that relies on a visibility (or proxy for visibility impact) threshold to select sources for four-factor analysis should set the threshold at a level that captures a meaningful portion of the state's total contribution to visibility impairment to Class I areas.'' 2021 Memo at 3. In this case, the 3.0 Mm^{-1} threshold did not identify any sources in Connecticut (and identified only 22 across the entire MANEVU region), indicating that it may be unreasonably high. We also note, however, that the 3.0 Mm^{-1} threshold used in this Ask is only one part of the MANEVU source identification process and that being below this threshold did not necessarily exclude a source from additional review in connection with another Ask.

The EPA agrees that Connecticut reasonably determined it has satisfied Ask 2. As explained above, while we do not generally agree that a 3.0 Mm^{-1} threshold for selecting sources for four-factor analysis results in a set of sources the evaluation of which has the potential to meaningfully reduce the state's contribution to visibility impairment, the MANEVU analysis did not identify any sources in Connecticut with an impact at or above 3.0 Mm^{-1}. EPA notes that the MANEVU analysis also did not identify any sources in Connecticut above 2.0 Mm^{-1} and only once source above 1 Mm^{-1}: Bridgeport Harbor Station Unit 3 (at 1.22 Mm^{-1}),[68] which permanently retired on May 31, 2021. The State of Connecticut has revoked the permit for this unit[69] and has committed funding to assist in demolishing the facility and redeveloping the site.[70]

Ask 3, which addresses the sulfur content of heating oil used in MANEVU states, is based on a four-factor analysis for the heating oil sulfur reduction regulations contained in that Ask;[71] specifically, for the control strategy of reducing the sulfur content of distillate oil to 15 ppm. The analysis started with an assessment of the costs of retrofitting refineries to produce 15 ppm heating oil in sufficient quantities to support implementation of the standard, as well as the impacts of requiring a reduction in sulfur content on consumer prices. The analysis noted that, as a result of previous EPA rulemakings to reduce the sulfur content of on-road and non-road-fuels to 15 ppm, technologies are currently available to achieve sulfur reductions and many refiners are already meeting this standard, meaning that the capital investments for further reductions in the sulfur content of heating oil are expected to be relatively low compared to costs incurred in the past. The analysis also examined, by way of example, the impacts of New York's existing 15 ppm sulfur requirements on heating oil prices and concluded that the cost associated with reducing sulfur was relatively small in terms of the absolute price of heating oil compared to the magnitude of volatility in crude oil prices. It also noted that the slight price premium is compensated by cost savings due to the benefits of lower-sulfur fuels in terms of equipment life and maintenance and fuel stability. Consideration of the time necessary for compliance with a 15 ppm sulfur standard was accomplished through a discussion of the amount of time refiners had needed to comply with the EPA's on-road and non-road fuel 15 ppm requirement, and the implications existing refinery capacity and distribution infrastructure may have for compliance times with a 15 ppm heating oil standard. The analysis concluded that with phased-in timing for states that have not yet adopted a 15 ppm heating oil standard there ''appears to be sufficient time to allow refiners to add any additional heating oil capacity that may be required.''[72] The analysis further noted the beneficial energy and non-air quality environmental impacts of a 15 ppm sulfur heating oil requirement and that reducing sulfur content may also have a salutary impact on the remaining useful life of residential furnaces and boilers.[73]

The EPA agrees that Connecticut reasonably relied on MANEVU's four-factor analysis for a low-sulfur fuel oil regulation, which engaged with each of the statutory factors and explained how the information supported a conclusion that a 15 ppm sulfur fuel oil standard for fuel oils is reasonable. As noted above, RCSA 22a–174–19a limits the sulfur content of home heating oil to 15 ppm and the sulfur content of off-road diesel to 3000 ppm (0.3%S). RCSA 22a–174–19b further limits sulfur content of fuel oil sold in Connecticut for use in stationary sources to 15 ppm for distillate and 3000 ppm (0.3%S) for aviation and residual fuels. EPA approved the latest revisions of these rules into Connecticut's SIP on May 25, 2016,[74] and Connecticut includes both in its long-term strategy for the second planning period.[75] Connecticut's SIP-approved ultra-low sulfur fuel oil rule is consistent with Ask 3's sulfur content standards for the three types of fuel oils (distillate oil, #4 residual oil, #6 residual oil). EPA therefore agrees that Connecticut satisfied Ask 3.

Connecticut concluded that no additional updates were needed to meet Ask 4, which requests that MANEVU states pursue updating permits, enforceable agreements, and/or rules to lock-in lower emission rates for SO_2, NO_X and PM at EGUs and other sources larger than 250 MMBtu per hour that have switched operations to lower emitting fuels. As noted above, Connecticut has asserted that EGUs and large sources are already subject to Title V permitting requirements under RCSA section 22a–174–33 and that permits for these sources are renewed every five years and specify allowable operating scenarios, which includes type of fuels fired. Any change in fuel type that is not allowed by permit would trigger requirements for a new or modified permit under RCSA sections 22a–174–3a and –33, which are in the SIP. While requirements for lower emitting fuels contained in state fuel sulfur regulations at RCSA sections 22a–174–19a may be a means to achieve SO_2 reductions at sources covered by this Ask that have switched to a lower emitting fuel oil, it is not clear from the discussion in Connecticut's submittal what actions the State has ''pursued'' under this Ask to ''lock-in lower emission rates'' of SO_2, NO_X and PM at other sources covered by the Ask (*i.e.,* sources that have switched to other lower emitting fuel types). The submittal does not provide specific examples of sources previously authorized to burn more than one fuel type that have been ''locked-in'' to the lower-emitting fuel under this Ask. Satisfaction of Ask 4 is not necessarily a required element of a Regional Haze SIP, however. In addition, as Connecticut notes, any sources that wish to make a future switch to higher emitting fuels not currently authorized by permit are required to revise their permits to reflect the change, and state rules favor lower-emitting fuels and make any permit revision subject to additional analyses, including NSR.

Ask 5 addresses NO_X emissions from peaking combustion turbines that have

[68] *See* 2016 MANEVU CALPUFF Modeling of Large Electrical Generating Units and Industrial Sources.

[69] *See* ''Combined NSR & Registration Revocation Letter'' in the docket for this rulemaking.

[70] *See https://www.ctpost.com/news/article/ct-bridgeport-pseg-power-plant-demolition-18388093.php* (also in docket for this rulemaking).

[71] *See* 2016 Updates to the Assessment of Reasonable Progress For Regional Haze In MANEVU Class I Areas.

[72] *Id.* at 8–7.

[73] *Id.* at 8–8.

[74] 81 FR 33134.

[75] *See* CT RH SIP Submittal at 75.

the potential to operate on high electric demand days. The Ask requests states to ''strive'' for NO_X emission standards of no greater than 25 ppm for natural gas and 42 ppm for fuel oil but at a minimum, meet NO_X emissions standards of no greater than 42 ppm for natural gas and 96 ppm for fuel oil.

As discussed above, Connecticut identified two recently approved regulations in the SIP that address NO_X emissions from electric generating units and other stationary sources. RCSA section 22a–174–22e prescribes averaging times and emission limits for units at major sources of NO_X. As of June 1, 2023, the state regulations set limits of 25 ppm for natural gas and 42 ppm for fuel oil at combined cycle turbines and 40 ppm for natural gas and 50 ppm for fuel oil at simple cycle turbines. The combined cycle limits match the ''strive for'' limits in the Ask. And while the simple cycle limits do not, they are more stringent than the ''minimum'' limits in the Ask.[76] In addition, RCSA section 22a–174–22f applies to combustion turbines at facilities that are not major sources of NO_X and provides that combustion turbines that meet the generating criterion of the Ask (*i.e.,* capable of generating 15 MW or more) are also subject to the limits in RCSA section 22a–174–22e. *See* RCSA section 22a–174–22f(a)(1), (e)(4). Connecticut includes both regulations in its long-term strategy for the second planning period,[77] and both are in the SIP. EPA agrees that Connecticut reasonably demonstrated that it meets Ask 5.

Finally, regarding Ask 6, Connecticut pointed to various state regulations, State Executive Orders, participation in offshore wind projects, and membership in RGGI as policy efforts to increase energy efficiency and reduce reliance on fossil fuels for energy. Additionally, as discussed in the previous section, Connecticut reported energy savings efforts through 2018 have resulted in avoidance of the equivalent of one 130 MW power plant. The EPA agrees that Connecticut has satisfied Ask 6's request to consider and report in its SIP measures or programs related to energy efficiency, cogeneration, and other clean distributed generation technologies.

In sum, the EPA is proposing to find—based on Connecticut's participation in the MANEVU planning process, how it has addressed the Asks, and the EPA's assessment of Connecticut's emissions and point sources—that Connecticut has complied with the requirements of § 51.308(f)(2)(i). Specifically, Connecticut's application of MANEVU Ask 3 engages with the requirement that states evaluate and determine the emission reduction measures necessary to make reasonable progress by considering the four statutory factors.

The EPA is proposing to find the state's approach meets the statutory and regulatory requirements for several reasons. Connecticut reasonably evaluated and explained its decision to focus on SO_2 and NO_X to address visibility impairment within the MANEVU region. Connecticut adequately supported that decision through reasonable reliance on the MANEVU technical analyses cited in its submission. In addition, as the EPA discusses in more detail in section IV.I. below, Connecticut adequately responded to comments to consider sources identified by the FLMs through the consultation process. The Agency notes that MANE–VU concluded that sulfates from SO_2 emissions were still the primary driver of visibility impairment in the second implementation period and that MANEVU conducted a four-factor analysis to support Ask 3, which requests that states pursue ultra-low sulfur fuel oil standards to address SO_2 emissions. Connecticut's SIP-approved sulfur in fuel rule sets stringent limits for sulfur content and SO_2 emissions for fuels. Additionally, Connecticut's SIP submittal identifies a long-term strategy that includes five state regulations previously approved into its SIP. The provisions at RCSA 22a–174–19a control SO_2 emissions by limiting the sulfur content of home heating oil to 15 ppm and the sulfur content of off-road diesel to 3000 ppm (0.3%S). RCSA 22a–174–19b further controls SO_2 emissions by limiting sulfur content of fuel oil sold in Connecticut for use in stationary sources to 15 ppm for distillate and 3000 ppm (0.3%S) for aviation and residual fuels. EPA approved the latest revisions of these rules into Connecticut's SIP on May 25, 2016.[78] Connecticut's regulations at RCSA 22a–174–22e and RCSA 22a–174–22f prescribe averaging times and set emission limits for sources of NO_X at 25 ppm for natural gas and 42 ppm for fuel oil at combined cycle turbines and at 40 ppm for natural gas and 50 ppm for fuel oil at simple cycle turbines. EPA most recently approved these regulations into Connecticut's SIP on July 14, 2021, and July 31, 2017, respectively.[79] Further, RCSA 22a–174–38, most recently approved into Connecticut's SIP on July 31, 2017,[80] regulates NO_X emissions from municipal waste combustors.

The EPA also notes the relatively low impact Connecticut's emissions have on the visibility impairment in nearby Class 1 areas. While, as discussed earlier, we do not necessarily agree with the level of the State's chosen 2% contribution threshold, it appears that emissions from Connecticut have relatively small contributions to Class I areas.[81] Further, Connecticut is in the Ozone Transport Region and is currently designated nonattainment statewide for both the 2008 and 2015 ozone standards. As a result, Connecticut already imposes stringent controls on its sources, including through statewide Reasonably Available Control Technology (RACT) requirements, to limit emissions of the ozone precursors NO_X and VOCs. In addition, Connecticut must continue to control emissions of these precursors to attain, and then maintain, the ozone standards. As NO_X and VOCs are also contributors to visibility impairment, these requirements have had the additional effect of controlling haze-forming emissions from sources throughout the State and are generally reflected in the MANEVU contribution screening results. Based on the MANEVU contribution screening analysis, Connecticut's highest percent mass-weighted sulfate and nitrate contribution to any Class I area is estimated to be 1.4% at Moosehorn Wilderness and Roosevelt Campobello International Park, and 1.3% and 1.2% to Acadia National Park and the Lye Brook Wilderness Area, respectively.[82] Slightly lower percent contributions are estimated from Connecticut's emissions to the other Class I areas in the MANEVU states: 1.0% to the Brigantine Wilderness Area and 0.7% to the two New Hampshire Wilderness Areas.[83] As discussed earlier, Connecticut's submittal includes and adopts a four-factor analysis conducted by the MANEVU states to support low-sulfur fuel restrictions that Connecticut has included in its long-term strategy. EPA believes it was reasonable for Connecticut not to conduct additional four-factor analyses in this case because haze-forming emissions from the State are already limited by EPA-approved emissions limits in the SIP (as a result of other CAA requirements), there are no other large visibility impairing point sources of SO_2 or NO_X in the State, and the State's overall small contributions to

[76] *See* CT RH SIP Submittal, table 5–2.

[77] *See id.* at 75.

[78] 81 FR 33134.

[79] 86 FR 37053; 82 FR 35454.

[80] 82 FR 35454.

[81] See CT RH Submittal at 19–27, 46.

[82] See table 4–1 of the CT RH SIP.

[83] *See id.*

visibility impairment in nearby Class I areas.

For the above reasons, the EPA proposes to find that Connecticut's SIP submittal satisfies the requirements that a State submit a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area that may be affected by emissions from the State and that the long-term strategy include the emission reduction measures that are necessary to make reasonable progress determined by considering the four factors.

c. Additional Long-Term Strategy Requirements

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

Connecticut participated in and provided documentation of the MANEVU intra- and inter-RPO consultation processes, which included consulting with both MANEVU and non-MANEVU states about emissions from Connecticut reasonably anticipated to contribute to visibility impairment in Class I areas within the MANEVU area and in adjacent areas. The consultations addressed developing coordinated emission management strategies containing the emission reductions necessary to make reasonable progress at the Class I areas impacted by emissions from States within MANEVU. Connecticut addressed the MANEVU Asks by providing information on the enforceable measures it has in place that satisfy each Ask.[84] While Connecticut did not receive any requests from non-MANEVU states to consider additional measures to address visibility impairment in Class I areas outside MANEVU, MANEVU documented disagreements that occurred during consultation. For instance, MANEVU noted in its Consultation Report that upwind states expressed concern regarding the analyses the RPO utilized for the selection of states for the consultation. MANEVU agreed that these tools, as all models, have their limitations, but nonetheless deemed them appropriate. Additionally, there were several comments regarding the choice of the 2011 modeling base year. MANEVU agreed that the choice of base year is critical to the outcome of the study. MANEVU acknowledged that there were newer versions of the emission inventories and the need to use the best available inventory for each analysis. MANEVU, however, concluded that the selected inventories were appropriate for the analysis. Additionally, upwind states noted that they would not be able to address the MANEVU Asks until they finalize their SIPs. MANEVU believed the assumption of the implementation of the Asks from upwind states in its 2028 control case modeling was reasonable, and Connecticut included both the 2028 base case and control case modeling results in its SIP, representing visibility conditions at the Class 1 areas in the MANU–VU States assuming upwind states do not and do implement the Asks, respectively.

In sum, Connecticut participated in the MANEVU intra- and inter-RPO consultation and included in its SIP submittal the measures identified and agreed to during those consultations, thereby satisfying § 51.308(f)(2)(ii)(A) and (B). Connecticut satisfied § 51.308(f)(2)(ii)(C) by participating in MANEVU's consultation process, which documented the disagreements between the upwind states and MANEVU and explained MANEVU's reasoning on each of the disputed issues. Based on the entirety of MANEVU's intra- and inter-RPO consultation and MANEVU's and Connecticut's responses to comments on the SIP submission and various technical analyses therein, we propose to determine that Connecticut has satisfied the consultation requirements of § 51.308(f)(2)(ii).

The documentation requirement of § 51.308(f)(2)(iii) provides that states may meet their obligations to document the technical bases on which they are relying to determine the emission reductions measures that are necessary to make reasonable progress through an RPO, as long as the process has been ''approved by all State participants.'' As explained above, Connecticut chose to rely on MANEVU's technical information, modeling, and analysis to support development of its long-term strategy. The MANEVU technical analyses on which Connecticut relied are listed in the state's SIP submission and include source contribution assessments, information on each of the four factors and visibility modeling information for certain EGUs, and evaluations of emission reduction strategies for specific source categories. Connecticut also provided additional information to further demonstrate the technical bases and emission information it relied on to determine the emission reductions measures that are necessary to make reasonable progress. Based on the documentation provided by the state, we propose to find Connecticut satisfies this requirement of § 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 the EPA (or a more recent year), with a 12-month exemption period for newly submitted data. Connecticut's SIP submission included 2017 NEI emission data for NO_X, SO_2, PM, VOCs and NH_3 and 2017 Air Markets Program Data (AMPD) emissions for NO_X and SO_2. Based on Connecticut's consideration and analysis of the 2017 and 2019 emission data in its SIP submittal, the EPA proposes to find that Connecticut has satisfied the emissions information requirement in § 51.308(f)(2)(iii).

We also propose to find that Connecticut reasonably considered the five additional factors in § 51.308(f)(2)(iv) in developing its long-term strategy. Pursuant to § 51.308(f)(2)(iv)(A), Connecticut noted that existing and ongoing state and federal emission control programs that contribute to emission reductions through 2028 would impact emissions of visibility impairing pollutants from point and nonpoint sources in the second implementation period. Connecticut included in its SIP a comprehensive lists of control measures and other requirements that will continue to reduce emissions of visibility impairing pollutants, identifying the source category and corresponding Connecticut regulatory provisions. These measures include SIP approved revisions to RCSA section 22a–174–38 (82 FR 35454) to obtain NO_X emission reductions from municipal waste combustors; implementation of RCSA sections 22a–174–22e (86 FR 37053) and 22a–174–22f (82 FR 35454) to obtain NO_X emissions from major and minor sources of NO_X; and implementation of the last phase of RCSA section 22a–174–19b (81 FR 33134) to reduce sulfur oxide emissions from fuel burning sources.

[84] *See* ''MANEVU Regional Haze Consultation Report.''

Connecticut's consideration of measures to mitigate the impacts of construction activities as required by § 51.308(f)(2)(iv)(B) includes, in section 8.2 of its SIP submission, measures that Connecticut has implemented to mitigate the impacts from such activities. Connecticut has implemented standards that reduce fugitive dust emissions from construction, rules to address exhaust emissions including rules to limit the idling of vehicles and equipment, rules to reduce allowable smoke from on-road diesel engines, and general conformity rules.

Pursuant to § 51.308(f)(2)(iv)(C), source retirements and replacement schedules are addressed in section 8.3 of Connecticut's submission. Source retirements and replacements were considered in developing the 2028 emission projections, with on the books/on the way retirements and replacements included in the 2028 projections. The EGU point sources included in the inventories used in the MANEVU contribution assessment and that were subsequently retired are described in section 8.3 of the Connecticut submission. Connecticut calculated a net reduction of approximately 8,990 tons per year (tpy) of allowable NO_X emissions and 17,350 tpy of allowable SO_2 emissions between the 2011 base year and the 2028 projected year based on EGU retirements (including retirement of the last coal-fired unit in the state) and replacement during that time with lower emitting units.

In considering smoke management as required in 40 CFR 51.308(f)(2)(iv)(D), Connecticut explained, in section 8.4 of its submission, that it addresses smoke management through a program under state law at CGS section 22a–174(f) that authorizes open burning (including prescribed burns for agriculture and wildland vegetation management purposes) through permits issued by municipal officials but limits it on poor air quality days, thereby reducing the impacts of prescribed burns on visibility. EPA approved this program into Connecticut's SIP on September 1, 2016. 81 FR 60274. Connecticut considers these efforts to be sufficient to protect visibility in Class I areas, including from agriculture- and forestry-related smoke. The EPA agrees that Connecticut adequately considered smoke management practices as part of its submittal as required by § 51.308(f)(2)(iv)(D).

Connecticut considered the anticipated net effect of projected changes in emissions as required by § 51.308(f)(2)(iv)(E) by discussing, in section 8.1 of its submission, various programs and state regulations that control emissions from the State's point, area, and mobile sources. Connecticut, through its nonattainment status for the 2008 and 2015 ozone National Ambient Air Quality Standards, is required to implement programs to reduce vehicle miles traveled (VMTs), which will reduce emissions in the mobile source sector. This sector also contributes to regional haze, so any reductions would have the added benefit of helping to improve visibility. Additionally, section 6 of the Connecticut submittal contains emissions projections for 2028, modeled in collaboration with MANEVU. These projected emissions incorporate the impact of strategies that are on-the-books, anticipated growth in the respective sector, and anticipated unit closures and the MANEVU ''Ask.'' The 2028 inventory projections demonstrate an overall reduction in emissions between the 2011 base year and 2028 modeled year thus, satisfying (f)(2)(iv)(e).

Because Connecticut has reasonably considered each of the five additional factors, the EPA proposes to find that Connecticut has satisfied the requirements of 40 CFR 51.308(f)(2)(iv).

F. Reasonable Progress Goals

Section 51.308(f)(3) contains the requirements pertaining to RPGs for each Class I area. Because Connecticut does not host a Class I area, it is not subject to either § 51.308(f)(3)(i) or 51.308(f)(3)(ii)(A). 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 glidepath, the upwind state must provide the same demonstration.

None of the Class I areas in or adjacent to the MANEVU region have RPGs above their respective URP glidepath. Table 2–1 of Connecticut's SIP submittal summarizes baseline visibility conditions (*i.e.,* visibility conditions during 2000–2004) for the most impaired and clearest days at each area as well as information on natural visibility conditions. Table 2–3 of the submittal shows the values on the URP glidepaths for 2028. Figures 7–1 and 7–2 summarize the 2028 RPG for the most impaired days for each area, as well as the modeled 2028 base case (representing visibility conditions in 2028 with existing controls), respectively. These visibility conditions, as well as the 2028 reasonable progress goals for the clearest days, are also included. The 2028 RPGs for each Class I area are well below their respective URP glidepaths. Therefore, § 51.308(f)(3)(ii)(B) is not applicable to Connecticut.

G. Monitoring Strategy and Other Implementation Plan Requirements

Section 51.308(f)(6) specifies that each comprehensive revision of a state's regional haze SIP must contain or provide for certain elements, including monitoring strategies, emissions inventories, and any reporting, recordkeeping and other measures needed to assess and report on visibility. Since Connecticut does not contain any Class I areas, it is not required to submit the monitoring strategy referenced in § 51.308(f)(6), nor are the requirements in § 51.308(f)(6)(i), (ii), and (iv) applicable.

40 CFR 51.308(f)(6)(iii), however, applies to states with no Class I areas (such as Connecticut) and requires them to include in their Regional Haze SIPs procedures by which monitoring data and other information are used in determining the contribution of emissions from within the state to visibility impairment at Class I areas in other states. Monitoring in Connecticut that contributes data for assessing visibility is described in section 2.1 of the Connecticut SIP submission.[85] Visibility data analysis procedures are described in the MANEVU visibility data report. Other procedures and data used for determining Connecticut contribution to visibility impairment are described in section 4 of the Connecticut SIP and the MANEVU documents referenced.[86] An IMPROVE monitor at the Mohawk Mountain site in Connecticut provides data to assess current visibility, track changes in visibility, and help determine the causes of visibility impairment in Class I areas in the region.

Section 51.308(f)(6)(v) requires SIPs to provide for a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment, including emissions for the most recent year for which data are available and estimates of future projected emissions. It also requires a commitment to update the inventory periodically. Connecticut provides for emissions inventories and estimates for future projected emissions by participating in the MANEVU RPO and complying with EPA's Air Emissions Reporting Rule (AERR). In 40 CFR part 51, subpart A, the AERR requires states to submit updated

[85] Connecticut's submission contains two sections identified as 2.1. The first one discusses the IMPROVE monitoring network.

[86] Mid-Atlantic/Northeast U.S. Visibility Data, 2004–2019 (2nd RH SIP Metrics).

emissions inventories for criteria pollutants to EPA's Emissions Inventory System (EIS) every three years. The emission inventory data are used to develop the NEI, which provides for, among other things, a triennial state-wide inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment.

Section 3 of Connecticut's submission includes tables of NEI data. The source categories of the emissions inventories included are: (1) Point sources, (2) nonpoint sources, (3) non-road mobile sources, and (4) on-road mobile sources. The point source category is further divided into AMPD point sources and non-AMPD point sources. Connecticut included NEI emissions inventories for the following years: 2002 (one of the regional haze program baseline years), 2008, 2011, 2014, and 2017; and for the following pollutants: SO_2, NO_X, PM_{10}, $PM_{2.5}$, VOCs, and NH_3.

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. Connecticut relied on the MANEVU 2028 emissions projections for MANEVU states. MANEVU completed two 2028 projected emissions modeling cases—a 2028 base case that considers only on-the-books controls and a 2028 control case that considers implementation of the MANEVU Asks.[87]

The EPA proposes to find that Connecticut has met the requirements of 40 CFR 51.308(f)(6) as described above, including through its continued participation in the MANEVU RPO and its on-going compliance with the AERR, and that no further elements are necessary at this time for Connecticut to assess and report on visibility pursuant to 40 CFR 51.308(f)(6)(vi). Connecticut's SIP submittal also includes a commitment to update the statewide emissions inventory periodically.

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 any Class I area within the state and each Class I area outside the state that may be affected by emissions from within that state. Sections 51.308(g)(1) and (2) apply to all states and require a description of the status of implementation of all measures included in a state's first implementation period regional haze plan and a summary of the emission reductions achieved through implementation of those measures. Section 51.308(g)(3) applies only to states with Class I areas within their borders and requires such states to assess current visibility conditions, changes in visibility relative to baseline (2000–2004) visibility conditions, and changes in visibility conditions relative to the period addressed in the first implementation period progress report. Section 51.308(g)(4) applies to all states and requires an analysis tracking changes in emissions of pollutants contributing to visibility impairment from all sources and sectors since the period addressed by the first implementation period progress report. This provision further specifies the year or years through which the analysis must extend depending on the type of source and the platform through which its emission information is reported. Finally, § 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 that 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.

Connecticut's submission describes the status of measures of the long-term strategy from the first implementation period.[88] As a member of MANEVU, Connecticut considered the MANEVU Asks and adopted corresponding measures into its long-term strategy for the first implementation period. The MANEVU Asks were: (1) Timely implementation of Best Available Retrofit Technology (BART) requirements; (2) EGU controls including Controls at 167 Key Sources that most affect MANEVU Class I areas; (3) Low sulfur fuel oil strategy; and (4) Continued evaluation of other control measures. Connecticut met all the identified reasonable measures requested during the first implementation period. During the first planning period for regional haze, programs that were put in place focused on reducing SO_2 emissions. The reductions achieved led to vast improvements in visibility at the MANEVU Federal Class I Areas due to reduced sulfates formed from SO_2 emissions. Connecticut describes the control measures that help control the emissions of VOCs, NO_X, PM and SO_2 from a wide range of sources in the SIP submission and identifies BART and Alternative to BART requirements in section 5.5. The submission also includes periodic emission data that demonstrate a decrease in VOCs, NO_X, PM and SO_2 emissions throughout the state.[89]

The EPA proposes to find that Connecticut 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.

Pursuant to § 51.308(g)(4), in section 3 of its submittal, Connecticut provided a summary of emissions of NO_X, SO_2, PM_{10}, $PM_{2.5}$, VOCs, and NH_3 from all sources and activities, including from point, nonpoint, non-road mobile, and on-road mobile sources, for the time period from 2002 to 2017. With respect to sources that report directly to the EPA, Connecticut also included AMPD state summary data for SO_2 and NO_X emissions for 2018 and 2019.

The reductions achieved by Connecticut emission control measures are seen in the emissions inventory. Based on Connecticut's SIP submission, NO_X emissions have steadily declined in Connecticut from 2002 through 2017, especially in the point, nonroad and onroad mobile sectors. NO_X emissions are expected to continue to decrease as fleet turnover occurs and the older more polluting vehicles and equipment are replaced by newer, cleaner ones. Emissions of SO_2 have shown a decline of 93% in Connecticut over the period 2002 to 2017. Connecticut attributes the reductions in point emissions to fuel switching from coal and oil to natural gas, federal and state low sulfur fuel regulations, NO_X budget and successor programs for power plants and the retirement of older units as well as improved controls on new units. Since some components of the MANEVU low sulfur fuel strategy were not implemented until 2018, and as MANEVU states continue to adopt rules to implement the strategy, additional SO_2 emissions reductions are expected to continue into the future.

Table 3–11 of Connecticut's submission shows VOC emissions from all NEI data categories for the period 2002 to 2017 in Connecticut. VOC emissions have shown a steady decline in Connecticut over this period. VOC

[87] See ''OTC MANEVU 2011 Based Modeling Platform Support Document October 2018—Final.''

[88] See section 5.5 of the CT RH SIP.

[89] See section 3 of the CT RH SIP.

decreases were achieved in all sectors due to Federal new engine standards for onroad and nonroad vehicles and equipment, the National and State low emission vehicle programs, SIP-approved area source rules such as consumer products, portable fuel containers, paints, autobody refinishing, asphalt paving applications, and solvent cleaning operations, and VOC storage tank rules.

In Connecticut's submission, table 3–14 shows a summary of PM_{10} emissions from all NEI data categories point, nonpoint, non-road, and onroad for the period from 2002 to 2017 in Connecticut. In Connecticut, PM_{10} emissions steadily decreased in the point, nonpoint, and nonroad categories for the period from 2002 to 2017. The apparent increase in the onroad emissions is due to changes in emission inventory calculation methodologies, which resulted in higher particulate matter estimates. The variation in emissions in the nonpoint category is due to changes in calculation methodologies for residential wood burning and fugitive dust categories, which have varied significantly.

Table 3–17 of Connecticut's submission shows a summary of $PM_{2.5}$ emissions from all NEI data categories for the period from 2002 to 2017 in Connecticut. $PM_{2.5}$ emissions steadily decreased in the nonroad category for the period from 2002 to 2014. Most reductions came from the nonpoint category, which experienced periodic variation in emissions due to changes in calculation methodologies for residential wood burning and fugitive dust categories. The decrease in nonroad $PM_{2.5}$ emissions can likely be attributed to new Federal engine standards for nonroad vehicles and equipment.[90] Similarly, an overall decrease in onroad emissions can be attributed to Federal and State vehicle regulations and standards, which impose increasingly tighter emissions limits with incremental model year vehicles.[91] The increase in emissions in the onroad category from 2002 to 2008 is due to changes in emission inventory calculation methodologies and a model change, as previously explained, which resulted in higher fine particulate matter estimates.

Table 3–20 of Connecticut's submission shows ammonia (NH_3) emissions from all NEI data categories for the period 2002 to 2017 in Connecticut. Though ammonia decreases were achieved in the onroad sector due to Federal new engine standards for vehicles and equipment, increases and decreases from 2002 to 2017 in the other categories are due to reporting, grouping and methodology changes. There was little change to nonroad ammonia emissions. Overall, ammonia emissions have decreased from 2008 to 2017.

The EPA is proposing to find that Connecticut has satisfied the requirements of § 51.308(g)(4) by providing emissions information for NO_X, SO_2, PM_{10}, $PM_{2.5}$, VOCs, and NH_3 broken down by type of source.

Connecticut uses the emissions trend data in the SIP submission to support the assessment that anthropogenic haze-causing pollutant emissions in Connecticut have decreased during the reporting period and that changes in emissions have not limited or impeded progress in reducing pollutant emissions and improving visibility. The data Connecticut presents for NO_X, SO_2, VOCs, PM_{10}, $PM_{2.5}$, and NH_3 show consistently declining emissions of those pollutants. The EPA is proposing to find that Connecticut has met the requirements of § 51.308(g)(5).

I. Requirements for State and Federal Land Manager Coordination

Section 169A(d) of the CAA requires states to consult with FLMs before holding the public hearing on a proposed regional haze SIP, and to include a summary of the FLMs' conclusions and recommendations in the notice to the public. In addition, § 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, but the opportunity for consultation must be provided at least sixty days before a public hearing or public comment period at the state level. Section 51.308(i)(2) also requires that the consultation 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 visibility impairment. Section 51.308(i)(3) requires states, in developing their implementation plans, to include a description of how they addressed FLMs' comments.

The states in the MANEVU RPO conducted FLM consultation early in the planning process concurrent with the state-to-state consultation that formed the basis of the RPO's decision making process. As part of the consultation, the FLMs were given the opportunity to review and comment on the technical documents developed by MANE–VU. The FLMs were invited to attend the intra- and inter-RPO consultations calls among states and at least one FLM representative was documented to have attended seven intra-RPO meetings and all inter-RPO meetings. Connecticut participated in these consultation meetings and calls.[92]

As part of this early engagement with the FLMs, on April 12, 2018, the NPS sent letters to the MANEVU states requesting that they consider specific individual sources in their long-term strategies.[93] NPS used an analysis of emissions divided by distance (Q/d) to estimate the impact of MANEVU facilities. To select the facilities, NPS first summed 2014 NEI NO_X, PM_{10}, SO_2, and SO_4 emissions and divided by the distance to a specified NPS mandatory Class I Federal area. NPS summed the Q/d values across all MANEVU states relative to Acadia, Mammoth Cave, and Shenandoah National Parks, ranked the Q/d values relative to each Class I area, created a running total, and identified those facilities contributing to 80% of the total impact at each NPS Class I area. NPS applied a similar process to facilities in Maine but relative to just Acadia National Park. NPS merged the resulting lists of facilities and sorted them by their states. NPS suggested that a state consider those facilities comprising 80% of the Q/d total, not to exceed the 25 top ranked facilities. The NPS identified nine facilities in Connecticut in this letter.[94] Connecticut addressed the NPS initial letter in section 5.4 of its proposed SIP. Connecticut explained that five of the facilities are municipal waste combustors that became subject to more stringent NO_X and ammonia limits in 2017 through the implementation of SIP-approved RCSA 22a–174–38 (82 FR 35454) and whose emissions have, as a result, been reduced from the levels the NPS noted in its initial letter.[95] In addition, units at four of the other facilities became subject to more

[90] See *https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles* for info on the EPA's nonroad engine programs.

[91] See 80 FR 13768.

[92] See ''MANEVU Regional Haze Consultation Report and Consultation Documentation—Final.''

[93] *Id.*

[94] *Id.*

[95] Connecticut RH Submittal at 53–55.

stringent NO_X limits in 2023 through the implementation of RCSA 22a–174–22e, which is also in Connecticut's SIP (86 FR 37053).[96] Further, the coal-burning unit at one of these latter facilities retired in 2021 (that is, Bridgeport Harbor Unit 3),[97] and, as noted earlier, DEEP revoked the permit. Finally, DEEP explained that the Cromwell compressor station has also reduced its emissions from those noted by the NPS for this facility.[98] In 2019, the facility replaced several engines with more efficient and lower-emitting turbines that are subject to the NO_X emission limits in RCSA 22a–174–22e that meet the ''strive for'' limits in Ask 5 (*i.e.,* 25 ppmvd).[99] [100] This facility is located in a severe nonattainment area and was issued a New Source Review permit for the new turbines.

On January 15, 2020, Connecticut sent the proposed SIP, including the above explanations of how it addressed the FLM comments, to representatives of the NPS, the U.S. Forest Service (USFS), and the U.S. Fish and Wildlife Service for a 60-day review and comment period pursuant to 40 CFR 51.308(i)(2) before making it available for public comment. Connecticut received comments from the NPS and the USFS. Connecticut included responses to the comments in appendix A of its submission to EPA, in accordance with § 51.308(i)(3). In its comments, the NPS requested that the State consider 4 municipal waste combustors (MWCs) for four-factor analysis. In response to NPS's request, Connecticut again noted that MWCs in the State are already subject to SIP approved 22a–174–38. Connecticut also noted that the state is currently in nonattainment for both the 2008 and 2015 ozone standards and is required to impose RACT and obtain emission reductions of ozone precursors of not less than 3% per year in order to attain the ozone standards. Related to the RACT requirement, CT DEEP explained that it actively participates in an Ozone Transport Commission (OTC) workgroup to evaluate and compare emissions from MWCs and pursue more stringent regulation of their NO_X emissions. CT DEEP explained that the State has already committed in its RACT SIP to act on the information compiled by this workgroup and adhere to the resultant OTC recommendations for MWC emission limits.[101] CT DEEP also responded to comments from the USFS regarding three EGUs.[102]

On December 3, 2020, CT DEEP issued a notice of public hearing and comment and the availability of the draft Regional Haze SIP revision for 2018–2028 on CT DEEP's Public Notices and Hearings web page. The document announced the opportunity to submit written comments until January 29, 2021, as well as a public hearing proposed for January 29, 2021, provided such hearing was requested. No such request was received, and the hearing was cancelled. The Connecticut SIP submittal contains the public comments received and CT DEEP's responses, including responses to additional comments received from the NPS during the public comment period.

For the reasons stated above, the EPA proposes to find that Connecticut 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.

J. Other Required Commitments

Connecticut's January 5, 2022, SIP submission includes a commitment to revise and submit a regional haze SIP in 2028, and every ten years thereafter. The state's commitment includes submitting periodic progress reports in accordance with § 51.308(f) and a commitment to evaluate progress towards the reasonable progress goal for 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 in accordance with § 51.308(g).

V. Proposed Action

The EPA is proposing to approve the ''Connecticut Regional Haze State Implementation Plan Revision Second Planning Period (2018–2028)'', Final Submittal dated November 2021 and submitted to EPA on January 5, 2022, as satisfying the regional haze requirements for the second implementation period contained in 40 CFR 51.308(f), (g), and (i).

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 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, this proposed rulemaking action, pertaining to Connecticut regional haze SIP submission for the second planning period, is not approved to apply on any Indian reservation land or in any other area where the 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, Feb. 16, 1994) directs Federal agencies to identify and address ''disproportionately high and adverse human health or environmental effects'' of their actions on minority populations

[96] *Id.*

[97] *Id.* at 54–55.

[98] *Id.* at 55 (table 5–3).

[99] *Id.*

[100] The permit restricts these turbines to a ppmvd NO_X emission limit, well below the ''strive for'' limits of Ask 5.

[101] See Appendix A—Summary of Comments from U.S. Environmental Protection Agency and Federal Land Managers (FLMs) with Responses from the Department.

[102] *Id.*

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.'' The air agency did not evaluate environmental justice 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. 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 environmental justice 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 15, 2024.

David Cash,

Regional Administrator, Region 1.

[FR Doc. 2024–15857 Filed 7–18–24; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 62

[EPA–R06–OAR–2020–0610; FRL–11996–01–R6]

Approval and Promulgation of State Air Quality Plans for Designated Facilities and Pollutants; Oklahoma; Control of Emissions From Existing Commercial and Industrial Solid Waste Incineration Units

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA) is proposing to approve the CAA section 111(d)/129 state plan revision submitted by the State of Oklahoma for sources subject to the Commercial and Industrial Solid Waste Incineration units (CISWI) Emission Guidelines (EG). The Oklahoma CISWI plan was submitted to fulfill state obligations under CAA section 111(d)/129 to implement and enforce the requirements under the CISWI EG. The EPA is proposing to approve the state plan and amend the agency regulations in accordance with the requirements of the CAA.

DATES: Written comments must be received on or before August 19, 2024.

ADDRESSES: Submit your comments, identified by Docket No. EPA–R06–OAR–2020–0610, at *https://www.regulations.gov* or via email to *ruan-lei.karolina@epa.gov.* Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov.* The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, please contact Karolina Ruan Lei, (214) 665–7346, *ruan-lei.karolina@epa.gov.* For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

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

FOR FURTHER INFORMATION CONTACT: Karolina Ruan Lei, EPA Region 6 Office, Air and Radiation Division—State Planning and Implementation Branch (R6–ARSH), (214) 665–7346, *ruan-lei.karolina@epa.gov.* We encourage the public to submit comments via *https://www.regulations.gov.* Please call or email the contact listed above if you need alternative access to material indexed but not provided in the docket.

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

I. Background

A. Clean Air Act Section 111(d)/129 Requirements

Sections 111(d) and 129 of the CAA require states to submit plans to control certain pollutants (designated pollutants) at existing solid waste combustor facilities (designated facilities) whenever standards of performance have been established under section 111(b) for new sources of the same type, and the EPA has established emission guidelines for such existing sources. CAA section 129 directs the EPA to establish standards of performance for new sources (NSPS) and emissions guidelines (EG) for existing [1] sources for each category of solid waste incinerator specified in CAA section 129. Under CAA section 129, NSPS and EG must contain numerical emissions limitations for particulate matter, opacity (as appropriate), sulfur dioxide, hydrogen chloride, oxides of nitrogen, carbon monoxide, lead, cadmium, mercury, and dioxins and dibenzofurans. While NSPS are directly applicable to new sources, EG for existing sources (designated facilities) are intended for states to use to develop a state plan to submit to the EPA. When designated facilities are located in a state, the state must then develop and submit a plan for the control of the designated pollutants.

State plan submittals and revisions under CAA section 111(d) must be consistent with the applicable EG and the requirements of 40 CFR part 60, subpart B, and part 62, subpart A. The regulations at 40 CFR part 60, subpart B, contain general provisions applicable to the adoption and submittal of state plans and plan revisions under CAA section 111(d). Additionally, 40 CFR part 62, subpart A, provides the procedural framework by which the EPA will approve or disapprove such plans and plan revisions submitted by a state. Once approved by the EPA, the state plan becomes federally enforceable. If a state does not submit an approvable state plan to the EPA, the EPA is responsible for developing, implementing, and enforcing a federal plan. However, 40 CFR 60.23(b) and 40 CFR 62.06 provide that if there are no

[1] In this context and for purposes under CAA section 111(d)/129, the term ''existing'' source is synonymous with designated facility. These are sources that were constructed, reconstructed, or modified on or before the date specified in the emission guideline the source applies to.