



May 14, 2021

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Submitted via electronic mail to: mark.wert@mass.gov

Re: Comments on State of Massachusetts' Notice of Intent to Revise the State Implementation Plan for Air Quality: Regional Haze Plan for the Second Implementation Period (2018 - 2028)

Dear Mr. Wert:

The National Parks Conservation Association (NPCA) and Appalachian Mountain Club (Conservation Organizations) respectfully submit the following comments regarding the State of Massachusetts' Notice of Intent to Revise the State Implementation Plan for Air Quality: Regional Haze Plan (Haze Plan) for the Second Implementation Period (2018 - 2028).^{1, 2}

The National Parks Conservation Association (NPCA) is the leading voice for our national parks - an independent, nongovernmental, nonpartisan organization that works to protect and enhance our national parks. Through a nationwide network of offices and with nearly 1.4 million members and supporters, we speak up for our more than 400 landscapes, seashores, cultural and historic places that make up our national park system. For the last 100 years, NPCA has educated and inspired policymakers and the public to ensure that our national parks are well-protected, well-funded and well-managed. NPCA leverages the unique space national parks occupy in federal law and policy and in the court of public opinion, and advocates for policies and actions needed to restore them and ensure they thrive across generations. NPCA is an active nation-wide in advocating

¹ Public Hearing Notice, Announcing Proposed SIP, Massachusetts Department of Environmental Protection, <https://www.mass.gov/doc/notice-of-public-comment-period-6/download>.

² "Massachusetts Regional Haze State Implementation Plan Revision for the Second Implementation Period (2018-2028) April 7, 2021," <https://www.mass.gov/doc/draft-massachusetts-regional-haze-sip-revision-for-2018-2028-4-7-21/download>.

for strong air quality requirements in our parks, including submission of petitions and comments relating to visibility issues, regional haze State Implementation Plans, global warming and mercury impacts on parks, and emissions from individual power plants and other sources of pollution affecting National Parks.

Conservation Organization members live near, work at, and recreate in all the Class I areas in the Northeast, including those identified in the proposed SIP, which does not meet the legal requirements of the Clean Air Act and federal regulations and does not address emissions from the sources that emit visibility impairing pollution contributing to regional haze affecting Class I areas.

As detailed below, NPCA describes the flaws in MANE-VU's assessment, demonstrating that it does not meet the Clean Air Act's legal requirements. Moreover, Massachusetts does not provide any state-specific justification for the proposed extinction threshold. The result of Massachusetts' reliance on the flawed assessment is that only two sources are identified for a reasonable progress four factor analysis and no emission reducing measures are included in the proposed SIP for the second planning period. Other sources with significant emissions of visibility impairing pollution – such as the Massachusetts Municipal Waste Combustors (MWC) – should be considered in this planning period. Massachusetts' flawed and unreasonable proposal threatens to impede progress in improving visibility at the Class I areas its sources impact.

Introduction and Background

The proposed SIP revision is to address visibility impairing pollution from Massachusetts' sources that has the potential to affect national parks and wilderness areas in the region such as Acadia National Park and Great Gulf Wilderness, and multiple other wilderness areas that may be affected by emissions from within the state.

Congress set aside these national parks and wilderness areas to protect our natural heritage for generations. These protected areas also generate millions of dollars in tourism revenue, provide habitat for a range of species, and provide year-round recreational opportunities for residents. These special places are designated "Class I areas" under the Clean Air Act (CAA) and as such, their air quality is entitled to the highest level of protection. Unfortunately, that requirement and promise is unfulfilled because the air in all Class I areas, including in those in the Northeastern U.S., remain polluted by industrial sources, including the two sources covered by this proposal.

To improve air quality in our most treasured landscapes, Congress passed the visibility protection provisions of the Clean Air Act in 1977, establishing "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in the mandatory class I Federal areas which impairment results from manmade air pollution."³ "Manmade air pollution" is defined as "air pollution which results directly or indirectly from human activities."⁴ In order to protect Class I areas' "intrinsic beauty and historical and archeological treasures," the regional haze program establishes a national regulatory floor and requires states to design and implement programs to curb haze-causing emissions within their

³ 42 U.S.C. § 7491(a)(1).

⁴ *Id.* § 7491(g)(3).

jurisdictions. Each state must submit for EPA review a SIP designed to make reasonable progress toward achieving natural visibility conditions.⁵ This *long-term strategy* SIP covers a period of ten to fifteen years, at which point the SIP is revised.⁶

A regional haze SIP must provide “emissions limits, schedules of compliance and other measures as may be necessary to make reasonable progress towards meeting the national goal.”⁷ Two of the most critical features of a regional haze SIP are the requirements for installation of Best Available Retrofit Technology (BART) limits on pollutant emissions and a long-term strategy for making reasonable progress toward the national visibility goal.⁸ The haze requirements in the Clean Air Act present an unparalleled opportunity to protect and restore regional air quality by curbing visibility-impairing emissions from some a host of polluting facilities that harm our communities and muddy our skies.

Implementing the regional haze requirements promises benefits beyond improving views. Pollutants that cause visibility impairment also harm public health. For example, oxides of nitrogen (NO_x) are a precursor to ground-level ozone which is associated with respiratory disease and asthma attacks. NO_x also reacts with ammonia, moisture and other compounds to form particulates that can cause and/or worsen respiratory diseases, aggravate heart disease, and lead to premature death. Similarly, sulfur dioxide (SO₂) increases asthma symptoms and leads to increased hospital visits. Nitrogen and sulfur gases emitted into the atmosphere can become particulate matter through a chemical transformation and when dissolved in water, become acid rain, creating devastating effects on our ecosystems, particularly in the eastern U.S. There are numerous negative ecosystem effects of acid deposition like depletion of soil nutrients, aluminum mobilization, and acidification in waters that lead to accelerated plant die-off, slower plant growth and damage to leaves and overall decreases in species diversity. Fine particulate matter, PM_{2.5}, is one of the most dangerous of our criteria pollutants, with no real known safe level of exposure for humans. In addition to fine particulate matter being a lethal air pollutant for humans to breathe, it is a primary driver of haze, or visibility impairment, while also negatively affecting many other ecosystem functions. NO_x, SO₂, and PM emissions also harm terrestrial and aquatic plants and animals through acid rain as well as through deposition of nitrates (which in turn cause ecosystem changes including eutrophication of mountain lakes and estuaries).

These public health harms have a disproportionately adverse effect on minority and low income populations. Massachusetts’ proposed SIP action has entirely failed to analyze the susceptibility of communities of color and lower socioeconomic status to different levels of pollution from the Commonwealth’s sources of visibility impairing emissions. As discussed in Section VII of our comments, this proposal does nothing to remediate Massachusetts’ environmental justice issues - despite policy and legal requirements to assist environmental justice neighborhoods disproportionately impacted from the public health harms caused by air pollution. Moreover, it is critical to consider the cumulative impacts of multiple stressors on these communities when assessing health impacts, including a population’s exposure to multiple pollutants, exposure to higher levels of multiple pollutants, and chronic exposure to lower levels

⁵ *Id.* § 7491(b)(2).

⁶ *Id.* § 7491(b)(2)(B).

⁷ 42 U.S.C. § 7491(b)(2).

⁸ *Id.* §§ 7491(b)(2)(A), (B); 40 C.F.R. § 51.308(e), (f).

of multiple pollutants. None of which was done in the proposed SIP. The State's failure to consider the disproportionate impact on those closest to the sources has resulted in a flawed analysis. Further ignoring these communities in the midst of a respiratory pandemic is unconscionable, and further supports our request that Massachusetts renote this proposal and provide for a second round of public notice and comment.

I. The Regional Haze Reasonable Progress Legal Requirements

A. EPA's Regional Haze Regulations

In developing its long-term strategy, a state must consider its anthropogenic sources of visibility impairment and evaluate different emission reduction strategies including and beyond those prescribed by the BART provisions.⁹ A state should consider evaluating "major and minor stationary sources, mobile sources and area sources."¹⁰ At a minimum, a state must consider the following elements:

- (A) Emission reductions due to ongoing air pollution control programs, including measures to address reasonably attributable visibility impairment;
- (B) Measures to mitigate the impacts of construction activities;
- (C) Emissions limitations and schedules for compliance to achieve the reasonable progress goal;
- (D) Source retirement and replacement schedules;
- (E) Smoke management techniques for agriculture and forestry management purposes including plans as currently exist within the State for these purposes;
- (F) Enforceability of emission limitations and control measures; and
- (G) The anticipated net effect on visibility due to projected changes in point, area, and mobile emissions over the period addressed by the long-term strategy.¹¹

Additionally, a state

Must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated *and* how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy.¹²

In developing its plan, a state must document the technical basis for the SIP, including monitoring data, modeling, and emission information, including the baseline emission inventory upon which its strategies are based.¹³ A state's reasonable progress analysis must consider the factors identified in the Clean Air Act and regulations.¹⁴ Further, the state's SIP revisions must

⁹ 40 C.F.R. § 51.308(f).

¹⁰ *Id.* § 51.308(f)(2)(i).

¹¹ *Id.* § 51.308(f)(2)(iv).

¹² 40 C.F.R. § 51.308(f)(2)(i) (emphasis added).

¹³ 40 C.F.R. § 51.308(f)(2)(i).

¹⁴ *See* CAA 169A(g)(1); 40 C.F.R. 51.308(f)(2)(i) ("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 anthropogenic source of visibility impairment.")

meet certain procedural and consultation requirements.¹⁵ The state must consult with the Federal Land Manager(s) and look to the Federal Land Managers' expertise of the lands and knowledge of the way pollution harms them to guide the state to ensure SIPs do what they must to help restore natural skies.¹⁶ The rule also requires that in "developing any implementation plan (or plan revision) or progress report, the State must include a description of how it addressed any comments provided by the Federal Land Managers."¹⁷

Furthermore, the duty to ensure reasonable progress requirements are met for purposes of the SIP rests with the state. While regional planning organizations such as MANE-VU play an important role in convening states and providing support in regional haze planning, their interpretations of regulatory requirements and recommended approach are not governing. Therefore, as discussed below since MANE-VU's assessments do not meet the legal requirements, Massachusetts must conduct independent analyses to inform its reasonable progress determination. Moreover, with regard to Massachusetts' obligations regarding the Class I areas outside the State, the rule requires that it

...must submit a long-term strategy that addresses regional haze visibility impairment ... for each mandatory Class I Federal area located outside the State that may be affected by emissions from the State.¹⁸

As discussed in our comments, the Massachusetts' proposed long-term strategy SIP revision for this planning period is inconsistent with this rule. The Massachusetts' proposal includes such a high threshold for which source's emissions it will evaluate for emission reduction measures that the high threshold eliminates *all its sources* from evaluation.

B. EPA's 2019 Regional Haze Guidance is Deeply Flawed and Massachusetts Should Not Wholly Rely On It

In May 2020, NPCA shared the petition it submitted to the previous EPA Administrator - which sought reconsideration of the 2019 RH guidance¹⁹ - alongside a cover letter with the State.²⁰ In addition to NPCA, Sierra Club, Natural Resources Defense Council, Western Environmental Law Center, Appalachian Mountain Club, Coalition to Protect America's National Parks, and Earthjustice, signed the petition for reconsideration. As of the date of this comment letter, EPA has not responded to the Petition. Because EPA's 2019 Regional Haze Guidance is deeply flawed, the State should not wholly rely on it. Instead, the State must closely

¹⁵ For example, in addition to the RHR requirements, states must also follow the SIP processing requirements in 40 C.F.R. §§ 51.104, 51.102.

¹⁶ 40 C.F.R. § 51.308(i).

¹⁷ *Id.* § 51.308(i)(3).

¹⁸ *Id.* § 51.308(f)(2).

¹⁹ EPA issued the Final Guidance on August 20, 2019 via Memorandum from Peter Tsirigotis, Director at EPA Office of Air Quality Planning and Standards to EPA Air Division Directors. (EPA 2019 Guidance)

²⁰ "Petition for Petition for Reconsideration of Guidance on Regional Haze State Implementation Plans for the Second Implementation Period," submitted by National Parks Conservation Association, Sierra Club, Natural Resources Defense Council, Coalition to Protect America's National Parks, Appalachian Mountain Club, Western Environmental Law Center and Earthjustice, to former EPA Administrator Andrew Wheeler (May 8, 2020). (Conservation Organizations Petition). Copy enclosed, Enclosure 1.

adhere to the regulation itself and work to achieve the Clean Air Act goal of Class I visibility restored to natural conditions.²¹

II. The State's Proposed SIP Does Not Evaluate and Analyze Emission Reduction Measures Necessary to Make Reasonable Progress Based on a Four-Factor Analysis

The RHR requires, in part, that a state's long-term strategy meet the following requirements:

The State must evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering 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 anthropogenic source of visibility impairment. The State should consider evaluating major and minor stationary sources or groups of sources, mobile sources, and area sources. The State must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy. In considering the time necessary for compliance, if the State concludes that a control measure cannot reasonably be installed and become operational until after the end of the implementation period, the State may not consider this fact in determining whether the measure is necessary to make reasonable progress.²²

Massachusetts did not directly address these requirements, instead it relied on the MANE-VU assessment for targeting sources to conduct a four-factor analysis. By relying on the emission sources modeled by MANE-VU, MassDEP identified and selected only two point sources (EGUs) affecting Class I sites (Brayton Point unit 4 and Canal Station unit 1) out of which, Brayton Point, already ceased operations in 2017.²³

²¹ The Petition explained that, as issued, the Final Guidance conflicts with this statutory objective, previous rulemaking and guidance; misdirects states as to how they can go about complying with their legal obligations to make reasonable progress towards restoring natural visibility to protected public lands; and otherwise fails to set expectations that comport with legal requirements for the second planning period. Further, we petitioned the prior Administrator to replace it with guidance that comports with the Clean Air Act and the Regional Haze Rule, 42 U.S.C. §§ 7491, 7492; 82 Fed. Reg. 3078 (Jan. 10, 2017); 71 Fed. Reg. 60,612 (Oct. 13, 2006); 70 Fed. Reg. 39,104 (July 6, 2005); 64 Fed. Reg. 35,714 (July 1, 1999), and aids states in making progress towards achieving the national goal of natural visibility conditions at all Class I areas. Conservation Organizations Petition at 1-2. Our Petition includes a detailed analysis of the issues. As of the date of this comment letter, EPA has not responded to our Petition. Until the current EPA withdraws the illegal approaches in the 2019 guidance, we trust states will not follow it instead adhering closely to the regulation itself and work to achieve the Clean Air Act goal of Class I visibility restored to natural conditions.

²² 40 C.F.R. § 51.308(f)(2)(i).

²³ The Federal Land Managers explained during their consultation with the State that this closure was during the first planning period and not the planning period for the SIP proposed for the second planning period – thus emissions cannot be used to offset emission for the second planning period. Email from Don Shepard, NPS, to Mark Wert (Nov. 23, 2020) (“Since Brayton Point was retired in 2017, i do not think its closure can be used to offset other emissions during this planning period.”) Copy enclosed, Enclosure 3.

There are numerous deficiencies in the State's approach. First, it relies on MANE-VU requests for defining sources to target for a four-factor analysis to those sources, but does not disclose what screening threshold was used, and rather refers the public to the MANE-VU documents. The MANE-VU assessment used a screening threshold that only included those sources that have the potential for 3.0 Mm^{-1} or greater visibility impacts at any MANE-VU mandatory Class I area. Second, Massachusetts does not explain how the 3.0 Mm^{-1} or greater visibility impact threshold was selected. EPA's August 20, 2019 Guidance on regional haze plans for the second implementation period states that "[w]hatever threshold is used [to determine sources to evaluate in a four-factor analysis], the state must justify why the use of that threshold is a reasonable approach, *i.e.*, why it captures a reasonable set of sources of emissions to assess for determining what measures are necessary to make reasonable progress."²⁴ The RHR requires that the state "include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion into its long term strategy."²⁵ Massachusetts' proposal does not justify use of this threshold. Thus, the proposed SIP does not meet these requirements and the State must remedy this in a revised SIP revision.

Third, use of the same extinction threshold for selecting sources for consideration of pollution controls for each of the Class I areas evaluated in Massachusetts' proposed regional haze SIP revision has not been justified. In its August 20, 2019 guidance, EPA elaborates on the many things to consider when setting a threshold level for selecting sources for analysis of reasonable progress controls:

The appropriate threshold for selecting sources may reasonably differ across states and Class I areas due to varying circumstances. In setting a threshold, a state may consider the number of emissions sources affecting the Class I areas at issue, the magnitude of the individual sources' impacts, and the amount of anthropogenic visibility impairment at the Class I area. [fn41 omitted]. Various visibility metrics may be appropriate to use, but metric thresholds should be developed in consideration of the magnitude of an individual metric at an individual Class I area. For example, if modeling a full year, the maximum modeled day visibility impact may be several orders of magnitude larger than the impact averaged across the 20 percent most impaired days. There may be other approaches and factors that would be appropriate for states to use when setting and explaining such a threshold. If quantifiable, the amount of anthropogenic visibility impairment from a source can be compared to the total anthropogenic impairment at a Class I area. For example, a threshold of " X " Mm^{-1} may be reasonable if current visibility impairment is mostly due to relatively few sources with impacts above " X " Mm^{-1} , but may not be reasonable if current visibility impairment is due to a large number of sources each with impacts below " X " Mm^{-1} . A similar concept applies if source-specific visibility impacts are expressed as percentages of total light extinction.²⁶

Fourth, this extinction threshold for defining sources to evaluate for additional controls to achieve reasonable progress towards the national visibility goal is unreasonably high and at odds

²⁴ EPA 2019 Guidance at 19.

²⁵ 40 C.F.R. § 51.308(f)(2).

²⁶ EPA 2019 Guidance at 19.

with the Clean Air Act mandate to make progress towards the national goal. Indeed, a much lower threshold for defining whether a BART-eligible source should be subject to a BART analysis was used in the first round of regional haze implementation plans. Specifically, if a BART-eligible source had a 0.5 deciview impact on a Class I area, reflecting an impact of approximately a 5% change in extinction, the unit was subject to a BART analysis. There is no justification to use a much higher threshold, which equates to a 9% to 27% change in manmade extinction at the Class I areas impacted by the MANE-VU states, for defining sources to control in this regional haze plan for the second implementation period. Massachusetts has not provided any justification for use of a 3.0 Mm^{-1} threshold to determine sources to evaluate for controls, and we do not think any valid justification can be provided for such a high extinction threshold for defining sources to evaluate for controls to make reasonable progress. We urge Massachusetts to replace this generic threshold with Class I specific figures that will provide the contours through which the State may identify sources to assess for a four-factor analysis.

Sixth, not only must Massachusetts implement and document a reasoned basis for any extinction level used for selecting sources for a four-factor analysis of controls, it also must make clear how each source's visibility impacts are to be determined. For example, were the sources' potential emissions modeled, given that the MANE-VU recommended control is to evaluate sources with the "potential for" 3.0 Mm^{-1} or greater visibility impacts at any MANE-VU Class I area? What visibility-impairing pollutants were modeled for each source? Were all units modeled for all sources, or just certain emission units? Were sources modeled for impacts on the 20% worst days or on an annual average basis, or some other timeframe? The technical approach that the State employed to determine source-specific visibility extinction needs to be identified and subject to public review and comment, pursuant to 40 C.F.R. 51.308(f)(2). Any proposed extinction threshold for defining sources to target for controls is only as good as the underlying technical analysis to define if a source exceeds the extinction threshold.

Seventh, the reasonable progress determination should necessarily have a lower threshold than BART, because BART was intended to create emission limitations for the low hanging fruit and we know that to achieve clear skies we will need to dig deeper for emission reductions each round to make progress.

Eighth, and importantly, the Act requires that the required long-term strategy adopted in the Massachusetts' SIP make reasonable progress toward the national goal of remedying *any* existing impairment.²⁷ Emissions from the sources in Massachusetts impair visibility in Class I areas. Therefore, the State cannot set a threshold that so high as to exclude EVERY State source from a four factor RP analysis. The State's proposed SIP is clearly inconsistent with the Act's requirement as it sets a threshold that prohibits it from remedying existing impairment.

Ninth, Massachusetts reliance on the MANE-VU modeling work for the selection of point sources means that it only evaluated sources from a preselected group of specific sectors: coal and oil-fired EGUs, point and area Industrial, Commercial, and Institutional (ICI) boilers, cement and lime kilns, low sulfur heating oil, and residential wood combustion and open burning. Municipal Waste Combustors (MWCs), among other sources, currently emit the highest amounts of sulfur dioxide and nitrogen oxides pollution in Massachusetts. Despite high level of

²⁷ 42 U.S.C. §§ 7591(a)(1), (b)(2), (b)(2)(B).

controllable pollution from these sources and the many opportunities for cost-effective controls, **Massachusetts failed to select any MWCs for an evaluation of emission reducing measures during this planning period.**

Massachusetts must address these requirements and justify any and all extinction thresholds that it relies on for each Class I area impacted by its sources. We request that Massachusetts provide such explanations with a new period for public review and comment.

III. The State's SIP Must Make the Emission Reduction Commitments from Canal Generating, LLC Practically Enforceable

By relying on the emission sources modeled by MANE-VU, Massachusetts identified and selected only two point sources (EGUs) affecting Class I sites (Brayton Point unit 4 and Canal Station unit 1) out of which, Brayton Point, already ceased operations in 2017. Canal Generating, LLC submitted a four factor analysis for Canal Unit 1 to MassDEP concluding that emissions from Canal 1 are highly controlled and there are no further reasonable measures available to control emissions due to the cost of technically feasible controls. The emissions in 2015 from Canal Station unit 1 were 75 tons per year of NO_x and 305 tons per year of SO₂. Canal committed to purchasing 0.3 percent by weight (wt%) No. 6 fuel oil following the depletion of the current fuel inventory (0.5 wt%). Massachusetts must make this commitment practically enforceable in the SIP for this planning period.

IV. The State SIP Must Contain the Required Four-Factor Analyses for Several Sources

A. Municipal Waste Combustors

Massachusetts did not go beyond the MANE-VU recommendations to identify a more reasonable set of sources in its screening. As such we analyzed 2017 NEI data and distance from all Class I areas of interest and below include a calculated Q/d value of MWCs we believe the State should have evaluated and provide the following analysis. Based on the emissions and Q/d values, it's clear that Massachusetts needs to conduct a four-factor analysis for four municipal waste combustion sources to inform its reasonable progress determination, specifically:

Figure 1. Recommended Sources for the Four-Factor Reasonable Progress Analysis.

Facility	2017 NO_x²⁸ (tons per year)	2017 SO₂ (tons per year)
SEMASS PARTNERSHIP	1351.3	301.0
COVANTA HAVERHILL INCORPORATED	1019.7	74.4
WHEELABRATOR MILLBURY INC	855.2	186.7

²⁸ According to the EPA's 2017 National Emissions Inventory, NO_x emissions from each of these MWCs highly exceed the Canal unit 1 NO_x emissions.

WHEELABRATOR NORTH ANDOVER INCORPORATED	777.0	37.0
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Although some of these waste combustors have installed selective non-catalytic reduction controls (SNCR) to limit emissions of nitrogen oxides and such reductions will achieve lower than 2006 New Source Performance Standards for municipal waste combustors, other like sources have or will achieve lower short term NO_x rates. The National Park Service (NPS) has informed Massachusetts that at least two states are requiring tighter limits for waste combustors:^{29, 30}

- The Montgomery County Resource Recovery Facility, in Maryland is achieving a 30-day rolling average NO_x emissions rate of 105 ppmv, that was promulgated in the State's regulation;³¹
- Emission limits in Virginia's SIP for the Covanta Arlington/Alexandria and Covanta Fairfax facilities, means after 2021 modifications the sources will achieve daily average NO_x rates of 110 ppmvd @7% O₂ and annual average NO_x rates of 90 ppmvd @ 7% O₂.³²

Given the high levels of NO_x emissions from the facilities in Massachusetts, their potential to impact class I areas, and the known emission reduction control measures feasible we urge Massachusetts to do a four factor analysis for these facilities to determine emission reduction requirements and include practically enforceable provisions in the SIP.

B. Stony Brook Energy Center

Massachusetts also failed to select Stony Brook Energy Center for a reasonable progress evaluation. According to the 2017 NEI, this source emits 564 tons of NO_x per year. Moreover, emissions from this source have more than double as compared to the last emissions inventory (2014 NEI). Thus, we urge Massachusetts to conduct a four factor analysis for the Stony Brook Energy Center facility to determine NO_x emissions reduction requirements.

V. The State's Proposed SIP Does Not Contain Provisions to Ensure Emission Limitations are Permanent and Enforceable and That Permits *Complement* the Act's Reasonable Progress Requirements

The Clean Air Act requires states to submit implementation plans that "contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal" of achieving natural visibility conditions

²⁹ NPS Consultation Presentation at 19.

³⁰ "These three facilities employe [sic] a new low NO_x system. All are existing facilities, with combustors that were constructed between 1988 and 1995." *Id.*

³¹ *Id.*, citing, <http://www.dsd.state.md.us/comar/comarhtml/26/26.11.08.10.htm>.

³² *Id.* (these two existing facilities are undergoing modifications that will result in lower RACT NO_x in 2021). "The limits from the RACT permits for these Virginia facilities have been incorporated into Virginia's state implementation plan (SIP). The change to the SIP that incorporated these limits can be found in the Federal Register: <https://www.federalregister.gov/documents/2019/12/09/2019-26403/approval-and-promulgation-of-air-quality-implementation-plans-virginia-source-specific-reasonably>." *Id.*

at all Class I Areas.³³ The Regional Haze Rule requires that states must revise and update its regional haze SIP, and the

[P]eriodic comprehensive revisions must include the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress as determined pursuant to [51.308](f)(2)(i) through (iv).”³⁴

The emission limitations and other requirements of the regional haze rule must be adopted into the SIP. Finally, under the Regional Haze Rule, RPGs adopted by a state with a Class I area must be based only on emission controls measures that have been adopted and are enforceable.³⁵

The State’s proposal explains that it intends to meet the **MANE-VU Ask 1** regarding operation of control equipment at the 53 EGUs identified in an appendix to the SIP. This particular Ask requires that

Electric Generating Units (EGUs) with a nameplate capacity larger than or equal to 25 MW with already installed NO_x and/or SO₂ 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.³⁶

The State’s proposal references Appendix 23 as containing a list of the 53 EGUs, but this appendix is *not* a list of the 53 EGUs, rather it is an operating permit for Canal Generating Station. Therefore, the State has not provided a list of the EGUs to the public for review and comment. In accordance with legal requirements for processing SIPs, **the State must renounce its SIP so that the public has an opportunity to review and comment on this element of its SIP.**³⁷

The State’s proposed reliance on permits in the SIP context is inconsistent with the Act, EPA’s regulations and guidance. EPA’s Guidance explains that the requirements in 40 C.F.R. § 51.308(d)(3)(v)(F):

[R]equires SIPs to include enforceable emission limitations and/or other measures to address regional haze, deadlines for their implementation, and provisions to make the measures practicably enforceable including averaging times, monitoring requirements, and record keeping and reporting requirements.³⁸

³³ 42 U.S.C. § 7491(a)(1), (b)(2).

³⁴ 40 C.F.R. § 51.308(f)(2); 40 C.F.R. § 51.308(d)(3)(v)(F)(Enforceability of emission limitations and control measures).

³⁵ 40 C.F.R. § 51.308(f)(3).

³⁶ Massachusetts Proposed SIP at 75.

³⁷ 42 U.S.C. § 7410; 40 C.F.R. Part 51, Subpart F, Appendix V.

³⁸ “EPA Guidance on Regional Haze State Implementation Plans for the Second Implementation Period,” at 42-43 (August 20, 2019), https://www.epa.gov/sites/production/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf. (While NPCA filed a Petition for Reconsideration regarding EPA’s issuance of the 2019 Guidance (Attachment 2), it does not dispute the information in the Guidance referenced here regarding enforceable limitations, which cite to the “General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 74 Fed. Reg. 13498 (April 16, 1992).

Massachusetts' proposed SIP revisions do not include emissions limitations with practicably enforceable provisions. Rather, they merely reference a list of sources – which has not been provided to the public – covered by this Ask suggesting they have permits. EPA's recent Guidance recognizes EPA's long-standing position that while the SIP is the basis for demonstrating and ensuring state plans meet the regional haze requirements, state-issued permits must *complement* the SIP and SIP requirements.³⁹ State-issued permits must not frustrate SIP requirements.⁴⁰ Neither stand-alone PSD nor Title V permits that are not incorporated into a SIP meet the Act's requirements for practically enforceable emission limits. For example, sources with PSD permits under Title I must not hold permits that allow emissions that conflict with SIP requirements.⁴¹ Additionally, the Act's Title V operating permits collect and implement all the Act's requirements – including the requirements in the SIP, as applicable – to the particular permittee. Furthermore, Title V permits are only good for a period of five years and may expire under certain conditions. Therefore, there is no assurance that Title V permit terms and conditions will be permanent since they can lapse. Finally, Title V sources must not have permits with permit terms and conditions that conflict with the SIP and Clean Air Act SIP requirements.

The proposed SIP for these 53 facilities not only lacks any identification and list of the sources, but also lacks the required “enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress.” Thus this SIP as proposed would allow these 53 facilities to modify operations, increase emissions impact the Class I areas for many years without first meeting reasonable progress emission limitation and other necessary requirements.

Finally, the State's response to **Ask 6** regarding energy efficiency summarizes its efforts but does not propose including any of its efforts in the SIP.⁴² Thus, none of what is summarized are in the form of emission limitations that are permanent and enforceable for purposes of the RH SIP.

VI. Consideration of the Comments from the Federal Land Managers

As the State is aware, on January 5, 2021, the NPS Air Resources Division and NPS Interior Region 1 staff hosted a consultation meeting with Massachusetts Department of Environmental Protection to discuss the RH SIP revisions, which included representatives from the U.S. Forest Service and U.S. Environmental Protection Agency, Region 1.⁴³ The NPS explained that while “Massachusetts does not have any NPS managed Class I areas, emissions from sources in the state affect visibility at Acadia National Park in Maine.”⁴⁴

³⁹ 74 Fed. Reg. 13498, 13568 (April 16, 1992).

⁴⁰ Furthermore, to the extent stationary source are granted permits by rule or other mechanisms, these other categories that allow construction and operation must also complement SIP requirements.

⁴¹ Additionally, the proposed SIP revisions fail to contain source-specific “measures to mitigate the impacts of construction activities.” 40 C.F.R. § 51.308(d)(3)(v)(B).

⁴² Massachusetts Proposed SIP at 95-101.

⁴³ Email from Holly Salazer, Regional Air Resources Coordinator, NPS, Interior Region 1, to Mark Wert, MassDEP, NPS/MassDEP Regional Haze Consultation Notes and Documentation, with Presentation (Jan. 15, 2021). Copy enclosed, Enclosure 2. (NPS/Massachusetts Regional Haze Consultation Presentation)

⁴⁴ *Id.*

During the 2021 consultation, NPS noted that in 2018, based on EPA’s guidance it provided the State with a list of facilities that impact the Class I areas. The list facilities associated with contributing 80% of visibility impacts.⁴⁵ The 2018 NPS list is seen below in Figure 2, which the NPS revised in 2021, seen in the same Figure. Notably, the NPS list of four sources is the same as those identified by Conservation Commenters in Figure 1.

Figure 2. List of NPS 2018 (Revised 2021) Recommendations for Reasonable Progress Analysis.

★ MA Proposes 4-factor analysis
 ⓧ MA Does not propose 4-factor analysis

NPS List – 2018 MA Sources for Consideration of Four Factor Analysis

Year	Inventory	EIS ID	Facility Name	NAICS Code	Latitude	Longitude	State	Q	Distance to NPS Class I Area	Q/d	NPS Class I Area
2014	NEI	8327611	SEMASS PARTNERSHIP	Solid Waste Combustors and Incinerators	41.802	-70.788	MA	1,616	301	5.37	ACAD
2014	NEI	7865511	WHEELABRATOR MILBURY INC	Solid Waste Combustors and Incinerators	42.221	-71.127	MA	1,257	322	3.91	ACAD
2014	NEI	7947211	WHEELABRATOR NORTH ANDOVER INCORPORATED	Solid Waste Combustors and Incinerators	42.726	-71.122	MA	895	245	3.63	ACAD
2014	NEI	8367211	WHEELABRATOR SAUGUS INC	Solid Waste Combustors and Incinerators	42.448	-70.980	MA	709	256	2.76	ACAD
2017	CAMD	2240911	Myxle	Power Generation	42.091	-71.067	MA	706	266	2.66	ACAD
2014	NEI	7236411	SOLITIA INC	Unlabeled Film and Stock Manufacturing	42.57	-72.528	MA	984	376	2.62	ACAD
2014	NEI	6622811	MM TAUNTON ENERGY LLC	Other Power Generation	42.925	-71.086	MA	674	305	2.21	ACAD
2014	NEI	7259211	ARDAGH GLASS INC	Glass and Glass Products Manufacturing	42.127	-71.514	MA	383	313	1.22	ACAD
2014	NEI	7887011	MEDICAL AREA TOTAL ENERGY PLANT	Fossil Fuel Power Generation	42.337	-71.108	MA	325	273	1.19	ACAD
2017	CAMD	5736011	Bellingham	Fossil Fuel Power Generation	42.093	-71.483	MA	261	314	0.83	ACAD

NPS List – 2020 MA Sources for Consideration of Four Factor Analysis – Formal Consultation Recommendations - Municipal Waste Combustors

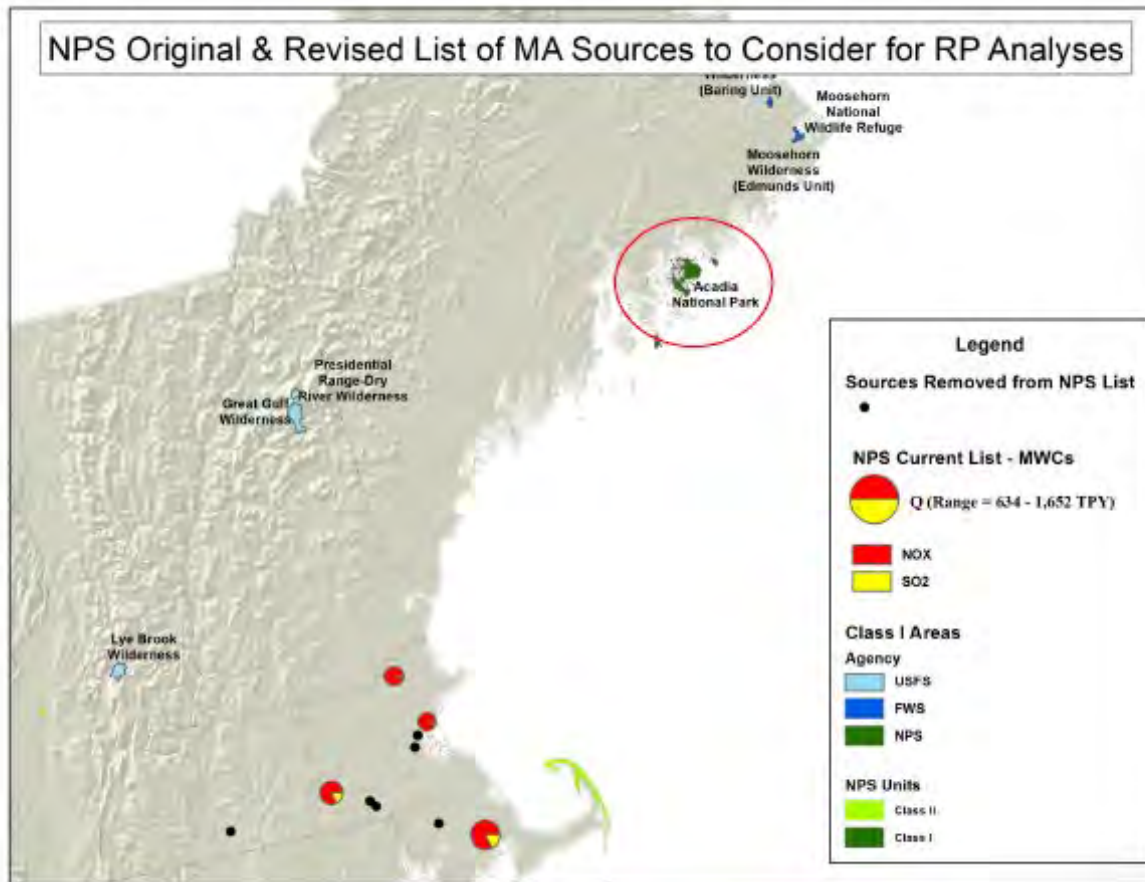
Year	Inventory	EIS ID	County	Facility Name	NAICS Code Description	Latitude	Longitude	NDs	SOD	Q	Distance to NPS Class I Area	Q/d	NPS Class I Area
2017NEI_Aug2019_PT	NEI	8327611	Plymouth	SEMASS PARTNERSHIP	Solid Waste Combustors and Incinerators	41.802	-70.788	1,351	301	1,652	301	5.49	ACAD
2017NEI_Aug2019_PT	NEI	7947211	Essex	WHEELABRATOR NORTH ANDOVER INCORPORATED	Solid Waste Combustors and Incinerators	42.726	-71.122	777	37	814	245	3.32	ACAD
2017NEI_Aug2019_PT	NEI	7865511	Worcester	WHEELABRATOR MILBURY INC	Solid Waste Combustors and Incinerators	42.221	-71.127	895	387	1,042	322	3.34	ACAD
2017NEI_Aug2019_PT	NEI	8367211	Essex	WHEELABRATOR SAUGUS INC	Solid Waste Combustors and Incinerators	42.448	-70.980	609	31	654	256	2.47	ACAD

During the consultation the NPS also shared a map that shows the original list of 10 sources, and the revised list of four 2021 sources, along with the Class I areas, including Acadia National Park. While progress was made at Acadia during the first planning period, consistent with the legal requirements, the NPS wants to continue to make progress over this second planning phase as well.⁴⁶

⁴⁵ NPS/Massachusetts Regional Haze Consultation Presentation at 13 (Jan. 5, 2021).

⁴⁶ *Id.* at 9.

Figure 3. Map of NPS 2018 (Revised 2021) Recommendations for Reasonable Progress Analysis.



The NPS' consultation – echoed many of the same points made by the Conservation Organizations in these comments – explaining that:

- NO_x emissions have increasing influence on visibility in the East, especially during the winter months.⁴⁷
- Municipal Waste Combustors (MWCs) are significant NO_x sources in MA with opportunities to reduce emissions at reasonable cost levels.⁴⁸
- With MANE-VU's threshold of 3 Mm-1, no MWC triggered a 4-factor analysis in MA ... this threshold for source selection is too high and misses sources that are contributing significantly to visibility impairment in Class I areas including Acadia NP.
- NPS requests that MA undertake formal 4-factor analysis on the 4 identified MWCs in order to thoroughly examine the potential for reasonable NO_x emission controls in this planning period.

⁴⁷ *Id.* at 14.

⁴⁸ Comments made by the U.S. Forest Service during its consultation with the State expressed similar and additional concerns about the MWCs. Appendices 35, 36 to the Proposed SIP.

- The second and future planning periods rely on the cumulative benefits of smaller emission reductions to make progress.

VII. Consistent with State Policy and Recent Legislation, Massachusetts Should Analyze the Environmental Justice Impacts in its Four Factor Analysis, and Should Ensure this SIP Considers Impacts to Environmental Justice Communities

Massachusetts' Legislation signed on March 26, 2021, "further[ed] the Commonwealth's nation leading efforts to combat climate change and protect vulnerable communities. The new law, Senate Bill 9 – *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy*, establishes new interim goals for emissions reductions, [and] significantly increases protections for Environmental Justice communities across Massachusetts..."⁴⁹ The new law expands historical efforts by "Commonwealth's Executive Office of Energy and Environmental Affairs (EEA) [that] established an Environmental Justice Policy to help address the disproportionate share of environmental burdens experienced by lower-income people and communities of color who, at the same time, often lack environmental assets in their neighborhoods." The Massachusetts' historical policy

[I]s designed to help ensure their protection from environmental pollution as well as promote community involvement in planning and environmental decision-making to maintain and/or enhance the environmental quality of their neighborhoods." Through its agencies and programs, EEA works to engage environmental justice populations in environmental decision-making through expanded and inclusive outreach, to minimize health risks through targeted environmental enforcement, and to improve environmental quality in all communities through initiatives that include reduction of pollutants and emissions ...⁵⁰

In addition to reductions in greenhouse gas emissions, the 2021 Act requires the State's plan to consider and include "reductions in other air pollutants,"⁵¹ and thus includes the pollutants that contribute to regional haze. The new law further requires that the State's "regulations shall achieve required emissions reductions equitably and in a manner that protects low- and

⁴⁹Press Release Governor Baker Signs Climate Legislation to Reduce Greenhouse Gas Emissions, Protect Environmental Justice Communities: Bipartisan Law Will Combat Climate Change While Growing Massachusetts' Economy (March 26, 2021), <https://www.mass.gov/news/governor-baker-signs-climate-legislation-to-reduce-greenhouse-gas-emissions-protect-environmental-justice-communities>.

⁵⁰ Commonwealth of Massachusetts, Objectives of Environmental Justice, Learn about the objectives and strategies to achieve environmental justice, <https://www.mass.gov/service-details/objectives-of-environmental-justice>.

⁵¹ Commonwealth of Massachusetts, Senate Bill 9, Section 10, Section 5(v) (2021).

moderate-income persons and environmental justice populations,”⁵² adding definitions for “Environmental justice principles”⁵³ and “Environmental justice population.”⁵⁴

Through evaluating the impact of emissions from facilities on the environmental justice communities, we believe Massachusetts will identify emission-reducing options that if required will improve air quality for the environmental justice communities, while at the same time help achieve reasonable progress in this round of regional haze rulemaking. Historically, conservation and environmental work has concerned itself with protecting nature from people and has thus “siloe” its work (*e.g.*, mainstream conservation vs. environmental justice.) While this siloe approach has led to the protection of many vulnerable habitats, it ignores the reality that people live in concert with and are a part of nature; to protect one and not the other is a job half done. By considering viewshed protection and environmental justice at the same time, we can collectively begin to dismantle the silos that exist in conservation and environmental work and chart a new path forward.

The Regional Haze Rule lists four factors that states must consider when they select reasonable progress measures for sources: 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.⁵⁵ Thus, the third factor directs states to consider the broader environmental implications of their regional haze plans, by requiring an analysis of the “non-air quality environmental impacts of compliance.”⁵⁶

Pursuant to this directive, Massachusetts should analyze the environmental justice impacts of its second planning period haze SIP, which as proposed lacks consideration of environmental justice. Although the Regional Haze Rule does not define “non-air quality

⁵² *Id.*, Section 6.

⁵³ *Id.*, SECTION 56 (“Environmental justice principles”, principles that support protection from environmental pollution and the ability to live in and enjoy a clean and healthy environment, regardless of race, color, income, class, handicap, gender identity, sexual orientation, national origin, ethnicity or ancestry, religious belief or English language proficiency, which includes: (i) the meaningful involvement of all people with respect to the development, implementation and enforcement of environmental laws, regulations and policies, including climate change policies; and (ii) the equitable distribution of energy and environmental benefits and environmental burdens.)

⁵⁴ *Id.* (“Environmental justice population”, a neighborhood that meets 1 or more of the following criteria: (i) the annual median household income is not more than 65 per cent of the statewide annual median household income; (ii) minorities comprise 40 per cent or more of the population; (iii) 25 per cent or more of households lack English language proficiency; or (iv) minorities comprise 25 per cent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 per cent of the statewide annual median household income; provided, however, that for a neighborhood that does not meet said criteria, but a geographic portion of that neighborhood meets at least 1 criterion, the secretary may designate that geographic portion as an environmental justice population upon the petition of at least 10 residents of the geographic portion of that neighborhood meeting any such criteria; provided further, that the secretary may determine that a neighborhood, including any geographic portion thereof, shall not be designated an environmental justice population upon finding that: (A) the annual median household income of that neighborhood is greater than 125 per cent of the statewide median household income; (B) a majority of persons age 25 and older in that neighborhood have a college education; (C) the neighborhood does not bear an unfair burden of environmental pollution; and (D) the neighborhood has more than limited access to natural resources, including open spaces and water resources, playgrounds and other constructed outdoor recreational facilities and venues.)

⁵⁵ 40 C.F.R. § 51.308(d)(1)(i)(A), (f)(2)(i).

⁵⁶ *See, e.g., id.* § 51.308(d)(1)(i)(A).

environmental impacts,” the BART Guidelines (Guidelines), which inform a state’s reasonable progress analysis, explain that the term should be interpreted broadly. Environmental justice impacts are the types of non-air quality impacts that the state should consider. Such considerations will not only lead to sound policy decisions but are also pragmatic as pointed out above, because most of the same sectors and sources implicated under the regional haze program are of concern to disproportionately impacted communities in Massachusetts. Thus, considering the intersection of these issues and advancing regulations accordingly will help deliver necessary environmental improvements across issue areas, reduce uncertainty for the regulated community, increase the state’s regulatory efficiency and result in more rational decision making.

Assessing environmental justice impacts is consistent with the Guideline’s recognition that that non-air quality impacts are often highly localized and site-specific.⁵⁷ Environmental justice impacts, by their very nature, are highly localized and community-specific impacts. Analyzing the environmental justice impacts as part of a four-factor reasonable progress analysis is also consistent with the Guidelines’ recognition that non-air quality impacts can be positive or negative. For example, a reasonable progress measure that reduces a source’s impacts on a nearby low-income or minority community would result in a positive environmental justice impact, while a measure that would increase or prolong a source’s impacts on a disproportionately burdened community would result in a negative environmental justice impact.

As a result, when Massachusetts determines “the emissions reduction measures that are necessary to make reasonable progress,” it should include its assessment how those measures will either reduce or exacerbate any environmental justice impacts on nearby disproportionately burdened communities.⁵⁸ For example, when Massachusetts conducts a four-factor analysis for a source that is located near a low-income or minority community that suffers disproportionate environmental harms, it should analyze how each considered measure would either increase or reduce the environmental justice impacts to the community. Massachusetts reasonable progress decision should be influenced by such environmental justice analysis. Incorporating environmental justice impacts into the reasonable progress analysis will further the goal of assessing the broader environmental implications of Massachusetts’ regional haze actions, and will help maximize the environmental benefits of the regional haze program.⁵⁹

There are additional legal grounds for considering environmental justice when determining reasonable progress controls. Under the Clean Air Act, states are permitted to include in a SIP measures that are authorized by state law but go beyond the minimum requirements of federal law.⁶⁰ Moreover, the State can also consider environmental justice when

⁵⁷ See *id.* § (IV)(D)(4)(i)(2)–(3).

⁵⁸ See 40 C.F.R. § 51.308(f)(2)(i).

⁵⁹ See 40 C.F.R. pt. 51, app. Y at § (IV)(D)(4)(i)(2).

⁶⁰ See *Union Elec. Co. v. EPA*, 427 U.S. 246, 265 (1976) (“States may submit implementation plans more stringent than federal law requires and . . . the Administrator must approve such plans if they meet the minimum requirements of s 110(a)(2).”); *Ariz. Pub. Serv. Co. v. EPA*, 562 F.3d 1116, 1126 (10th Cir. 2009) (quoting *Union Elec. Co.*, 427 U.S. at 265) (“In sum, the key criterion in determining the adequacy of any plan is attainment and maintenance of the national air standards . . . ‘States may submit implementation plans more stringent than federal law requires and [] the [EPA] must approve such plans if they meet the minimum [Clean Air Act] requirements of § 110(a)(2).’”); *BCCA Appeal Group v. EPA*, 355 F.3d 817, 826 n. 6 (5th Cir. 2003) (“Because the states can adopt more stringent

developing its haze plan, regardless of whether the Clean Air Act's haze provisions require such consideration. Ultimately, EPA will review the haze plan that Massachusetts submits, and EPA will be required to ensure that its action on Massachusetts' haze plan addresses any disproportionate environmental impacts of the pollution that contributes to haze. In addition to existing Executive Orders that requires federal executive agencies such as EPA to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations,"⁶¹ on January 27, 2021, the current Administration signed "Executive Order on Tackling the Climate Crisis at Home and Abroad."⁶² The new Executive Order on climate change and environmental justice provides that:

It is the policy of [this] Administration to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy; ... protects public health ... delivers environmental justice ... [and that] ... [s]uccessfully meeting these challenges will require the Federal Government to pursue such a coordinated approach from planning to implementation, coupled with substantive engagement by stakeholders, including State, local, and Tribal governments."⁶³

Massachusetts can facilitate EPA's compliance with these Executive Orders by considering environmental justice in its SIP submission.

Consistent with legal requirements and government efficiency, we urge Massachusetts to take impacts to EJ communities into consideration as it evaluates all sources that impact regional haze.

air pollution control measures than federal law requires, the EPA is empowered to disapprove state plans only when they fall below the level of stringency required by federal law.").

⁶¹ Exec. Order No. 12898, § 1-101, 59 Fed. Reg. 7629 (Feb. 16, 1994), as amended by Exec. Order No. 12948, 60 Fed. Reg. 6381 (Feb. 1, 1995).

⁶² Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Feb. 1, 2021) ("Executive Order on Tackling the Climate Crisis at Home and Abroad," requires that agencies must advance and prioritize environmental justice (Climate Change and EJ EO); *see also*, White House Fact Sheet, "President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government," (Jan. 27, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/27/fact-sheet-president-biden-takes-executive-actions-to-tackle-the-climate-crisis-at-home-and-abroad-create-jobs-and-restore-scientific-integrity-across-federal-government/>.

⁶³ Climate Change and EJ EO, § 201.

Conclusion

Due to the deficiencies in Massachusetts' proposal, the State must revise and reissue a valid haze SIP for public notice and comment. We look forward to receiving notice of the State's revised SIP and reviewing and commenting on it. Please feel free to contact the undersigned should you have any questions regarding these comments.

Sincerely,

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Enclosures

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Enclosure 1



**SIERRA
CLUB**



**Western
Environmental
Law Center**



May 8, 2020

Via Federal Express and Email

Administrator Andrew Wheeler
Office of the Administrator
United States Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
Wheeler.andrew@epa.gov

Re: Petition for Reconsideration of Guidance on Regional Haze State Implementation Plans for the Second Implementation Period

Dear Administrator Wheeler:

I. Introduction

National Parks Conservation Association, Sierra Club, Natural Resources Defense Council, Western Environmental Law Center, Appalachian Mountain Club, Coalition to Protect America's National Parks, and Earthjustice (hereinafter “Conservation Organizations”) hereby petition¹ the Administrator of the United States Environmental Protection Agency (“EPA”) to reconsider the entitled “Guidance on Regional Haze State Implementation Plans for the Second Implementation Period” (hereinafter “Final Guidance” or “Guidance”)² and replace it with

¹ This Petition is filed pursuant to section 4(d) of the Administrative Procedure Act (“APA”), 5 U.S.C. § 553(e), and, to the extent it may be applicable and relevant, section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B).

² EPA issued the Final Guidance on August 20, 2019 via Memorandum from Peter Tsirigotis, Director at EPA Office of Air Quality Planning and Standards to EPA Air Division Directors.

guidance that comports with the Clean Air Act (“CAA”) and the Regional Haze Rule, and aids states in making progress towards achieving the national goal of natural visibility conditions at all Class I areas.³ The Final Guidance is a significant departure from the Draft Guidance⁴ issued in 2016 for the second planning period and contains provisions that are expressly at odds with the Clean Air Act and Regional Haze Rule. The table below summarizes how key provisions of the Final Guidance should be revised to comply with the requirements of the applicable statutes and regulations.

The Guidance unlawfully directs states on how they may exclude certain emission sources from four-factor consideration and delay or altogether avoid reducing emissions necessary to meet Congress’s mandate that the states make reasonable progress towards the national goal of restoring natural visibility to Class I area national parks and wilderness areas. 42 U.S.C. § 7491(b)(2). The Guidance not only conflicts with the text and purpose of the Clean Air Act and the Regional Haze Rule itself, but it conflicts with EPA’s 2016 Draft Guidance by arbitrarily constraining EPA review authority, diminishing the science of regional haze, and recasting technical and analytical requirements for State Implementation Plans (“SIPs”). Implementation of the Final Guidance will result in inconsistencies between SIPs, create arbitrary exceptions allowing states to avoid controlling emission sources, impede progress toward the national goal of a restoring natural visibility, and may actually degrade visibility at some Class I areas.

Section of the Petition	Summary of Issue	Applicable Regional Haze Rule or other Regulations ⁵
III.A.	States must comprehensively identify sources of human-caused visibility-impairing emissions across source categories and cannot arbitrarily defer some sources to another implementation period.	Section 51.308(f)(3)(ii) of the Regional Haze Rule and Clean Air Act section 169A(b)
III.B.	States have only limited discretion to decide which sources they consider for reasonable progress. SIPs will be found deficient where they fail to require emission reductions that collectively make reasonable progress towards natural visibility at all Class I areas in each planning period; no backsliding is permitted.	82 Fed. Reg. at 3,088 and sections 51.308(f)(2)(i), 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B)
III.C.	States cannot arbitrarily circumvent a four-factor analysis for sources that intend to retire.	Sections 51.308(f)(2)(i), 51.308(f)(2)(iv)(C)

³ 42 U.S.C. §§ 7491, 7492; 82 Fed. Reg. 3078 (Jan. 10, 2017); 71 Fed. Reg. 60,612 (Oct.13, 2006); 70 Fed. Reg. 39,104 (July 6, 2005); 64 Fed. Reg. 35,714 (July 1, 1999).

⁴ Draft Guidance on Progress Tracking Metrics, Long-term strategies, Reasonable Progress Goals and Other Requirements for Regional Haze State Implementation Plans for the Second Implementation Period, (hereinafter “Draft Guidance”) 81 Fed. Reg. 44,608 (July 8, 2016).

⁵ Clean Air Act section 110(k)(5) provides EPA the authority to review a SIP and assess the adequacy of that SIP. Therefore any aspect of this guidance that interferes with that authority is in conflict.

III.D.	States cannot consider being under the uniform rate of progress (“URP”) when selecting sources for a four-factor analysis. The glidepath is not a safe harbor; rather a state must take measures necessary to make progress towards natural visibility at any Class I areas its emissions affect.	82 Fed. Reg. at 3,093
III.E.	Previous installation of certain types of controls does not excuse a state from considering more stringent levels of control.	Section 51.308(f)(2)(iv)(D)
III.G.	States must include both “dominant” and “non-dominant” pollutants in their analyses of controls.	82 Fed. Reg. at 3,088 and sections 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B), 51.308(f)(2)(i)
III.H.	States cannot eliminate volatile organic compounds (“VOCs”) and ammonia emissions from consideration.	82 Fed. Reg. at 3,088 and sections 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B), 51.308(f)(2)(i)
IV.A.	States must use methods permitted by statute and regulation to identify its sources that potentially affect visibility at Class I areas in other states, not merely any “reasonable method.”	82 Fed. Reg. at 3,094 and sections 51.308(f)(2)(i), 51.308(d)(3)(iv)
IV.B.	States must consider cumulative impacts of sources or groups of sources to all affected Class I areas.	Section 51.308(f)(2)(i)
V.A.	States must prioritize emissions within their borders to achieve reasonable progress.	Sections 51.308(f)(1)(vi)(B), 51.308(f)(2)(iv)(D), and Clean Air Act section 169A(b)
VI.B.	States must adhere to the accounting principles of the Control Cost Manual and should compile and make publicly available the documentation for generic cost estimates.	Section 51.308(f)(2)(i)
VII.A.	States cannot allow sources to discontinue the use of currently operating controls.	Section 51.308(f)(2) and Clean Air Act section 169A(b)(2)
VIII	States should use regional scale modeling to support their regional haze SIPs.	Section 51.308(f)(3)(ii)(A), Appendix W to Part 51
IX.A.	If a state’s reasonable progress goal (“RPG”) is above the URP, the state’s “robust demonstration” must include a consideration of specific items identified by EPA.	Section 51.308(f)(3)(ii)
X.A.	States must submit to EPA the emission inventory used in a regional haze SIP.	Section 51.308(f)(2)(iii), Clean Air Act section

		110(k)(5), and EPA's Emission Inventory Guidance ⁶
X.B.	States must ensure that Federal Land Managers' ("FLMs") opinions and concerns are made transparent to the public, considered by the state and addressed in the SIP.	Sections 51.308(i), 51.308(f)(4) and Clean Air Act sections 169A(a) and (d)
XI.B.	Decisions on which controls to require as part of the long-term strategy cannot merely ratify past determinations.	Section 51.308(f)(2)(i)
XI.C.	EPA must ensure that long-term strategies include appropriate measures to prevent future as well as remedy existing impairment of visibility.	Clean Air Act section 169A(a)

This Petition seeks reconsideration and substantial revision of the Final Guidance so that the Guidance will direct states to deliver on the statutory objective of preventing future and remedying existing Class I area visibility impairment that results from human-caused pollution. As issued, the Final Guidance conflicts with this statutory objective, previous rulemaking and guidance; misdirects states as to how they can go about complying with their legal obligations to make reasonable progress towards restoring natural visibility to protected public lands; and otherwise fails to set expectations that comport with legal requirements for the second planning period.

In addition to the provisions noted in the table above, the Conservation Organizations incorporate several recommendations from their Comments on EPA's Draft Guidance⁷ and request that EPA reconsider and revise the Final Guidance to direct states with regard to the following issues:

- States should ensure that modeled emissions are tied to enforceable limits for sources with appropriate averaging times that reflect year-round abilities of existing controls or operation.
- Light extinction thresholds should be tailored to Class I areas and low enough to bring in most sources of visibility-impairing pollution.
- States should include all visibility-impairing pollutants when calculating a source's annual emissions.
- States should identify and consider the best available emission control measures in the four-factor reasonable progress analysis.

⁶ EPA, Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (May 2017), https://www.epa.gov/sites/production/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf.

⁷ Conservation Organizations incorporate by reference their full Comments on the 2016 proposed Draft Guidance.

- States should analyze the climate and environmental justice impacts of measures to achieve reasonable progress.

The gains made in the first regional haze planning period established a critical, if delayed, foundation for our national parks and wilderness areas to make progress towards the natural visibility which they and their visitors and neighboring communities are due. The Final Guidance not only hinders future gains but in some cases actually jeopardizes the gains made in the first planning period. Conservation Organizations urge EPA to reconsider its Final Guidance and instead issue a revised guidance that directs states to fulfill regulatory requirements for reasonable progress in the second planning period to help attain clearer skies at America's prized national parks and wildernesses.

II. SIP development steps

As EPA states in the Final Guidance, the key steps to developing a regional haze SIP start with identifying the twenty percent most anthropogenically impaired days and the twenty percent clearest days and determining baseline, current, and natural visibility conditions for each Class I area within the state, and then determining which Class I area(s) in other states may be affected by the state's own emissions.⁸ States must then screen sources and conduct a four-factor analysis of which controls are required before establishing reasonable progress goals.⁹ Once a state has determined the reasonable progress measures to require at specific sources, the state must quantify the "reasonable progress goal"—i.e., the visibility improvement that will result from implementing the controls merited by a four-factor analysis.¹⁰ Additional steps include regional scale modeling of the long-term strategy to set the RPGs for 2028 and progress, degradation, and URP glidepath checks.¹¹

Some of the most problematic provisions of the Final Guidance, which are contrary to several requirements of the Regional Haze Rule and Clean Air Act, involve the selection of sources for analysis. After discussing these provisions, this Petition discusses the determination of affected Class I areas in other states, ambient data analysis, the characterization of factors for emission control measures, decisions on what control measures are necessary to make reasonable progress, regional scale modeling of the long-term strategy to set the RPGs for 2028, progress, degradation, and URP glidepath checks, and additional requirements for regional haze SIPs. After addressing how these various provisions of the Guidance are contrary to the regulatory requirements, the Petition provides several overarching recommendations that EPA should consider when revising the Guidance, including advising states that in order for a SIP to be approvable it must result in measures to reduce visibility impairing pollution beyond those required from the past planning period and reflective of an adequate reasonable progress analysis.

⁸ Final Guidance at 5.

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.* at 5-6.

III. Selection of sources for analysis

A. Selection of sources under section 51.308(f)(3)(ii)(A).

In the Final Guidance, EPA presents a statement at the beginning of the section II.B.3 that is in conflict with the Regional Haze Rule's requirements:

A key flexibility of the regional haze program is that a state is not required to evaluate all sources of emissions in each implementation period. Instead, a state may reasonably select a set of sources for an analysis of control measures. . . . Accordingly, it is reasonable and permissible for a state to distribute its own analytical work, and the compliance expenditures of source owners, over time by addressing some sources in the second implementation period and other sources in later periods.¹²

This statement by EPA is contrary to the requirements in section 51.308(f)(3)(ii) of the Regional Haze Rule and section 169A(b) of the Clean Air Act.

In a footnote, EPA indicates that “analysis of control measures” refers to an analysis of what emission control measures for a particular source are necessary in order to make reasonable progress and must include consideration of the four statutory factors and consideration of the five additional factors listed in 40 C.F.R. § 51.308(f)(2)(iv).¹³ This important requirement of how sources should be selected by states for analyses is presented as if it were a secondary consideration. In other words, EPA's Guidance now advises states that they can arbitrarily delay the selection of sources for evaluation, or exclude certain sources as noted *infra*, and thereby “distribute [their] analytical work” and the “compliance expenditures of source owners” as if it is a stand-alone, top-level decision that states can make, divorced of the need to apply the four statutory factors and the five additional factors to actually make reasonable progress.

If a state were to arbitrarily “distribute its own analytical work, and the compliance expenditures of source owners, over time”¹⁴ as the guidance provides, it would not be able to address section 51.308(f)(3)(ii)(B), which requires:

If a State contains sources which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I Federal area in another State for which a demonstration by the other State is required under (f)(3)(ii)(A), the State must demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to

¹² *Id.* at 9.

¹³ *Id.* at 9 n.22.

¹⁴ *Id.* at 9.

include in its own long-term strategy. The State must 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.

A state that arbitrarily excludes sources from consideration cannot determine if it actually has “sources which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I Federal area.” To satisfy that requirement, a state must first have a reasonable understanding of the emissions from all of its sources and it must have a reasoned methodology for excluding sources from a four-factor analysis (e.g., those sources are inconsequential or do not have cost-effective control options). Similarly, if a state, which arbitrarily excludes sources from evaluation, has a RPG that is above the URP, it cannot satisfy section 51.308(f)(3)(ii)(A)¹⁵, which requires that it demonstrate “there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in the long-term strategy.” In contrast, not only was this advice absent from EPA’s Draft Guidance, the Draft Guidance provided detailed, valid information on source selection.¹⁶

Additionally, as mentioned *infra* section IV.A, the Final Guidance also arbitrarily allows states to decide whether they contribute to out-of-state Class I areas by claiming states can use any reasonable method for quantifying the impacts of its own emissions on out-of-state Class I areas.¹⁷ The Final Guidance also allows a state to disregard its impacts on an out-of-state Class I area that a neighboring state may identify as being affected by emissions from the state developing the long-term strategy.¹⁸ By allowing states to arbitrarily make these determinations, EPA is attempting to slice the program into inconsequential bits and pieces that set the

¹⁵ EPA noted in the 2017 Regional Haze Rule revision:

[I]n a situation where the RPG for the most impaired days is set above the glidepath, a contributing state must make the same demonstration with respect to its own long-term strategy that is required of the state containing the Class I area, namely that there are no other measures needed to provide for reasonable progress. The intent of this proposal was to ensure that states perform rigorous analyses, and adopt measures necessary for reasonable progress, with respect to Class I areas that their sources contribute to, regardless of whether such areas are located within their borders.

82 Fed. Reg. at 3099. *See also* 81 Fed. Reg. 66,331, 66,631 (Sept. 27, 2016) (“[A]n evaluation of the four statutory factors is required . . . regardless of the Class I area’s position on the glidepath. . . . [T]he URP does not establish a ‘safe harbor’ for the state in setting its progress goals.”); 81 Fed. Reg. 295, 326 (Jan. 5, 2016) (“[T]he uniform rate of progress is not a ‘safe harbor’ under the Regional Haze Rule”); EPA, Guidance for Setting Reasonable Progress Goals under the Regional Haze Program (hereinafter “RPGs Guidance”) (June 2007) 4–1, https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/20070601_wehrum_reasonable_progress_goals_reghaze.pdf.

¹⁶ Draft Guidance at 57-83.

¹⁷ Final Guidance at 8.

¹⁸ *Id.* at 9.

provisions of the Final Guidance against fulfilling the requirements of the Clean Air Act and Regional Haze Rule that compel a comprehensive “regional” approach to restoring visibility. EPA should strike the above-mentioned language discussing selection of sources under section 51.308(f)(3)(ii)(A) from the Final Guidance and restore the language from the Draft Guidance.

B. States have only limited discretion to decide which sources they consider for reasonable progress.

In Section II.B.3.d of the Final Guidance, EPA states, “[t]he source-selection step is intended to add flexibility and discretion to the state planning process – ultimately, the state decides which sources to consider for reasonable progress.”¹⁹ This blanket statement, written as if a state has unbounded discretion to determine which sources it evaluates under reasonable progress, is incorrect. A state cannot arbitrarily determine which sources it evaluates under the Regional Haze Rule’s reasonable progress requirements. Ultimately, a state’s source selection criteria is a part of its long-term strategy. As EPA indicated in the Regional Haze Rule revision, a state does not have discretion to arbitrarily exclude sources from a four-factor analysis. Specifically, EPA stated:

[W]e expect states to exercise reasoned judgment when choosing which sources, groups of sources or source categories to analyze. Consistent with CAA section 169A(g)(1) and our action on the Texas SIP, a state’s reasonable progress analysis must consider a meaningful set of sources and controls that impact visibility. If a state’s analysis fails to do so, for example, by arbitrarily including costly controls at sources that do not meaningfully impact visibility or failing to include cost-effective controls at sources with significant visibility impacts, then the EPA has the authority to disapprove the state’s unreasoned analysis and promulgate a [Federal Implementation Plans (“FIPs”)].²⁰

A state with a RPG below the URP that followed this guidance and arbitrarily excluded sources from a four-factor analysis runs afoul of section 51.308(f)(3)(ii)(A), which requires a “robust demonstration” that “there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in the long-term strategy.” If a state that followed this guidance had emission sources that potentially affect visibility at a Class I area in another state, it would similarly be unable to satisfy the same requirement found in section 51.308(f)(3)(ii)(B). EPA should reconsider this provision, and delete it from the Final Guidance.

C. States cannot arbitrarily circumvent a four-factor analysis for sources that intend to retire.

¹⁹ Final Guidance at 20.

²⁰ 82 Fed. Reg. at 3088.

In Section II.B.3.d of the Final Guidance, EPA also states “[i]f a source is expected to close by December 31, 2028, under an enforceable requirement, a state may consider that to be sufficient reason to not select the source at the source selection step.”²¹ EPA goes on to extend this deadline by adding an indeterminate grace period: “The year 2028 is not a bright line for these considerations, so a state may be able to justify not selecting a source for analysis of control measures because there is an enforceable requirement for the source to cease operation by a date after 2028.”²² EPA further advises states that consideration of source retirement and replacement schedules required by Section 51.308(f)(2)(iv)(C) are automatically considered if a state decides to not subject sources which will retire by 2028 to a four-factor analysis.²³

This is a departure from EPA’s long-standing requirement in the regional haze program and is in conflict with basic requirements of the Regional Haze Rule. Remaining useful life is one of the four statutory factors that a state must consider when selecting the sources for which it will determine what control measures are necessary to make reasonable progress.²⁴

The Clean Air Act does not define the phrase “remaining useful life.” However, EPA, in regulations and guidance, has clarified the meaning of the phrase. EPA has consistently stated that the potential retirement of a facility can be used to shorten a source’s remaining useful life only if the retirement is federally enforceable.²⁵ Thus, in order to affect the remaining useful life, a retirement commitment must be included in a pre-existing document that can be enforced in federal court, such as a consent decree entered by a federal court, or a state must incorporate the retirement date into its SIP. If a potential retirement is not federally enforceable, it cannot be relied upon to shorten the remaining useful life of a source.

EPA’s 2007 Guidance on reasonable progress incorporates and refers to the best available retrofit technology (“BART”) Guidelines,²⁶ which instruct states on how to calculate the remaining useful life of a source. EPA defines a source’s “remaining useful life” as the difference between the date that controls would be installed and “the date the facility permanently stops

²¹ Final Guidance at 20.

²² *Id.*

²³ *Id.* at 22.

²⁴ *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (“[A]n agency rule would be arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem.”); *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1216 (D.C. Cir. 2004) (“A statutorily mandated factor, by definition, is an important aspect of any issue before an administrative agency, as it is for Congress in the first instance to define the appropriate scope of an agency’s mission.”).

²⁵ *E.g.*, 83 Fed. Reg. 62,204, 62,232 (Nov. 30, 2018) (“We are proposing to agree with Arkansas’ cost analysis for dry scrubbers and switching to low sulfur coal for Independence Units 1 and 2, and with the state’s decision to assume a 30-year capital cost recovery period in the cost analysis. It is appropriate to assume a 30-year capital cost recovery period in the cost analysis since Entergy’s plans to cease coal combustion at the Independence facility are not state or federally-enforceable.”); 83 Fed. Reg. 43,586, 43,604 (Aug. 27, 2018) (Considering the retirement of certain units where there was evidence that the units had actually been retired at the time of the rulemaking and that the plant had requested cancellation of its air permit).

²⁶ RPGs Guidance at 5-3. There is no conflict with the 2007 Guidance’s interpretation of “remaining useful life” and the Final Guidance. *See* Final Guidance at 34.

operations.”²⁷ If the remaining useful life affects the selection of controls, “this date should be assured by a federally- or State-enforceable restriction preventing further operation.”²⁸ EPA discusses a situation where a source “intends to shut down a source by a given date, but wishes to retain the flexibility to continue operating beyond that date in the event.”²⁹ In that instance, EPA instructs a state to include in its SIP the controls that would be required if the source continues to operate past the planned retirement date.³⁰ “The source would not be allowed to operate after the 5-year mark without such controls.”³¹

Allowing states to avoid a four-factor analysis based on alleged intent to retire would render the other statutory factors meaningless and violate the requirements of the Regional Haze Rule.³² Many states have already begun analyzing their sources to determine which should be brought forward for a four-factor analysis. Consequently, a source that retires by December 31, 2028 (or later), has at least eight years of potential emission reductions. Even considering this shortened remaining useful life, cost-effective controls, which often can be installed in months, can frequently be justified. For instance, a source could simply switch to a lower sulfur content coal or fuel oil, which would require little to no installation time and may be quite cost-effective. Despite EPA’s advice, any source that demonstrably or potentially impacts visibility at a Class I area and would otherwise be subject to a four-factor analysis under section 51.308(f)(2)(i), regardless of its retirement date, must undergo a real analysis to determine if cost-effective controls are available.³³ EPA should revise the Final Guidance to reiterate that only enforceable retirements may alter the remaining useful life and otherwise require that states subject sources that intend to retire to a four-factor analysis if a state selects the source for analysis of emission control measures.

D. States cannot consider being under the URP when selecting sources for a four-factor analysis.

In Section II.B.3.e of the Final Guidance, EPA makes two flawed statements regarding a state’s RPG that were not present in the Draft Guidance. First, EPA states “[t]he fact that visibility conditions in 2028 will be on or below the URP glidepath is not a sufficient basis by itself for a state to select no sources for analysis of control measures; however, the state may

²⁷ 40 C.F.R. pt. 51, App. Y § (IV)(D)(4)(k)(2).

²⁸ *Id.*

²⁹ *Id.* § (IV)(D)(4)(k)(3).

³⁰ *Id.*

³¹ *Id.*

³² The United States Court of Appeals for the Fifth Circuit recently found that EPA must consider statutory factors listed in a similar provision of the Clean Water Act when revising best available technology (“BAT”) limits. *See Southwestern Elec. Power Co. v. EPA*, 920 F.3d 999, 1026-27 (5th Cir. 2019).

³³ EPA’s draft guidance also allowed for states to forgo a four-factor analysis on sources secured by an enforceable commitment to retire by 2028. We disagree with that position for the reason expressed above. However, EPA tempered its reasoning in its draft guidance by stating that its position rested on the fact that due to the shortened second planning period (unlike future planning periods), there would be a shorter interval for states to install controls. Also, EPA did not state that states could extend source retirements beyond 2028 as it does in the final guidance.

consider this information when selecting sources.”³⁴ EPA then cites to the 2017 Regional Haze Rule revisions; however, those citations make it absolutely clear that states cannot in fact follow this guidance:

We disagree that the states should be able to reevaluate whether a control measure is necessary to make reasonable progress based on the RPGs. The CAA requires states to determine what emission limitations, compliance schedules and other measures are necessary to make reasonable progress by considering the four factors. The CAA does not provide that states may then reject some control measures already determined to be reasonable if, in the aggregate, the controls are projected to result in too much or too little progress.³⁵

Consequently, states have no path available to them to “consider this information when selecting sources.”

Similarly, EPA’s later advice that “[r]ather, that fact [that a state’s RPG is below the URP] would serve to demonstrate that, after a state has gone through its source selection and control measure analysis, it has no ‘robust demonstration’ obligation per 40 CFR 51.308(f)(3)(ii)(A) and/or (B)”³⁶ is potentially at odds with the Regional Haze Rule. In the above cited portion of the 2017 Regional Haze Rule revision, EPA actually stated, “if a state has reasonably selected a set of sources for analysis and has reasonably considered the four factors in determining what additional control measures are necessary to make reasonable progress, then the state’s analytical obligations are complete if the resulting RPG for the most impaired days is below the URP line.”³⁷ A state’s “robust demonstration” obligation does not end because it has merely “gone through its source selection and control measure analysis.” Rather, as EPA actually explained, the state must have “reasonably selected a set of sources for analysis and has reasonably considered the four factors in determining what additional control measures are necessary to make reasonable progress.”³⁸ EPA must reconsider this provision, and delete it from the Final Guidance.

E. Previous installation of certain types of controls does not excuse a state from considering more stringent levels of control.

In section II.B.3.f of the Final Guidance, EPA discusses circumstances under which a state can choose not to select a source that has previously installed controls for a four-factor analysis.³⁹ Much of this information conflicts with previous guidance and the Regional Haze

³⁴ Final Guidance at 22.

³⁵ 82 Fed. Reg. at 3093. *See also* 81 Fed. Reg. at 66,631; 81 Fed. Reg. at 326; RPGs Guidance at 4-1.

³⁶ Final Guidance at 22.

³⁷ 82 Fed. Reg. at 3093.

³⁸ *Id.*

³⁹ *Id.* In comparison to the blanket exemptions in EPA’s Final Guidance, the Draft Guidance only considered exempting power plant units, “in certain limited situations,” with “highly effective control technology within the 5 years prior to submission of the SIP, such as year-round operation of flue gas desulfurization (FGD) with an

Rule. First, EPA states, “[i]n general, if post-combustion controls were selected and installed fairly recently . . . to meet a [Clean Air Act] requirement, there will be only a low likelihood of a significant technological advancement that could provide further reasonable emission reductions having been made in the intervening period.”⁴⁰ EPA presents no basis for making this conclusion.

There are many instances in which post-combustion controls have been installed in which those controls do not operate at peak efficiency. This includes controls that are not operated continuously, controls that were never designed to operate at peak efficiency (e.g., undersized sulfur dioxide (“SO₂”) scrubber or selective catalytic reduction (“SCR”) systems) and partially bypassed controls (e.g., SO₂ scrubber or SCR systems). In fact, EPA has made it a point in past actions to ensure that existing controls are examined to determine if they can be cost-effectively upgraded. For instance, the 2005 BART revision to the Regional Haze Rule devotes several paragraphs to specific potential scrubber upgrades it recommends be examined.⁴¹

EPA also demonstrated that scrubber upgrades to a number of coal-fired power plants utilizing outdated and inefficient scrubber systems were highly cost-effective, and could achieve removal efficiencies of ninety-five percent which is near the ninety-eight to ninety-nine percent removal efficiencies of newly-installed scrubber systems.⁴² In fact, as EPA notes in its 2017 Regional Haze Rule revision, EPA disapproved Texas’ four-factor analysis in part because “it did not include scrubber upgrades that would achieve highly cost-effective emission reductions that would lead to significant visibility improvements.”⁴³ Consequently, EPA’s blanket guidance that examination of potential upgrades to recently installed post-combustion controls is unlikely necessary is demonstrably false. Even if, considering the entire universe of potential post-combustion control upgrades, the vast majority cannot be cost-effectively upgraded to result in significant visibility benefits, which is unlikely, there is no justification in the Regional Haze Rule to skip an examination of the remaining units.

EPA goes on to present examples of pollutant-specific controls that have been installed due to a requirement outside of the regional haze program for which it “believes it may be reasonable for a state not to select a particular source for further analysis.”⁴⁴ This list includes new source performance standard (“NSPS”) controls installed since July 31, 2013; best available control technology (“BACT”) or lowest achievable emission rate (“LAER”) controls installed since July 31, 2013; power plants with FGD controls that meet the 2012 model attainment test systems (“MATS”) standard; particulate matter (“PM”) controls under National Emission

effectiveness of at least 90 percent or year-round operation of selective catalytic reduction with an effectiveness of at least 90 percent.” EPA specifically requested comment “on whether to include this additional screening mechanism and if so, then what criteria may be appropriate for its inclusion.”

⁴⁰ *Id.*

⁴¹ See 70 Fed. Reg. 39,103, 39,171 (July 6, 2005).

⁴² See 81 Fed. Reg. at 305.

⁴³ See 82 Fed. Reg. at 3088.

⁴⁴ Final Guidance at 23.

Standards for Hazardous Air Pollutants (“NESHAP”) since July 31, 2013; boilers that have installed an FGD or SCR system that operates year round and has a total efficiency of ninety percent; and any BART-eligible unit that has installed BART controls.⁴⁵ EPA reasons that due to their recent installation and the similarity of the requirements for those programs, it is unlikely that a four-factor analysis will result in additional cost-effective controls.⁴⁶ But, as EPA notes in its 2005 BART revision to the Regional Haze Rule, it reviewed some of these standards and concluded they may not be the most stringent available.⁴⁷ Furthermore, the 2017 revision to the Regional Haze Rule warned states that “we anticipate that a number of BART-eligible sources that installed only moderately effective controls (or no controls at all) *will need to be reassessed*. Under the 1999 [Regional Haze Rule and] 40 CFR 51.308(e)(5), BART-eligible sources are subject to the requirements of 40 CFR 51.308(d), which addresses regional haze SIP requirements for the first implementation period, in the same manner as other sources going forward.”⁴⁸ This is in contrast to EPA’s Final Guidance statement that “if a source installed and is currently operating controls to meet BART emission limits, it may be unlikely that there will be further available reasonable controls for such sources.”⁴⁹ Therefore, a state must first subject a source to a four-factor analysis under section 51.308(f)(2)(i) before it is able to determine whether there are no emission reducing options available (including upgrades to existing controls).

Regarding which control measures states should consider in assessing reasonable progress, EPA states “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.”⁵⁰ This conflicts with past guidance and with the Regional Haze Rule. Although there is no requirement that controls required under the reasonable progress requirements of the Regional Haze Rule uniformly be the most stringent available, not considering this level of control bypasses section 51.308(f)(2)(i), which requires that the state perform a four-factor analysis. A state cannot consider “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 anthropogenic source of visibility impairment” unless it considers all feasible controls available, including upgrades to existing controls.

EPA acknowledged that a range of controls should be evaluated in a four-factor analysis in its Draft Guidance:

In order to define a control measure with sufficient specificity to assess its cost and potential for emission reductions, the state should specify and consider the range of control efficiencies that the measure is capable of achieving. For example, when

⁴⁵ *Id.* at 23-25.

⁴⁶ *Id.* at 25.

⁴⁷ *See* 70 Fed. Reg. at 39,163-64.

⁴⁸ 82 Fed. Reg. at 3083 (emphasis added).

⁴⁹ Final Guidance at 25.

⁵⁰ *Id.* at 29.

evaluating a flue gas desulfurization system to reduce SO₂ emissions, the state should consider both a system capable of achieving a 90 percent reduction in SO₂ emissions as well as a more advanced system capable of achieving a 97 or 98 percent reduction. The state should not limit its analysis to either an unrealistically high and prohibitively expensive control efficiency or to a control efficiency that is substantially lower than has been achieved at other sources.⁵¹

Furthermore, EPA does not require that states secure the operation of controls with this level of efficiency through an enforceable commitment.

Just because a source has the most effective or highly effective control technology does not mean that it is required to be operated to a level reflective of its maximum pollution reduction capability. Thus, states should not be screening such sources out of review during the second implementation period. By allowing states to “screen out” and choose not to select such sources for a full four-factor analysis, EPA may be allowing states to ignore very cost-effective emission reducing options like simply requiring sources with highly effective controls to operate those controls in the most effective manner to reduce air pollutants. EPA should revise the Final Guidance to recommend that sources with existing pollution control technology evaluate options that could improve the emissions reduced through more effective use of that control technology. This could include requiring year-round operation of controls, reducing capacity, imposing more effective percent reduction requirements, requiring sources to meet more stringent emission limits, or requiring that emission limits apply on shorter averaging times to ensure continuous levels of emission reduction.

- F. States should ensure that modeled emissions are tied to enforceable limits for sources with appropriate averaging times that reflect year-round abilities of existing controls or operation.

EPA should revise the Final Guidance to recommend that wherever possible, whether they are screened in or out, states should make sure that the emissions relied upon in the state’s RPG demonstration are enforceable, and also that they reflect the lowest emission rates feasible at the facility given its existing configuration. This is particularly true for major sources that are screened out on the basis of emissions that reflect unenforceable conditions.

However, this is also true for sources that are screened out on the basis of emissions that do not reflect their full capacity for emission reductions. For example, if a source is screened out with emissions that reflect using its controls only seventy-five percent of the time, the state should nevertheless require year-round operation of the control. Requirements reflecting existing capacity for emission reductions are inherently reasonable, and represent low hanging fruit necessitating reduced resource expenditure for potentially large gain. Moreover, states routinely rely on actual emissions in assessing current visibility and using that assessment as a jumping off point to determine if additional reductions are necessary. Where a state is to rely on operational

⁵¹ Draft Guidance at 87.

realities, such reliance must be justified by enforceable emission limits. Indeed, failing to take advantage of such reasonable progress measures is an example of one of the pitfalls of using this type of a screening process in the first place. EPA should recommend that states assure reasonable progress by requiring that sources have enforceable limits or conditions reflecting their full emission reduction capacity if they are to be screened out.

G. States must include both “dominant” and “non-dominant” pollutants in their analyses of controls.

In Section II.B.3.a of the Final Guidance, EPA advises states that they can skip analyses of controls for sources with “non-dominant” pollutants. Specifically, EPA states:

When selecting sources for analysis of control measures, a state may focus on the PM species that dominate visibility impairment at the Class I areas affected by emissions from the state and then select only sources with emissions of those dominant pollutants and their precursors. Also, it may be reasonable for a state to not consider measures for control of the remaining pollutants from sources that have been selected on the basis of their emissions of the dominant pollutants.⁵²

This position, absent from the Draft Guidance, directs states to produce deficient regional haze SIPs and is in conflict with the Regional Haze Rule’s requirements and preamble language in the 2017 Regional Haze Rule revision.

The preamble specifically states that a “reasonable progress analysis must consider a meaningful set of sources and controls that impact visibility. If a state’s analysis fails to do so, for example, by . . . *failing to include cost-effective controls at sources with significant visibility impacts*, then the EPA has the authority to disapprove the state’s unreasoned analysis and promulgate a FIP.”⁵³ This provision in the Guidance would allow states to arbitrarily determine that because one pollutant has a greater impact on visibility at a Class I area(s), the state may simply ignore other visibility impacting pollutants for one or all sources in the state emitting the non-dominant pollutants, despite the availability of cost-effective controls under reasonable progress criteria. It would also allow states to conclude that when examining a source that emits multiple pollutants that contribute to haze (e.g., SO₂, Nitrogen Oxide (“NO_x”)), potential reductions for the non-dominant pollutant can be summarily ignored. Furthermore, EPA does not provide any metric for what it considers a “dominant” pollutant.⁵⁴ For instance, if a state has determined that fifty-one percent of the visibility impact at a Class I area is due to SO₂, forty

⁵² Final Guidance at 11.

⁵³ 82 Fed. Reg. at 3088. EPA states elsewhere in its 2017 Regional Haze Rule revision, that “A state may refer to its own experience, past EPA actions, the preamble to this rule as proposed and this final rule preamble, and existing guidance documents for direction on what constitutes a reasoned determination.” 82 Fed. Reg. at 3099.

⁵⁴ Merriam-Webster defines dominant as “(a) commanding, controlling, or prevailing over all others,” or as “(b) very important, powerful, or successful.”

percent is due to NO_x, and nine percent is due to PM, would SO₂ be considered dominant (and consequently the only analyzed pollutant), or must its share of the visibility impact be greater?

This provision in the Final Guidance has potentially far-reaching negative impacts on the Regional Haze Rule's requirements that states make reasonable progress, as many large sources emit multiple types of visibility impacting pollutants. Still other sources may emit significant levels of non-dominant emissions for which emission reducing control or measures may be well within the framework of the four-factor analysis. If this is not corrected, a state could assume it would be justified in concluding that state-wide, SO₂ is its "dominant" pollutant and forego control analysis of a large gas-fired power plant emitting thousands of tons of NO_x which could also significantly impact visibility at one or more Class I areas.

The Final Guidance also directly conflicts with multiple sections of the Regional Haze Rule. For instance, a state following the guidance would not be able to determine if it was even subject to section 51.308(f)(3)(ii)(B), because by arbitrarily excluding pollutants or entire sources from review it could not determine if it "reasonably [was] anticipated to contribute to visibility impairment in a mandatory Class I Federal area in another State." Nor could that state "demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area." Similarly, if that state's RPG was above its URP, it could not satisfy section 51.308(f)(3)(ii)(A), which requires the same demonstration. Such a state would also not be able to reasonably satisfy its state-to-state consultation requirements under section 51.308(f)(2)(i), which requires it to "evaluate and determine the emission reduction measures that are necessary to make reasonable progress" and "include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy." By severely compromising the entire foundation of a state's technical demonstration, EPA is directing states to submit deficient SIPs. For these reasons, EPA should delete the above-quoted language from the Final Guidance.

H. States cannot eliminate VOCs and ammonia emissions from consideration.

In Section II.B.3.a. of the Final Guidance, EPA also advises states that irrespective of their particular state emissions inventories or the acknowledged potential impacts of VOCs and ammonia on Class I areas, they can completely disregard these pollutants. Specifically, EPA states:

In the first implementation period, many states eliminated VOC and ammonia emissions from consideration based on the expectation that anthropogenic VOC emissions make only a small contribution to visibility impairment and that formation of nitrate and sulfate PM is most effectively reduced by reducing emissions of NO_x and SO₂ rather than by anthropogenic emissions of ammonia. EPA believes that, in general, this

would also be a reasonable approach for the second implementation period.⁵⁵

This position is completely absent from EPA's regulations and was not present in the Draft Guidance.

VOCs are organic chemicals emitted by products or industrial processes that when released into the atmosphere can react with sunlight and NO_x to form tropospheric ("ground-level") ozone. In addition, VOCs are important precursor of Secondary Aerosol Formation ("SOA"). SOA comprises a large fraction of atmospheric aerosol mass and can have significant effects on atmospheric chemistry, visibility, human health, and climate.⁵⁶ A major source of VOCs in the United States is the oil and gas industry, which includes wells, gas gatherings and processing facilities, storage, and transmission and distribution pipelines. According to data from EPA and the Energy Information Agency ("EIA"), more than 20 million tons of VOCs are emitted from point and non-point sources in the oil and gas industry every year. Studies on oil and gas emissions have indicated that VOC source signatures associated with oil and gas operations can be clearly differentiated from urban sources dominated by vehicular exhaust emissions.⁵⁷ According to a recent air quality study by the National Park Service ("NPS") in Carlsbad Caverns National Park, high levels of light alkanes such as ethane, propane, butane, and, pentane compounds were consistent with oil and gas emissions. However, high alkanes (">C₈") and aromatics are assumed to contribute more significantly to SOA formation.⁵⁹

In California alone, statewide agricultural operations produce an average of 272.12 tons per day ("tpd") of ammonia ("NH₃") emissions.⁶⁰ Of those 272.12 tpd, 158.50 tpd is attributed to "agricultural waste" specifically from dairy cattle.⁶¹ In regions such as California's heavily polluted San Joaquin Valley, ammonia concentrations are found to be much higher than NO_x

⁵⁵ Final Guidance at 12.

⁵⁶ Ziemann, Paul J., & R. Atkinson, *Kinetics, products, and mechanisms of secondary organic aerosol formation*, 41, no. 19 Chem. Soc'y Reviews 6582, 6582 (2012).

⁵⁷ See Odum J.R., T. Hoffmann, F. Bowman, D. Collins, R.C. Flagan, & J.H. Seinfeld, *Gas/Particle Partitioning and Secondary Organic Aerosol Yields*, 30 Environ. Sci. Technol., 2580, 2580-2585 (1996).

⁵⁸ See Swarthout, R. F., Russo, R. S., Zhou, Y., Hart, A. H., and Sive, B. C., *Volatile organic compound distributions during the NACHTT campaign at the Boulder Atmospheric Observatory: Influence of urban and natural gas sources*, J. Geophys. Res. Atmos., 118, 10,614–10,637, (2013), available at <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/jgrd.50722>.

⁵⁹ Ziemann, *supra* note 56, at 6583; see also Takekawa, Hideto, Hiroaki Minoura, and Satoshi Yamazaki, *Temperature dependence of secondary organic aerosol formation by photo-oxidation of hydrocarbons*, Atmospheric Environment 37, no. 24, 3413-3424 (2003).

⁶⁰ California Air Resources Board, 2016 SIP Emission Almanac Projection Data by EIC: Annual Average Emissions (Tons/Day) Statewide, Miscellaneous Processes 620-Farming Operations, https://www.arb.ca.gov/app/emsinv/2017/emseic_query.php?F_YR=2012&F_DIV=-4&F_SEASON=A&SP=SIP105ADJ&SPN=SIP105ADJ&F_AREA=CA&F_EICSUM=620.

⁶¹ *Id.*

concentrations.⁶² When mixed with the region's NOx emissions (primarily from mobile sources), this excess ammonia helps form high levels of haze causing ammonium nitrate, which accounts for the majority of PM2.5 emissions found in the San Joaquin Valley.⁶³

The San Joaquin Valley is home to multiple communities such as Bakersfield, Fresno, and Visalia that rank amongst the very topmost polluted cities for both annual and twenty-four hour PM2.5 pollution.⁶⁴ The entire air basin is also listed as being in extreme nonattainment with the 1997 and 2006 PM2.5 NAAQS standards.⁶⁵ As it relates to regional haze pollution, the San Joaquin Valley is located directly adjacent to the Southern Sierra Nevada Mountains, home to heavily polluted Class 1 areas like Sequoia and Kings Canyon National Parks—both of which fall within the jurisdiction of the San Joaquin Valley Air District.

Despite ammonia being a major precursor to PM2.5 pollution in the region, its emissions are currently not controlled in the San Joaquin Valley under the state's various PM2.5 SIPs.⁶⁶ Beyond ammonia, agricultural sources in California also produce an average of 145.90 tpd of direct PM10 and 21.79 tpd of direct PM2.5 emissions.⁶⁷

In its 2005 BART amendments to the Regional Haze Rule, EPA left it to the states to individually determine if these two pollutants, which EPA acknowledges can potentially impact visibility, should be addressed.⁶⁸ In the Draft Guidance, EPA acknowledged that much of its guidance on BART remained applicable to the second round of SIPs and included an entire appendix devoted to identifying which portions of the BART guidance remained applicable.⁶⁹ This appendix has been deleted in EPA's Final Guidance. By arbitrarily excluding potential visibility-impairing pollutants from review, EPA's guidance conflicts with the same sections of the Regional Haze Rule as described *supra* section III.G, primarily preamble language to the 2017 Regional Haze Rule revision and sections 51.308((f)(3)(ii)(A), 51.308((f)(3)(ii)(B), and 51.308(f)(2)(i). EPA should revise the Final Guidance to direct states to inventory and evaluate potential visibility-impairing pollutants including VOCs and ammonia and determine associated control measures necessary to make reasonable progress. .

⁶² San Joaquin Valley Air Pollution Control District, 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards, at 5-6, <http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf>.

⁶³ *Id.* at 3-12.

⁶⁴ American Lung Association, 2019 State of the Air Report: Most Polluted Cities Ranking, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/most-polluted-cities.html>.

⁶⁵ San Joaquin Valley Air Pollution Control District, *supra* note 62, at ES-8.

⁶⁶ *See generally, id.* at 4-1 through 4-34.

⁶⁷ *See* California Air Resources Board, *supra* note 60.

⁶⁸ *See* 70 Fed. Reg. 39,104, 39,112-14 (July 6, 2005). EPA stated that scientific and technical data shows “that ammonia in the atmosphere can be a precursor to the formation of particles such as ammonium sulfate and ammonium nitrate . . . [and] certain aromatic VOC emissions such as toluene, xylene, and trimethyl-benzene are precursors to the formation of secondary organic aerosol.” *Id.* at 39,114.

⁶⁹ Draft Guidance at Appendix D.

- I. Light extinction thresholds should be tailored to Class I areas and low enough to bring in most sources of visibility-impairing pollution.

States choosing light extinction as a metric for visibility impacts should use Class I-specific figures to identify sources for a four-factor analysis. If a threshold is applied, states must ensure that the threshold is low enough to bring in most sources harming a Class I area. In the Final Guidance, EPA recommends visibility metrics and thresholds in terms of inverse megameters of light extinction.⁷⁰ Although light extinction may be acceptable as a metric, states should not use a generic extinction threshold for selecting sources for consideration of pollution controls for each of the Class I areas evaluated in their regional haze SIPs. If a light extinction threshold is too high, it can significantly limit the amount of sources a state evaluates for controls to make reasonable progress.

States must make clear how each source's visibility impacts are to be determined. States must explain whether the sources' potential emissions were modeled, what visibility-impairing pollutants were modeled for each source, whether all units were modeled for all sources, whether sources were modeled for impacts on the twenty percent worst days or some other timeframe, and identify and allow public review of and comment on the technical approach that the state employed to determine source-specific visibility extinction, pursuant to 40 C.F.R. § 51.308(f)(2). Any proposed extinction threshold for defining sources to target for controls is only as good as the underlying technical analysis to define if a source exceeds the extinction threshold. States must address these requirements and justify any and all extinction thresholds that they rely on for each Class I area impacted by states' sources.

For any sources that exceed an extinction threshold but are not subject to reduction requirements, states should provide a thorough four-factor analysis of controls or provide justification as to why a four-factor analysis would not likely lead to a determination that additional controls are needed to make reasonable progress. For any sources that a state claims already has adequate controls or justifies for other reasons that a four-factor analysis of controls would not result in additional controls, the state must document in its regional haze SIP why it makes this finding. To the extent such justification is relying on other regulatory or permit requirements, the state must document those regulatory or permit requirements in detail and indicate whether such requirements are already or will be submitted to EPA as part of the SIP

- J. State's using the Q/d metric should include all visibility-impairing pollutants when calculating a source's annual emissions.

In Section II.B.3.b of the Final Guidance, EPA discusses the use of a source's annual emissions in tons divided by distance in kilometers between the source and the nearest Class I area (often referred to as Q/d) as a surrogate for source visibility impacts, along with a reasonably selected threshold for this metric.⁷¹ As EPA notes, although Q/d is the least

⁷⁰ Final Guidance at 19.

⁷¹ Final Guidance at 13.

complicated technique, it should “be limited to source selection for the purpose of developing a list of sources for which a state may conduct a four-factor analysis” because the metric is a less reliable indicator of actual visibility impact.⁷²

EPA should revise the Final Guidance to require states using the Q/d metric to include all visibility-impairing pollutants when determining the annual emissions being used to obtain a source or source category’s estimated visibility impacts. As discussed further *supra* section III.H, states cannot eliminate certain emissions, such as VOCs and ammonia emissions, from consideration. Additionally, EPA should recommend that states using the Q/d metric not use the Q/d threshold from the first implementation period for the second implementation period. Rather, the Q/d threshold should be lower in order to address more sources, including sources that are lower emitting and sources that are further in distance than the sources addressed in the first implementation period.

IV. Determination of affected Class I areas in other states

- A. States must use methods permitted by statute and regulation to identify its sources that impact visibility at Class I areas in other states, not merely any “reasonable method.”

In Section II.B.2 of the Final Guidance, EPA inserts a blanket statement that jeopardizes making progress towards the Clean Air Act Class I visibility goal and obfuscates the Regional Haze Rule’s requirements regarding how a state should identify its sources that impact the visibility at Class I areas in other states: “As an initial matter, a state has the flexibility to use any reasonable method for quantifying the impacts of its own emissions on out-of-state Class I areas, and it may use any reasonable assessment for this determination.”⁷³

EPA does not provide any explanation or examples of what it considers “reasonable.” Thus, this statement would allow a state to use any methodology, regardless of its scientific rigor, to identify those sources. Furthermore, once having identified these sources, however loosely, the state can then “assess” those sources any way it wishes. Confusingly, EPA seems to distinguish between quantifying the impacts of these sources and assessing these impacts. This single statement would serve to hand a state seemingly unlimited discretion over a key step in preparing its SIP, in marked contrast to what it proposed.

As EPA states in its 2017 Regional Haze Rule revision:

On July 8, 2016, we released Draft Guidance that discusses how states can determine which Class I areas they “may affect” and therefore must consider when selecting sources for inclusion in a four-factor analysis. The Draft Guidance discusses various approaches that states used during the first implementation

⁷² *Id.*

⁷³ Final Guidance at 8.

period, provides states with the flexibility to choose from among these approaches in the second implementation period, and recommends that states adopt “a conservative . . . approach to determining whether their sources may affect visibility at out-of-state Class I areas.”⁷⁴

Indeed, EPA’s Draft Guidance did provide actual guidance to the states on this issue:

Once contributions by sources, groups of sources or geographic areas have been quantified in some manner, the EPA recommends that states adopt a conservative (more protective approach of visibility) approach to determining whether their sources may affect visibility at out-of-state Class I areas. For example, states could consider all Class I areas for which the state contributes at least one percent to anthropogenic light extinction from all U.S. sources on any day within the 20 percent most impaired days. States may choose a different threshold to determine which out-of-state Class I areas may be affected by the States sources, but must provide an adequate explanation of why the threshold is sufficiently protective of visibility.⁷⁵

EPA followed this statement with more than twelve pages of highly technical guidance detailing approaches it deemed acceptable.⁷⁶ The Final Guidance deletes most of this and provides a summary approach void of technical rigor or analytical teeth. The Regional Haze Rule makes plain that a state’s long-term strategy, including its application of the four statutory factors, be comprised of a robust initial step—the assessment of the state’s emission sources on downwind states’ Class I areas. However, by diminishing actual guidance and inventing this undefined and ambiguous standard, EPA creates confusion and ambiguity for states, leaving states to determine reasonability on a SIP-by-SIP basis. EPA should restore the discussion and directives to states from the Draft Guidance.

B. Application of a threshold for cumulative impacts to multiple Class I areas.

EPA should reconsider and revise the Final Guidance to recommend that states quantitatively document the results of the screening process for each Class I area rather than presenting only the impacts at the most affected or nearest Class I area. This allows the public to know the scope of the source’s impacts and assures that the SIP comports with the letter and spirit of the regional haze program, a program grounded in the fact that regional haze is a regional problem and that Class I area impacts are felt typically by a multitude of sources’ pollution that defy state boundaries.

EPA should also make clear that states must consider cumulative impacts of sources or groups of sources to all affected Class I areas. A source’s cumulative impacts across Class I

⁷⁴ 82 Fed. Reg. at 3094.

⁷⁵ Draft Guidance at 58.

⁷⁶ Draft Guidance at 58-70.

areas provides a valuable screen to identify sources for further analysis. As EPA conceded and the court found in *Nat'l Parks Conservation Ass'n v. EPA*, in considering the visibility improvement expected from the use of controls, states must take into account the visibility impacts at all impacted Class I areas rather than focusing solely on the benefits at the most impacted areas.⁷⁷ This must include sources that have relatively small impacts in isolation but larger cumulative impacts either in the aggregate or across Class I areas.

V. Ambient data analysis

A. States must prioritize emissions within their borders to achieve reasonable progress.

International emissions contribute to visibility impacts. Rather than encouraging states to pursue an adjustment to the end goal of natural visibility due to international emissions, EPA should be directing states to focus on the emissions within their borders for which requirements would help achieve reasonable progress. We encourage EPA to work with states, FLMs, stakeholders, and other countries to develop emissions inventories for cross-border pollution as well as scientifically valid methods for assessing long range emissions transport. However, the development of accurate accounting and modeling should not come with the expense of postponing or ignoring domestic emission-reducing measures. EPA's updated 2028 modeling⁷⁸ attempts to incorporate international emissions, but the agency itself makes clear that the science upon which the modeling rests is questionable.⁷⁹ EPA should reconsider and revise its Guidance to clarify that assessing international emissions is a work in progress and opportunity for partnership across a broad set of stakeholders, but the mandate of the Clean Air Act compels states to take measures to make reasonable progress by reducing emissions in their borders, not look to analysis to excuse doing so because other nations also contribute to regional haze.

We also urge EPA to revise the Final Guidance to clarify that affected states also have an obligation to take appropriate action to address international emissions.⁸⁰ Although EPA and the states are not required to "compensate" for international emissions, it is well within EPA and the states' rights and obligations to formally request reductions from international sources where appropriate, or to take permitting actions in the United States that will lead to emission reductions in other countries.

For example, Mexico's Carbon I and II power plants, which are less than twenty miles from the Texas border, are responsible for significant levels of pollution across several of the border states. Despite noting the significant impact of Mexican sources on its Class I areas, and

⁷⁷ *Nat'l Parks Conservation Ass'n v. EPA*, 803 F.3d 151, 165 (3d Cir. 2015).

⁷⁸ EPA, Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling (Sept. 19, 2019), https://www.epa.gov/sites/production/files/2019-10/documents/updated_2028_regional_haze_modeling-tsd-2019_0.pdf ("Updated 2028 Modeling").

⁷⁹ *Id.* at 67.

⁸⁰ 64 Fed. Reg. 35,714, 35,755 (July 1, 1999) ("The States retain a duty to work with EPA in helping the Federal government use appropriate means to address international pollution transport concerns.").

requesting federal efforts to reduce impacts from international emissions,⁸¹ Texas approved water discharge and mining permits for a coal mine in Maverick County. Rejecting these permits instead would have prevented the Mexican company Dos Republicas from mining high-sulfur coal that is transported and burned at the Carbon I & II facilities. EPA should remove its false implication that international emissions are entirely “uncontrollable” and should instead make clear that states must demonstrate that they are doing what is within their control to address international emissions—both generally and in particular.

EPA also discusses an “adjustment” to the URP for prescribed wildland fires. Wildfires, particularly in the West, have grown hotter, bigger, and more frequent with climate change. We recognize the role of prescribed fire in both managing fire size due to climate impacts and in restoration of natural ecosystems—which can, if effective, reduce the size and scale of fires later. There are, as a result of increased prescribed fire, potential benefits to both short- and long-term air quality. In planning for prescribed wildland fires, states should consider effects on visibility, alongside health and other concerns, including potential control measures and the potential benefits. A State cannot adjust a URP based on prescribed fires unless these fires actually result in visibility impairment on the “most-impaired” days. The Final Guidance should be clear that analysis of and planning for prescribed wildland fires need to be tailored to the planning period basis and would not automatically apply to the next planning period.

VI. Characterization of factors for emission control measures

A. States should identify and consider the best available emission control measures in the four-factor reasonable progress analysis.

In Section II.B.4.a of the Final Guidance, EPA advises states that they have the flexibility to reasonably determine which control measures to evaluate, and the agency lists examples of types of emission control measures states may consider.⁸² EPA should reconsider its approach to ensure that the best controls for a source or source category are identified, evaluated, and the appropriate option determined. Identification of all available control measures is an important first step to ensure the best controls or emission reduction measures emerge from a four-factor analysis. However, EPA should revise the Final Guidance to ensure evaluation of the best control options.

1. EPA should reiterate and expand upon Step 1 of the BART-Guidelines regarding the identification of all available emission control techniques.

EPA should encourage states to consider various sources of information and types of emissions control techniques in developing its long-term strategy. Specifically, EPA should make clear that states must look to new source review control technology determinations, including major source BACT and LAER determinations, as well as state minor source BACT

⁸¹ Texas Revisions to the State Implementation Plan (SIP) Concerning Regional Haze, at ES-2 (Feb. 25, 2009).

⁸² Final Guidance at 29-30.

determinations. EPA should also recommend that states evaluate technologies that were considered in applicable new source performance standards, as well as those emission controls that were required in applicable new source performance standards.⁸³ EPA should also recommend that states consider the control techniques evaluated and required for similar source BART determinations.

In addition, EPA should recommend that states consider BACT determinations and other new source control requirements that states have adopted in minor new source review permits. Several states have minor source BACT provisions which may provide useful information for control technology considerations, and/or states have adopted targeted emission control requirements for source categories that do not have parallel federal requirements.⁸⁴

Further, EPA should recommend that states investigate controls for source categories evaluated in reasonably available control measures (“RACM”)/ reasonably available control technology (“RACT”) and best available control measures (“BACM”)/BACT determinations for nonattainment areas, a good starting point for information for control techniques available for a particular source category. States should also be encouraged to consult vendors or vendor groups such as the Institute of Clean Air Companies for control techniques for sources or source categories.

States should consider inherently lower-emitting processes, by themselves, and in combination with add-on controls. A state should not reject a combination of control measures altogether when the control measures could also be applied independently, unless the state is instead focusing on a control measure that is more effective at reducing emissions than the individual control measures.

In general, EPA should provide flexibility for states to consider innovative technologies tied to quantifiable and enforceable emission reduction requirements and to consider control techniques that some could view as “redefining the source” such as a change in fuel form. The BART Guidelines seemed to limit such controls from consideration for BART. Setting aside whether this was appropriate for BART determinations, States should not be constrained when evaluating measures to consider for the long-term strategy to make reasonable progress towards the national visibility goal.

In evaluating measures for the long-term strategy, states may need to address sources that were constructed many decades ago and/or sources to which pollution controls have not typically

⁸³ As EPA acknowledges in the BART guidelines, the NSPS standards do not always require the most stringent level of available control technology for a source category. 40 C.F.R. Part 51, Appendix Y, Section IV.D.2. In some cases, EPA evaluates more stringent controls in an NSPS proposed rulemaking, but ultimately requires a less stringent control to set the NSPS standard. EPA should make clear that NSPS standards are likely insufficient for purposes of reasonable progress determinations because the standards will not be reflective of the reduction measures available and otherwise meeting the four factors as SIPs are being advanced.

⁸⁴ See, e.g., Colorado Regulation No. 7 – Control of Ozone via Ozone Precursors and Control of Hydrocarbon via Oil and Gas Emissions, <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=8546&fileName=5%20CCR%201001-9>.

been applied. There may be little experience with applying pollution controls to such sources. However, the lack of information on “available” control technologies should not be used as a justification to eliminate a source from consideration of controls (or to only evaluate less effective controls). In such cases, States should be encouraged to consider innovative technologies, technologies that may not have historically been applied to the source type but could be transferred to the source type, emission unit replacement with more energy efficient/less polluting technology, and other such measures in evaluating how to best reduce haze-forming pollution from the source or source type.

2. EPA should advise states how to determine “available” and “technically feasible” control techniques for long-term strategy measures.

EPA should elaborate on how to determine whether a control technique is considered “available” or “technically feasible” for a source or source category. Section IV(D)(1) of the BART Guidelines⁸⁵ states in part that that “available retrofit control options are those with a practical potential for application to the emissions unit . . .” and “technologies which have not yet been applied to (or permitted for) full scale operations need not be considered available; we do not expect the source owner to purchase or construct a process or control device that has not already been demonstrated in practice.” EPA should recommend that states take a broader view in determining what control strategies are “available” for a source or source category, especially if traditional pollution controls had not been historically applied to that source category. In such cases, states may need to examine more innovative options for pollution control at such sources or source categories, including the consideration of promising pollution control options that have not already been demonstrated in practice but which offer quantifiable emission reductions.

Section IV(D)(1) of the BART Guidelines includes provisions to determine whether a control option is “technically feasible.” Those provisions, as well as the discussion on available technologies, generally track guidance on evaluations for BACT determinations set out in EPA’s New Source Review Workshop Manual.⁸⁶

Sources often make availability or technical infeasibility arguments to avoid having to consider a pollution control, pointing out that that the control has not been used on the specific type of coal the source utilizes or on the particular size plant. Given that states may be having to determine controls for sources or source categories that have not been traditionally controlled in the long-term strategies, EPA should encourage states in such situations to fully evaluate controls that can be transferred from other source categories or that can be altered to accommodate the specific source or source category in question. EPA should recommend in such situations that states consult with, for example, environmental consultants, research technical journals, or air pollution control conference articles. States should also consider technologies demonstrated outside of the United States. EPA’s New Source Review Workshop Manual describes how to

⁸⁵ 40 C.F.R. § Pt. 51, App. Y.

⁸⁶ U.S. EPA, New Source Review Workshop Manual, at B.17-B.21 (Draft Oct. 1990).

identify all control options “with potential application to the source and pollutant under evaluation.”⁸⁷

In summary, EPA should reconsider and revise the Final Guidance to elaborate on how states should evaluate available and technically feasible control techniques with the goal of ensuring that all potential controls with a practical application to a source or source category are considered in the development of the long-term strategy.

B. Cost analyses for the long-term strategy.

1. States must adhere to the accounting principles of the Control Cost Manual.

EPA should require states to follow the accounting principles and generic factors of EPA’s Control Cost Manual because states and EPA have historically determined whether the costs of control measures are “reasonable” based on the costs that other similar sources determined in other regulatory actions including permits.⁸⁸ If EPA does not require all states to use the same accounting principles, it will be extremely difficult to compare costs of control between sources to evaluate whether the controls are cost effective.

2. States should compile and make publicly available the documentation for generic cost estimates.

EPA’s Final Guidance suggests that states may reduce time and effort in determining control costs by using generic cost estimates or estimation algorithms, such as the Control Strategy Tool.⁸⁹ However, we request that EPA require the documentation for such generic cost estimates to be compiled and made publicly available. As stated in Sierra Club and National Parks Conservation Association’s comments on EPA’s proposed revisions to the Control Cost Manual, the Integrated Planning Model’s SCR cost database is based on Sargent & Lundy’s confidential database and the underlying data and methods used to develop the regression equations have not been publicly reviewed and analyzed.⁹⁰ Given that the cost estimates may be a primary basis for rejecting a control measure, the underlying data for such cost estimates must be publicly available.

C. EPA should reconsider and revise the Final Guidance regarding how to address energy and non-air quality environmental impacts of control measures.

EPA should state that the third factor of energy and non-air quality environmental impacts should generally be based on the same methodology laid out in the BART Guidelines. Section 8.1.1 of the BART Guidelines indicates that states must consider the energy and non-air quality environmental impacts as part of the cost analyses. With respect to taking into account non-air quality environmental impacts, we agree in general to take into account such impacts in

⁸⁷ *Id.* at B.10-B.11.

⁸⁸ Final Guidance at 31.

⁸⁹ *Id.* at 32.

⁹⁰ See September 10, 2015 Comment Letter from Sierra Club and National Parks Conservation Association to U.S. EPA, Docket ID No. EPA-HQ-OAR-2015-0341, at 8.

the cost analysis if the costs can be quantified. Otherwise, such impacts may need to be discussed qualitatively and weighed in the four-factor analysis.

EPA should also revise the Final Guidance and recommend that states analyze the climate and environmental justice impacts of regional haze SIPs. Although the Regional Haze Rule does not define “non-air quality environmental impacts,” the BART Guidelines, which inform a state’s reasonable progress analysis, explain that the term should be interpreted broadly.⁹¹ Climate change⁹² and environmental justice⁹³ impacts are the types of non-air quality impacts that states should consider when they determine reasonable progress measures for specific sources. Incorporating climate change and environmental justice impacts into the regional haze analysis will further states’ climate and environmental justice policy goals, and it will also help states ensure that their actions related to regional haze planning support their other work on climate and environmental justice issues. Most of the same sectors and sources implicated under the regional haze program are also implicated in climate and environmental justice initiatives. As a result, when states determine “the emissions reduction measures that are necessary to make reasonable progress,” they should assess how those measures will either reduce or exacerbate greenhouse gas emissions and/or environmental justice impacts on nearby disproportionately burdened communities.

VII. Decisions on what control measures are necessary to make reasonable progress

A. States cannot allow sources to discontinue the use of currently operating controls.

In Section II.B.5.e of the Final Guidance, EPA advises states how currently controlled sources may be able to discontinue those controls under reasonable progress:

It is also possible that a source may be operating an emission control device but could remain in compliance with applicable emission limits if it stopped operation of the device. The state may reasonably consider based on appropriate factors whether continued operation of that device is necessary to make reasonable progress, such that the regional haze SIP submission for the second implementation period must make such operation of the device (or attainment of an equivalent level of emission control) enforceable.⁹⁴

Suggesting to states that they may discontinue the use of controls that are already operating is antithetical to the regional haze program. Rather, EPA should revise the Final Guidance to require states to evaluate more effective operation of existing controls, including year-round

⁹¹ 40 C.F.R. pt. 51, App. Y at § (IV)(D)(4)(i), (IV)(D)(4)(j).

⁹² See, e.g., 74 Fed. Reg. 66,496 (Dec. 15, 2009) (EPA endangerment finding); Intergovernmental Panel on Climate Change, Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2015), <https://www.ipcc.ch/report/ar5/syr/>.

⁹³ See EPA, Learn about Environmental Justice, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (last visited April 24, 2020); Exec. Order No. 12,898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 11, 1994).

⁹⁴ Final Guidance at 43.

operation requirements. Further, the Clean Air Act is clear that visibility is not a factor in determining reasonable progress measures required at a source.

In evaluating controls for a source that already had a control installed, such as a wet or dry scrubber for SO₂ or SCR or selective non-catalytic reduction (“SNCR”) for NO_x, states must be required to evaluate whether these controls can be more effectively operated. Companies tend to operate their air pollution control systems to the level needed to ensure compliance with applicable emission limits rather than to the maximum emission reduction capability of the pollution control technology. For example, there are electrical generating units (“EGUs”) that are only operating their installed SCR or SNCR systems during the ozone season to meet limits under the Cross State Air Pollution Rule (“CSAPR”). Indeed, in projecting operations and emissions scenarios for evaluating the CSAPR program, EPA included assumptions for dispatchable SCR, SNCR, and also scrubbers, which reflected the fact that no emission limits or consent decrees required continuous operation of the pollution controls installed at many EGUs. EPA should thus recommend that states, at a minimum, require year-round operation of existing scrubbers, SCRs, SNCRs, or other controls as one of the control options considered.

Additionally, there are numerous examples of scrubbers, SCRs, and SNCRs that, when operated, are not operated to achieve the maximum emission reductions that could be accommodated within the existing control technology at a particular unit, primarily because the applicable emission limitation does not require operation of those pollution controls to achieve the maximum emission reductions. As mentioned *supra* section III.E, states should consider sources that already have in place the most stringent controls available for additional control in the development of the long-term strategy during the second implementation period.

EPA should revise the Final Guidance to recommend that sources with existing pollution control technology evaluate options that could improve the emissions reduced through more effective use of that control technology. This could include requiring year-round operation of controls, imposing more effective percent reduction requirements, requiring sources to meet more stringent emission limits, and requiring that emission limits apply on shorter averaging times to ensure continuous levels of emission reduction.

VIII. Regional scale modeling of the long-term strategy to set the RPGs for 2028

A. States should use regional scale modeling to support their regional haze SIPs.

In Section II.B.6 of the Final Guidance, EPA advises states that they are not required to use regional scale modeling to support their regional haze SIPs. Specifically, under Step 6, EPA states that a state must:

Determine the visibility conditions in 2028 that will result from implementation of the LTS and other enforceable measures to set the RPGs for 2028. Typically, a state will do

this through regional scale modeling, *although the Regional Haze Rule does not explicitly require regional scale modeling.*⁹⁵

Were a state to forego estimating source or source categories emitting visibility-impairing pollutants, as the guidance provides, it would not be able to satisfy a number of basic requirements of the Regional Haze Rule. Estimating the visibility impacts from a collection of sources is a prerequisite of establishing a state's RPG. As EPA explains in its 2017 Regional Haze Rule revision, this is a key first step in a state setting its RPG: "the 2007 guidance clearly describes the goal-setting process as starting with the evaluation of control measures. First, we recommended that states '[i]dentify the key pollutants and sources and/or source categories that are contributing to visibility impairment at each Class I area.'"⁹⁶ If a state did not estimate the visibility impacts from source or source categories, it could not satisfy the requirement in Section 51.308(f)(3)(ii)(A) that it demonstrate, "there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area." Indeed, this misplaced advice is not even internally consistent with other sections of the Final Guidance, which cover many techniques for estimating the visibility impacts of sources or source categories. Estimating the collective visibility impacts of sources or source categories to determine the RPG is a fundamental requirement of the regional haze program.

In fact, there is no known substitute for the use of photochemical air quality models to project the visibility impact from thousands of individual sources, influenced by complex meteorological fields and atmospheric chemical interactions at a Class I area, ten years into the future, as EPA makes clear in Appendix W to Part 51.⁹⁷ The use of air quality models has been a cornerstone of the technical demonstration of the regional haze program (and many other air programs) since its inception. Almost every EPA Regional Haze Rule revision and guidance either discusses the use of air quality models or assumes their use. In fact, EPA recently updated its modeling guidance for regional haze.⁹⁸ The very first sentence of the section specifically devoted to regional haze is: "[t]his section focuses on the modeling analysis needed to set RPGs that reflect the enforceable emission limitations, compliance schedules, and other measures included in the long-term strategy of a regional haze SIP."⁹⁹ Part 51 makes it clear that air quality

⁹⁵ Final Guidance, Table 1, at 6 (emphasis added).

⁹⁶ See 82 Fed. Reg. at 3092-93. Notably, EPA does not abandon its 2007 Guidance and in fact refers to in several places in its rule revision.

⁹⁷ See 40 C.F.R. Pt. 51; App. W, Section 2.0 (a), "Guideline on Air Quality Models," ("Increasing reliance has been placed on concentration estimates from air quality models as the primary basis for regulatory decisions concerning source permits and emission control requirements. In many situations, such as review of a proposed new source, no practical alternative exists."); see also *id.* at Section 1.0 (b), ("The impacts of new sources that do not yet exist, and modifications to existing sources that have yet to be implemented, can only be determined through modeling.") This is precisely the challenge of setting RPGs – accounting for modifications to potentially dozens of existing sources (e.g., installation of controls).

⁹⁸ Modeling Guidance for Demonstrating Air Quality Goals for Ozone, PM_{2.5} and Regional Haze, EPA 454/R-18-009, (Nov. 2018).

⁹⁹ *Id.* at 143.

modeling is a necessary tool in the setting of RPGs and EPA should not imply otherwise in its guidance.

Instead of guiding states on modeling, EPA repeatedly informs states that they can use “surrogates” to estimate visibility impacts of a body of sources. Specifically, EPA states that “the Regional Haze Rule does not require states to develop estimates of individual source or source category visibility impacts, or to use an air quality model to do so. Reasonable surrogate metrics of visibility impact may be used instead.”¹⁰⁰ EPA lists a number of surrogates that can be used for this purpose, including Q/d, wind trajectories, and daily light extinctions budgets and states that states can use “other reasonable techniques.”¹⁰¹ However, although more strongly worded in its Draft Guidance,¹⁰² EPA does state in its Final Guidance, “[s]urrogate metric here refers to a quantitative metric that is correlated to some degree with visibility impacts as they would be estimated via air quality modeling.”¹⁰³ Consequently, although EPA tells states that modeling is unnecessary and that surrogate measures can be used, modeling is required in order to check the validity of visibility surrogates. EPA should reconsider this provision, and clarify that modeling is needed to assess the collective visibility impacts of sources or source categories to establish RPGs.

IX. Progress, degradation, and URP glidepath checks

- A. If a state’s RPG is above the URP, the state’s “robust demonstration” must include a consideration of specific items identified by EPA.

In section II.B.7.c of the Final Guidance, EPA discusses what could constitute a “robust demonstration,” required under section 51.308(f)(3)(ii)(A) when a state’s RPG is above the URP.¹⁰⁴ EPA states that a simple “narrative explanation of how the state has already conducted the source selection and control measures analyses in such a manner that addresses the requirements of 51.308(f)(3)(ii)” may suffice.¹⁰⁵ EPA then goes on to note that such a state *may* consider a long list of additional items, including reconsideration of its visibility threshold, acceptable cost threshold, additional technically feasible controls, how its determination criteria compares to that of other states, etc.¹⁰⁶

In contrast, EPA’s Draft Guidance did not state that a simple narrative would suffice. The Draft Guidance stated that such a demonstration *should* include consideration of a similar listing

¹⁰⁰ Final Guidance at 12.

¹⁰¹ *Id.* at 13.

¹⁰² Draft Guidance at 76 (“Before relying on Q/d as a surrogate for screening purposes, a state should investigate how well Q/d relates to visibility impacts for the 20 percent most impaired and 20 percent clearest days, in terms of both the central tendency of the relationship (e.g., the regression line) and the variability of the relationship (e.g., the error of the regression). This understanding should be developed through relevant modeling of some actual cases or model plant scenarios, or another appropriate approach.”)

¹⁰³ Final Guidance at 10 n.25.

¹⁰⁴ *Id.* at 50.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 50-51.

of items. EPA's pivot from *should* consider to *may* consider substantially misinterprets and is directly at odds with what the robust demonstration required under section 51.308(f)(3)(ii)(A) should contain.

Moreover, states should not rely on EPA's Updated 2028 Modeling¹⁰⁷ to determine which Class I areas are projected to be at or below the URP. Projected conditions for 2028 are tied to the 2064 natural conditions endpoint adjustments to account for international anthropogenic contributions, as well as wildfires. By EPA's own admission as discussed *supra* section V.A, these adjustments lack scientific validation and should not be relied on to determine whether a Class I area is on track to meet its URP in 2028.¹⁰⁸ The result of the updated modeling adjustments reduced the number of Interagency Monitoring of Protected Visual Environments ("IMPROVE") sites projected to be above the glidepath from forty-seven to eight. IMPROVE monitors are not the same as Class I areas, however many Class I areas share monitors; only ninety-nine monitoring sites (representing 142 Class I areas) were evaluated.¹⁰⁹ EPA must reconsider and revise the Final Guidance to specify what a "robust demonstration" under section 51.308(f)(3)(ii)(A) requires and that a state's demonstration should include consideration of the specific list of items identified by the agency.

X. Additional requirements for regional haze SIPs

A. States must submit to EPA the emission inventory used in a regional haze SIP.

In section II.B.8.c of the Final Guidance, regarding section 51.308(f)(6)(v) which covers the requirements for the state's emissions inventory, EPA states that "[t]he emission inventories themselves are not required SIP elements and so are not required to be submitted according [sic] the procedures for SIP revisions. The emission inventories themselves are not subject to EPA review."¹¹⁰ This conflicts with the Regional Haze Rule, is internally inconsistent with the rule and other state requirements, and is impracticable. First, EPA's statement conflicts with several sections of the Regional Haze Rule. For instance, section 51.308(f)(2)(iii) requires that the state must document the following:

[T]he 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. . . . The emissions information must include, but need not be limited to, information on emissions in a year at least as recent as the most recent year for which the State has submitted emission inventory information to

¹⁰⁷ See Updated 2028 Modeling.

¹⁰⁸ *Id.* at 67.

¹⁰⁹ *Id.* at 3 n.6.

¹¹⁰ Final Guidance at 55.

the Administrator in compliance with the triennial reporting requirements of subpart A of this part.

Here, it is clear that a state is required to document the technical basis of all aspects of its regional haze demonstration. A state's emission inventory is a foundational aspect of its technical demonstration. In fact, EPA specifically calls out "emissions information," and clarifies that the emissions information must include "information on emissions in a year at least as recent as the most recent year for which the State has submitted emission inventory information to the Administrator."¹¹¹

Plainly, a state is required to submit the emission inventory it is using as part of its technical demonstration to EPA, and that inventory must include certain specified elements. Because states are already required to submit specified emission inventories to EPA as part of other requirements ("Part A"), EPA clarifies that a state may refer to that submission instead of physically including it in its SIP. However, the mere fact that EPA specifies a state may use an already prepared work product does not shield it from a review of its suitability for the task at hand.¹¹² For instance, EPA has frequently stated that states may use the technical work of RPOs in their SIPs. That position has never been interpreted to mean information is shielded from EPA review.¹¹³ Indeed, EPA has a duty to review that inventory in the context of the state's regional haze SIP submission.¹¹⁴ Thus, a state's emission inventory is an inseverable part of its regional haze SIP and subject to EPA's review.

Despite this, EPA appears to imply in its guidance that it cannot bring to the state's attention potential faults in the emission inventory a state used to support its regional haze SIP, nor even examine that inventory in the context of its review of the state's regional haze SIP. EPA should revise the Final Guidance to advise states that a state's emission inventory is a part of the state's SIP and subject to EPA's review.

¹¹¹ *Id.*

¹¹² See EPA's "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454/B-17-002, at 11 (May 2017), ("[Inventory information provided to EPA] will allow the EPA to make a determination whether the emissions information used in Regional Haze analysis is sufficient for the purposes of the SIP.")

¹¹³ For instance, in the Texas FIP, EPA observed that under the current regulation each state "must document the technical basis, including modeling, monitoring and emissions information, on which the State is relying to determine its apportionment of emission reduction obligations necessary for achieving *reasonable progress* in each mandatory Class I Federal area it affects." 79 Fed. Reg. 74,818, 74,829 (Dec. 16, 2014) (emphasis in original). While the current regulations provide that, "[s]tates may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all State participants," 40 C.F.R. § 51.308(d)(3)(iii), the Texas haze rule clarified that in situations "where a regional planning organization's analyses are limited, incomplete or do not adequately assess the four factors, however, then states must fill in any remaining gaps to meet this requirement." *Id.* (emphasis added).

¹¹⁴ In the 2017 Regional Haze Rule revision, EPA makes it a point to review a number of circuit court opinions that affirm EPA's review authority, including the Eight Circuit's conclusion that EPA "must 'review the substantive content of the . . . determination.'" 82 Fed. Reg. at 3090 (quoting *Ariz. el rel. Darwin v. EPA*, 815 F.3d 519, 531 (9th Cir. 2016)).

- B. States must ensure that FLM opinions and concerns are made transparent to the public, considered by the state and addressed in the SIP.

In Section II.B.8.a of the Final Guidance, EPA provides guidance to the states regarding the FLM consultation requirements in the Regional Haze Rule, 40 C.F.R. § 51.308. Although EPA reiterates that states are required to consult with FLMs, EPA should reconsider and revise the Final Guidance to ensure that states give credence to the opinions and concerns expressed by FLMs. FLMs have affirmative duties under section 169A(a) and (d) of the Clean Air Act as well as mandates to protect and manage public lands under the Wilderness Act¹¹⁵ and the Organics Act¹¹⁶. Therefore, EPA should revise the Final Guidance to direct states that to work collaboratively with FLM to develop regional haze SIPs that satisfy federal agency duties and public resource protections.

XI. Overarching recommendations

- A. EPA should emphasize that the end result must be reasonable progress.

EPA should make clear in a revised Final Guidance that the end result of any state's implementation plan must be real, reasonable progress. Consequently, each new plan must require that states actually reduce their emissions that contribute to visibility impairment. The statute requires each haze plan to contain "emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress"¹¹⁷ Therefore, any interpretation of the Regional Haze Rule via guidance should direct a state's long-term strategy to be more than just a hand waving exercise—each plan must require adequate emission limits and other enforceable measures to make reasonable progress.¹¹⁸ EPA should revise the Final Guidance to explicitly provide that actually requiring emission reductions which constitute reasonable progress must be the outcome of the four-factor analysis to meet the applicable requirements; deliberation, no matter how well documented, is not enough. Emission reductions recognized through the four-factor analysis must result in emission reduction measures enforceable through a state or federal regional haze plan.

- B. Decisions on which controls to require as part of the long-term strategy cannot merely ratify past determinations.

EPA must also revise the Final Guidance to clarify that decisions on which controls to require as part of long-term strategy cannot rest solely on controls required by past SIPs and state rules. Although EPA stated in the Draft Guidance that decisions on whether controls for a source or source category are cost-effective or provide sufficient visibility improvement cannot rely solely on past decisions evaluating controls for similar sources¹¹⁹, that language is completely absent from the Final Guidance. EPA must revise the Final Guidance to state this point. For

¹¹⁵ 16 U.S.C. §§ 1131-1136.

¹¹⁶ 54 U.S.C. § 100101.

¹¹⁷ 42 U.S.C. § 7491(b)(2).

¹¹⁸ *See id.*

¹¹⁹ Draft Guidance at 97, 103.

example, costs or technologies which were previously considered unreasonable or infeasible at a later date may become more common and may nevertheless be necessary in the second or future planning periods to make reasonable progress. Likewise, making reasonable progress in the current and future planning periods will require the implementation of controls that individually account for smaller visibility impacts than those contemplated in the first planning period and in other past emission reducing rules and permits. Therefore, EPA must revise the Final Guidance to direct states to conduct new source-specific, four-factor emission reduction analyses.

C. EPA must ensure that long-term strategies include appropriate measures to prevent future as well as remedy existing impairment of visibility.

The Clean Air Act not only requires that existing visibility impairment be remedied, but that future impairment be prevented. 42 U.S.C. § 7491(a)(1). As such, it is imperative that each state's long-term strategy be required to include measures to prevent regional haze visibility impairment and that such plans take into account the effect of new sources, as well as existing sources of visibility impairment. EPA must revise its Guidance to comport with this requirement.

EPA has historically relied on the prevention of significant deterioration ("PSD") permitting program and the visibility new source review ("NSR") requirements mandated by 40 C.F.R. § 51.307¹²⁰ to address this requirement of the national visibility goal.¹²¹ These provisions essentially mandate that new and modified major sources that are subject to major source permitting requirements do not adversely impact visibility in any Class I area. However, much has changed in the PSD and NSR permitting programs since 1980. The current PSD rules, as well as the major source nonattainment NSR rules, now exempt many modifications at existing major sources that were previously subject to PSD review. As a result, the PSD and visibility NSR rules do not provide as comprehensive Class I areas protections as they previously did, due to impacts from modified sources. Further, there have been significant increases in emissions near some Class I areas due to oil and gas emissions and other activities that are not adequately addressed by the PSD permitting program.

EPA must revise its Final Guidance to ensure that states prevent future impairment by analyzing new and modified emission sources and by requiring mitigation of the cumulative visibility-impairing emissions. As we discuss below, it is especially important for EPA to articulate that states consider minor, area, and other new growth, or modification of stationary sources that are not subject to the Class I area protections of the PSD permitting and visibility NSR requirements.

¹²⁰ 40 C.F.R. §51.307(b)(2) and (c) provides that the PSD requirements of 40 C.F.R. §51.166(o), (p)(1) through (2), and (q) apply to new and modified major proposing to locate in nonattainment areas that may have an impact on visibility in a mandatory Class I area.

¹²¹ See 45 Fed. Reg. 80,089 (Dec. 2, 1980).

1. The 2002 PSD and nonattainment NSR Rule revisions exempt many modifications from PSD permitting that could result in large, visibility-impairing emission increases from existing major sources.

EPA has historically relied on the PSD and nonattainment/visibility NSR permitting programs to meet the requirement of preventing future impairment of visibility. The PSD permitting requirements specifically provide for ensuring that a new or modified major source will not adversely impact visibility in a Class I area¹²², and the EPA's visibility NSR rules in 40 C.F.R. §51.307(c) require new and modified major sources proposing to locate in nonattainment areas that may impact visibility in a Class I area to meet these same requirements of the PSD program.¹²³ However, the December 2002 revisions to the PSD and nonattainment NSR permitting requirements significantly reduced the scope of modifications that would trigger PSD or nonattainment NSR as major modifications by drastically changing the methodology for determining whether a significant emission increase would occur as a result of a modification.¹²⁴

Despite these significant regulatory changes which reduced the scope of modified sources subject to PSD and nonattainment NSR permitting, EPA has never re-evaluated its reliance on the major source permitting programs as sufficient to prevent future impairment of visibility. However, these rules, as revised in recent years, will likely allow significant increases¹²⁵ in actual emissions from existing sources to occur without any evaluation of the impacts on visibility and without even applying BACT or LAER, due to being exempt from PSD or nonattainment NSR permitting.

In summary, the PSD and nonattainment NSR rules as revised in 1992 and 2002 now exempt many modifications that would have previously been subject to major source permitting, including the visibility requirements of the PSD program and visibility NSR rules. Thus, while the rules still include vital provisions for the prevention of future visibility impairment, the PSD and visibility NSR rules are no longer adequate by themselves to ensure the prevention of future visibility impairment. In light of this, EPA should revise the Final Guidance to clarify that states may not solely rely on the PSD and visibility NSR programs to prevent future impairment of visibility. EPA must ensure that states specify requirements in their SIPs to prevent future visibility impairment from the new source growth in any state that may increase visibility-impairing pollution and thus affect Class I area visibility.

2. Minor, area, mobile, and other source emissions must be evaluated to prevent future, as well as remedy existing, impairment of visibility.

¹²² 40 C.F.R. §52.21(o), (p)(1) and (2), and (q).

¹²³ 40 C.F.R. §51.307(b)(2) and (c).

¹²⁴ 67 Fed. Reg. 80,185, 80,186-89 (Dec 31, 2002) (also known as "NSR Reform" Rule).

¹²⁵ See Joseph Goffman, et al., EPA's Attack on New Source Review and Other Air Quality Protection Tools (Nov. 1, 2019), <http://eelp.law.harvard.edu/wp-content/uploads/NSR-paper-EELP.pdf>.

Although the Final Guidance mentions minor, area, mobile, and other emission sources, most of the discussion addresses major stationary sources. EPA should be more explicit in its expectation that states evaluate sources and source categories that are not major stationary sources as well, including the potential for growth in emissions from these sources. For example, given the increases in emissions from oil and gas development over the last 10 years,¹²⁶ it is clear that the existing SIPs and FIPs do not currently include adequate mechanisms for preventing visibility impairment from these sources as production ebbs and flows with economic conditions and other factors, such as deregulation and technology. EPA must revise the Final Guidance to clarify that states need to address these sources in the aggregate, rather than source-by-source.

There are several examples of rules and programs that may be necessary in a long-term strategy to prevent future impairment of visibility in Class I areas. EPA should revise the Final Guidance to direct states to consider these examples and include them where appropriate in SIPs.

a. Methods to address visibility-impairing emissions from oil and gas development

EPA should revise the Final Guidance to explicitly note that it expects states to review area sources like oil and gas, and should provide additional guidance on how to do so. Undoubtedly, this should begin with requiring states to collect better data on the emissions from oil and gas.

In many states, emissions from oil and gas development are a significant threat to visibility and air quality in Class I areas. Such development often occurs on federal lands that are near to or abut Class I areas. For example, oil and gas development contributes to visibility impairment in public lands in Utah and Colorado where the NPS found that oil and gas development and leasing in the two states would “cause visibility impairment” at Dinosaur National Monument.¹²⁷ Additionally, NPS recently found impacts from oil and gas emissions at Carlsbad Caverns and San Pedro Parks Wilderness Class I areas, among others, based on 2008 emissions inventories—which do not capture more recent growth—and include only a portion of emissions from the production process.¹²⁸ Examples of Class I areas currently or potentially

¹²⁶ “The U.S. Energy Information Administration (“EIA”) reports that oil production growth in the United States has risen by about 3 million barrels per day (from 5.8 to 8.72 MMb/d) from January 2001 to July 2014 (EIA, 2014a). Natural gas production has increased from 53.74 to 70.46 billion cubic feet per day within this time period (EIA, 2014a). The trend is expected to continue with the number of oil and gas wells in the lower 48 states projected to increase by 84 percent between 2013 and 2040 (EIA, 2014b).” Thompson et al., *Modeling to Evaluate Contribution of Oil and Gas Emissions to Air Pollution*, 67 *Journal of the Air & Waste Management Association* Vol. 4, 445 (Sept. 2016), <https://doi.org/10.1080/10962247.2016.1251508>.

¹²⁷ Memorandum from Regional Director, Intermountain Region, National Park Service, to Planning and Environmental Coordinator, BLM 9 (2013); *see also* Memorandum from Superintendent, Dinosaur National Monument, National Park Service, to Field Office Manager, BLM Vernal Field Office 2 (Aug. 2017); Krish Vijayaraghavan et al., *Ramboll Environ US Corporation*, 2017); BLM, *Colorado Air Resources Management Modeling Study (CARMMS): 2025 CAMx Modeling Results for the High, Low and Medium Oil and Gas Development Scenarios*, 104-05 (Aug. 2017), <https://www.blm.gov/documents/colorado/public-room/data>.

¹²⁸ Thompson et al., *supra* note 126, at 456; *see also* Table C6, *available at* <https://www.tandfonline.com/doi/suppl/10.1080/10962247.2016.1251508?scroll=top>.

impacted by oil and gas emissions include: Theodore Roosevelt and Lostwoods (Bakken Shale in eastern Montana and North Dakota); Wind Cave and Badlands (Powder River Basin in northeast Wyoming); Bridger and Fitzpatrick Wilderness Areas (Pinedale Anticline and Jonah Fields in western Wyoming); Mesa Verde (North and South San Juan Basin); Carlsbad Caverns and Guadalupe Mountains (Permian Basin in southeastern New Mexico and western Texas); and Canyonlands and Arches (Uintah, Paradox, and Piceance Basins in Utah and Colorado).

Significant information is available to enable states and EPA to develop strategies to reduce visibility-impairing emissions from this significant source category. However, these prior analyses do not substitute for meaningful consideration of oil and gas emissions reductions sufficient to meet the Regional Haze Rule's "reasonable progress" mandate. NPCA's recent report, "Oil and Gas Sector Reasonable Progress Four-Factor Analysis for Five Source Categories" assesses emissions controls for the five primary sources of visibility-impairing (and health harming) pollution in the sector: gas-fired reciprocating internal combustion engines ("RICE"); diesel-fired RICE; gas-fired combustion turbines; gas-fired heater, boilers, and reboilers; and flaring and thermal incineration of excess gas and waste gas.¹²⁹ The controls and practices included in this document represent various requirements for sources across the country and should be considered by states with emissions from the oil and gas sector.

Resource Management Plans ("RMPs") or land use plans issued by federal agencies explain how the agency will manage areas of public land over a period of time, usually ten to fifteen years. RMPs and amendments to those plans are required to go through a public review process under the National Environmental Policy Act ("NEPA"), which must include an analysis of projected impacts to all resources, including air quality. Such plans would include projections of oil and gas development, among other land use projections, on federal lands. Unfortunately, numerous RMPs have not been revised for decades, and only a few consider the effect of emissions from the planning area. EPA should revise the Final Guidance to require that states consider RMPs and other land use plans in determining the appropriate measures to prevent future impairment of visibility to include in regional haze SIPs. However, if RMPs are outdated or fail to consider the effects of visibility-impairing pollution from development, EPA must also indicate that those RMPs not be relied upon.

Recent NEPA analyses conducted for projected oil and gas development in RMPs can be useful tools for obtaining data regarding anticipated growth in such emissions. However, neither NEPA assessments nor RMPs are tools for preventing future impairment from oil and gas development. First, if adverse impacts are projected, the federal agency may make recommendations on mitigation methods to avoid adverse impacts, but neither the federal agency nor the local or state air permitting agency are under any obligation to implement such mitigation measures. Second, the federal agency is often making projections of expected amounts of development and in the types and emission rates of emissions units utilized. Those projections do

¹²⁹ Vicki Stamper & Megan Williams, Nat'l Parks Conservation Ass'n, Oil and Gas Sector Reasonable Progress Four-Factor Analysis for Five Source Categories: Natural Gas-Fired Engines, Natural Gas-Fired Turbines, Diesel-Fired Engines, Natural Gas-Fired Heaters and Boilers, Flaring and Incineration (Mar. 6, 2020) ("NPCA Report").

not always reflect the level of development that actually occurs, or the specific emission units and emission rates that are utilized. The Colorado Air Resources Management Modeling Study is one example of the type of information which can be developed in conjunction with the RMP process.¹³⁰

In developing long-term strategies, EPA should direct states to use available information such as county-level reported emissions data and RMP and site-specific NEPA analyses, and request additional information to round out and make inventories accurate. To aid in this data gathering, EPA should direct industry to produce emissions inventories and submit them to states alongside an evaluation of emissions-reduction strategies and control technologies for this significant source of visibility impairment. Further, EPA should revise the Final Guidance to explicitly advise states on creating and making publicly available oil and gas emissions data.

States with significant oil and/or gas development should be required to consider the adoption of emission control regulations for the oil and gas development industry to reduce visibility-impairing emissions from such development.¹³¹ Many states already require measures to reduce emissions from the sector. For example, California has enacted extensive air pollution requirements for oil and gas production, processing, and storage.¹³² Colorado has also adopted emission requirements for the oil and gas industry.¹³³ Pennsylvania has also revised the state's oil and gas drilling regulations.¹³⁴ While these regulations may not be sufficient as to visibility impairment from the sector's emissions, the regulations provide relevant examples of states' decisions to address threats to air quality that are not covered by federal major source permitting requirements. EPA should identify the source types and associated emission-reducing measures available in the sector and use them to develop guidance to specify EPA's expectations of states in assessing these sources and requiring emission reduction measures from them. EPA must reconsider and revise the Final Guidance to require states to apply these and other control measures in their regional haze SIPs.

b. Minor New Source Review permitting programs

A state's minor NSR permitting program can be a useful tool to impose emission limitations and otherwise ensure that new source growth occurs in a manner consistent with making reasonable progress towards the national visibility goal. EPA should revise the Final Guidance to direct states to model new or modified minor NSR sources for their impacts on visibility in Class I areas. States could thus determine if the source's emissions would be consistent with making reasonable progress towards the national visibility goal, similar to the requirement in 40 C.F.R. §51.307(c) of the visibility NSR rules. Such a provision would also be

¹³⁰ See BLM, Colorado Air Resources Management Modeling Study (Aug. 2017), <https://www.blm.gov/documents/colorado/public-room/data>.

¹³¹ NPCA Report at 7-10.

¹³² California Air Resources Board, Oil & Natural Gas Production (last reviewed July 18, 2017), <https://ww3.arb.ca.gov/regact/2016/oilandgas2016/oilandgas2016.htm>.

¹³³ Colo. Regulation No. 7, Section XII, <https://www.colorado.gov/pacific/cdphe/air/oil-and-gas-compliance>.

¹³⁴ See Environmental Protection Performance Standards at Oil and Gas Well Sites, 46 Pa. B. 6431 (Oct. 8, 2016), <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol46/46-41/1757.html>.

consistent with section 7410(a)(2)(D)(i)(II) of the Clean Air Act, which requires SIPs to include adequate provisions prohibiting any source type from emitting any air pollutant which will interfere with measures to protect visibility. States could include criteria to ensure that the sources most likely to interfere with making reasonable progress are addressed, based on total emissions of visibility-impairing pollutants, distance to Class I areas, and/or other criteria focused on modifications at existing major sources that avoid PSD or nonattainment NSR review. EPA should instruct states to add such provisions to their minor NSR programs as necessary to ensure that their long-term strategies adequately prevent future impairment to visibility. Such provisions should also be incorporated and made enforceable through regional haze SIPs relying on such emission reductions to make reasonable progress.

States that decide to rely on minor NSR programs to prevent future impairment should be required to examine the relevant definitions and exemptions that exist in their programs to ensure that the types of sources that need to be addressed to prevent future impairment are indeed subject to the states' minor NSR programs. A state's minor NSR program also may need to be revised to include emissions from emitting units not typically covered under PSD permitting requirements, such as fugitive emissions.

Applicability at minor NSR sources should be based on projected changes in allowable or actual emissions from a baseline reflective of recent emissions. If a state is intending to rely on its minor NSR program to prevent future impairment of visibility, then the minor NSR program must be written in a manner to truly accomplish that intention. As other Clean Air Act programs fail to adequately integrate limits for new or modified sources, regional haze SIPs should be used directly for this purpose.

c. Provisions for other potential threats to visibility impairment

There are a number of source types other than those covered by a minor NSR permit program or oil and gas development that could potentially impair visibility. In recognition of this, EPA should revise its Final Guidance to recommend that states specifically include the analyses of these potential sources in their long-term strategies, and if necessary, adopt provisions to address them. For instance, if construction activities threaten future impairment, states should adopt control measures to mitigate air pollution at construction sites. As an example, the Sacramento Metropolitan Air Quality Management District applies air emissions requirements to construction sites.¹³⁵ California also has stricter mobile source emissions requirements (including for non-road engines) that apply under federal rules, and states with significant mobile source growth threatening future impairment could consider adopting such standards as their own.¹³⁶ EPA should encourage states to consider various measures to address

¹³⁵ See Sacramento Metro. Air Quality Management Dist., CEQA Guide, Ch. 3: Construction-Generated Criteria Air Pollutant and Precursor Emissions (April 2019), <http://www.airquality.org/LandUseTransportation/Documents/Ch3ConstructionFinal4-2019.pdf>.

¹³⁶ Congress preempted states from setting emission standards for mobile sources, except that California could set its own standards with EPA's permission and other states could opt into the stricter California standards (generally for ozone SIP purposes). 42 U.S.C. § 7543(e)(2)(B)(i)-(ii).

potential future Class I visibility impairment, based on the recent or planned growth in new source emissions expected for the state, that could threaten future impairment of visibility in any Class I area.

Additionally, to the extent that states have limited information on such sources, EPA should require that states collect and submit actual emissions increase data on minor modifications at existing sources in order to gather more information on the extent of minor source growth and on new minor, area, and other source growth.

Visibility-impairing emissions need to be inventoried and modeled from many sectors in order to properly inform the next round of haze plans. Several states have started collecting and submitting oil and gas emissions data to be inventoried and modeled for purposes of regional haze. For instance, the Western Regional Air Partnership has started collecting from its oil and gas producing states emissions for their modeling inventory.¹³⁷ However, there are several states not in the western region of the country, such as Pennsylvania and Virginia, which are significant producers of oil and gas, and should also be collecting and submitting oil and gas emissions data.¹³⁸ Furthermore, as noted *supra* section III.H, there is no inventory of emissions from the agricultural sector; states should develop such inventories and submit them with their regional haze SIPs.

Emissions data from wood burning devices should be modeled. As EPA has explained, the smoke from these devices “contains harmful particle pollution, also known as fine particulate matter or PM_{2.5}, along with other pollutants including carbon monoxide, volatile organic compounds (VOCs), black carbon, and air toxics such as benzene.”¹³⁹ EPA has also confirmed that residential wood combustion “accounts for 44 percent of total stationary and mobile polycyclic organic matter (POM) emissions, nearly 25 percent of all area source air toxic cancer risks and 15 percent of noncancer respiratory effects.”¹⁴⁰ Furthermore, wood burning devices are a significant source of heating for many communities near Class I areas that struggle with regional haze pollution problems. Wood burning devices materially contribute to the significant proportion of particulate matter (fine and course) and VOC emissions that come from residential wood combustion in Arizona, Massachusetts, Minnesota, Nevada, Washington and other states, adding to regional haze visibility problems in Class I areas around the country.

While the collection and evaluation of much of this data should inform the next round of haze plans, we note that for the oil and gas sector, this data is sufficiently available such that regulation of the sector is appropriate and much needed in this second round of regional haze

¹³⁷ See Western Regional Air Partnership (“WRAP”), EGU Emissions Analysis Project, <https://www.wrapair2.org/EGU.aspx>.

¹³⁸ See U.S. Energy Info. Admin., Pennsylvania State Profile and Energy Estimates (last updated Aug. 15, 2019), <https://www.eia.gov/state/?sid=PA>; U.S. Energy Info. Admin., Virginia State Profile and Energy Estimates (last updated Sept. 15, 2019), <https://www.eia.gov/state/?sid=VA>.

¹³⁹ EPA, Fact Sheet: Overview of Final Updates to Air Emissions Requirements for New Residential Wood Heaters, at 1 (Feb 4, 2015), <https://www.epa.gov/sites/production/files/2015-02/documents/20150204fs-overview.pdf>.

¹⁴⁰ EPA, Strategies for Reducing Residential Wood Smoke, Publ’n No. EPA-456/B-13-001 at 4 (Mar. 2013), <https://www.epa.gov/sites/production/files/documents/strategies.pdf>.

planning. EPA should specify that in order for a state to satisfy the requirements of proposed 40 C.F.R. § 51.308(f), states must consider the cumulative impacts from minor and other source growth that may affect future visibility impairment. With this information, states can determine the number and types of new source growth and magnitude of emissions that may threaten future visibility impairment, which can then assist states in developing targeted measures to prevent future visibility impairment and address regional haze from these source types. Such measures should be required to be part of the long-term strategy of the regional haze SIP.

In summary, EPA must revise the Final Guidance to require long-term strategies to include measures to ensure the prevention of future visibility impairment, as well as the remedying of existing visibility impairment in Class I areas, in accordance with the national visibility goal of the Clean Air Act. While the PSD and visibility NSR programs have some effective provisions for ensuring that new and modified sources subject to those permitting requirements do not threaten future visibility impairment, those programs are not sufficient to fully address the statutory requirement of preventing future impairment to visibility. EPA should require states to evaluate the threats to future impairment to visibility in any Class I area and to adopt provisions within regional haze SIPs to minimize emissions from such sources, and otherwise ensure that new source growth occurs in a manner consistent with making reasonable progress towards the national visibility goal.

XII. Conclusion

The Conservation Organizations respectfully ask that EPA reconsider and revise the Final Guidance as mentioned above.

Sincerely,

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May 8, 2020

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Enclosure 2

From: Peters, Melanie <Melanie_Peters@nps.gov>
Sent: Tuesday, April 13, 2021 12:12 PM
To: Stephanie Kodish <skodish@npca.org>
Cc: Shepherd, Don <Don_Shepherd@nps.gov>
Subject: Fw: NPS/MassDEP Regional Haze Consultation Notes and Documentation

Forwarding the original with attachments:
-Mel

--

Melanie V. Peters
NPS, Air Resources Division

Office: 303-969-2315
Cell: 720-644-7632



From: Salazer, Holly <Holly_Salazer@nps.gov>
Sent: Friday, January 15, 2021 1:18 PM
To: Mark.Wert <mark.wert@state.ma.us>
Cc: glenn.keith@state.ma.us <glenn.keith@state.ma.us>; Morin, Joanne O (DEP) <joanne.o.morin@state.ma.us>; King, Kirsten L <kirsten_king@nps.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Shepherd, Don <Don_Shepherd@nps.gov>; Miller, Debra C <Debra_Miller@nps.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>; Ralph USFS Perron <rperron@fs.fed.us>; Anderson, Bret A -FS <bret.a.anderson@usda.gov>; Geiser, Linda -FS <linda.geiser@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Anne McWilliams <mcwilliams.anne@epa.gov>
Subject: NPS/MassDEP Regional Haze Consultation Notes and Documentation

Hello Mark,

This letter documents our recent regional haze consultation meeting:

On January 5, 2021, National Park Service (NPS) Air Resources Division (ARD) and NPS Interior Region 1 staff hosted a consultation meeting with Massachusetts Department of Environmental Protection (MassDEP) to discuss the *Massachusetts Regional Haze State Implementation Plan Revision for the Second Implementation Period (2018-2028)* (SIP). Representatives from the U.S. Forest Service and U.S. Environmental Protection Agency, Region 1, also attended. A map of NPS units in Massachusetts and an annotated set of slides shared during the meeting are attached.

While Massachusetts does not have any NPS managed Class I areas, emissions from sources in the state affect visibility at Acadia National Park in Maine. We appreciate your continued involvement in the Mid-Atlantic Northeast Visibility Union (MANE-VU) and your commitment to reducing pollutants in the region to help improve visibility in all Class I areas.

In general, we commend MassDEP for doing a good job outlining and incorporating the technical analyses produced by MANE-VU in the draft SIP. However, after reviewing the draft SIP, we note that no four-factor analyses were completed for any of the ten facilities identified in a 2018 letter from NPS to MassDEP.

We understand that MassDEP used the MANE-VU recommended threshold of three inverse Mm visibility impact at a Class I area to screen sources for four-factor analysis and, thereby, completed only one four-factor analysis on Canal Unit 1. However, as we have commented to MANE-VU and individual states, we believe the three inverse Mm screening threshold for sources subject to four-factor analysis is too high. This threshold—equivalent to approximately one deciview change—does not adequately consider cumulative visibility impacts or those impacts that may occur at Class I areas below that threshold.

In order to identify additional meaningful emission reduction opportunities, we continue to suggest that MassDEP require formal four-factor analyses for the municipal waste combustor (MWC) facilities provided in the 2018 NPS letter. We recognize that the state's new Reasonable Attributable Control Technology (RACT) regulations will reduce emissions from MWC's once permits issued under these regulations are finalized; however, we still maintain that four-factor analyses under the Regional Haze rule may identify further reasonable emission reductions from MWC's that are technically feasible and cost effective. During our consultation meeting, NPS ARD staff provided examples of similar MWC facilities in the region achieving significantly lower emissions. We request that MassDEP analyze the feasibility of achieving similar emission reductions through four-factor analyses.

We appreciate having the opportunity to consult with MassDEP staff on this important draft SIP. We look forward to continuing our work together for clean air and clear views in our national parks into the future.

Sincerely,
Holly Salazer

Holly S. Salazer

Regional Air Resources Coordinator

National Park Service

Interior Region 1, North Atlantic - Appalachian

Penn State Univ.

108 Buckhout Lab

University Park, PA 16802

Office: (814) 865-3100

Cell: (814) 321-3309



1/5/2021

NPS Formal Consultation Call with Massachusetts DEP for Regional Haze SIP Development

Attendees:

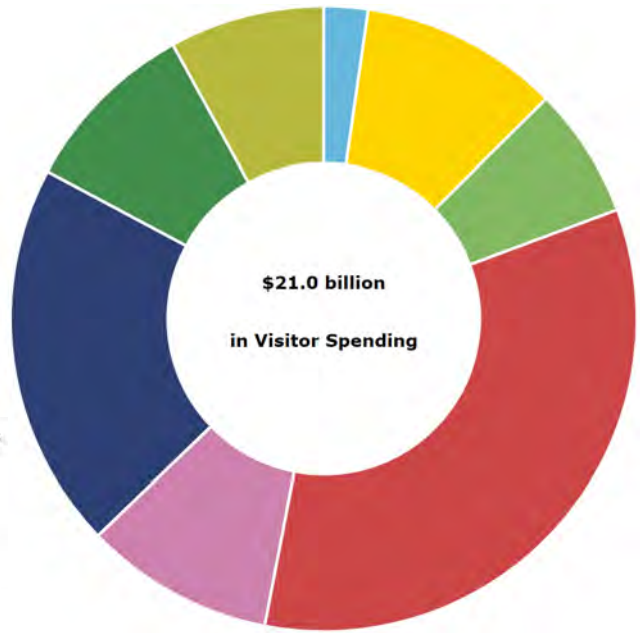
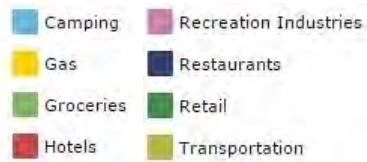
- National Park Service
 - Kirsten King, Air Resources Division (ARD) – Denver, CO
 - Debbie Miller, ARD – Denver, CO
 - Melanie Peters, ARD – Denver, CO
 - Holly Salazer, Region 1/Northeast Region – Penn State University
 - Don Shepherd, ARD – Denver, CO
 - Andrea Stacy, ARD – Denver, CO
- Mass DEP
 - Edward Braczyk
 - Cosmo Buttaro
 - Glenn Keith
 - Joanne Morin
 - Mark Wert
 - Marc Wolman
- USFS
 - Ralph Perron
- EPA
 - Ann McWilliams, Region 1
 - Eric Rackauskas, Region 1

Meeting led by Holly Salazer (NPS DOI Region 1)

NPS photos from left to right: Acadia NP, Denali NP, Yellowstone NP, Grand Canyon NP

By the Numbers

- 423 national park units
- 328 million park visitors
- \$21.0 billion spent in local gateway regions



Nationally in **2019**

328 million park visitors spent an estimated \$21 billion in local gateway regions while visiting National Park Service lands across the country.

These expenditures supported a total of

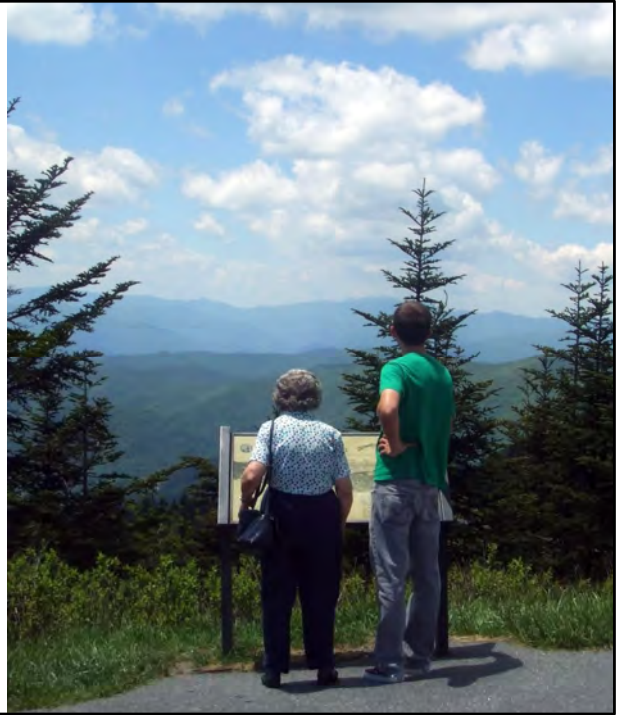
- 341 thousand jobs,
- \$14.1 billion in labor income,
- \$24.3 billion in value added, and
- \$41.7 billion in economic output in the national economy.

Visitor use data are from:

<https://www.nps.gov/subjects/socialscience/vse.htm>

By the Numbers

- **48** Class I areas
- In **24** states
- **90%** of visitors surveyed say that scenic views are ***extremely*** to ***very*** important
- **100%** of visitors surveyed rate clean air in the **top 5** attributes to protect in national parks



List of NPS Class I areas: <https://www.nps.gov/subjects/air/npsclass1.htm>

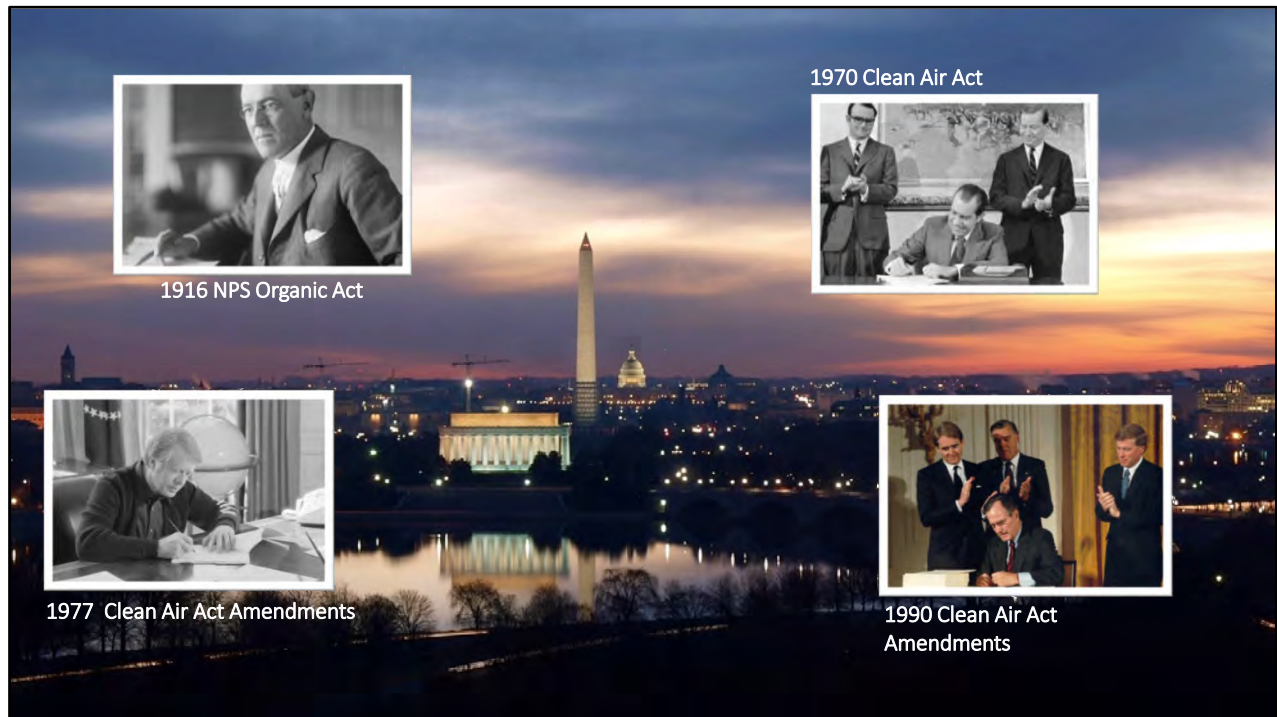
States with at least one NPS Class I area:

AK, AZ, CA, CO, FL, HI, ID, KY, ME, MI, MN, MT, NC, ND, NM, OR, SD, TN, TX, UT, VA, VI, WA, WY

Statistics citation:

Kulesza C and Others. 2013. National Park Service visitor values & perceptions of clean air, scenic views, & dark night skies; 1988–2011. Natural Resource Report. NPS/NRSS/ARD/NRR—2013/622. National Park Service. Fort Collins, Colorado

NPS photo of Great Smoky Mountains NP, NC & TN



The NPS has an affirmative legal responsibility to protect clean air in national parks.

- 1916 NPS Organic Act: created the agency with the mandate to conserve the scenery, natural and cultural resources, and other values of parks in a way that will leave them unimpaired for the enjoyment of future generations. This statutory responsibility to leave National Park Service units “unimpaired,” requires us to protect all National Park Service units from the harmful effects of air pollution.
- In the 1970 Clean Air Act: authorized the development of comprehensive federal and state regulations to limit emissions from both stationary (industrial) sources and mobile sources. The Act also requires the Environmental Protection Agency to set air quality standards.
- 1977 Clean Air Act Amendments: these amendments to the Clean Air Act provide a framework for federal land managers such as the National Park Service to have a special role in decisions related to new sources of air pollution, and other pollution control programs to protect visibility, or how well you can see distant views. The Act established a national goal to prevent future and remedy existing visibility impairment in national parks larger than 6,000 acres and national wilderness areas larger than 5,000 acres that were in existence when the amendments were enacted. (Class I areas)
- 1990 Clean Air Act Amendments: created regulatory programs to address acid rain and expanded the visibility protection and toxic air pollution programs. The acid rain regulations began a series of regional emissions reductions from electric generating facilities and industrial sources that have substantially reduced air pollutant emissions.

NPS photo of Washington DC from our air quality webcam: <https://npgallery.nps.gov/AirWebCams/wash>

Visibility goal:

Restore natural conditions by 2064

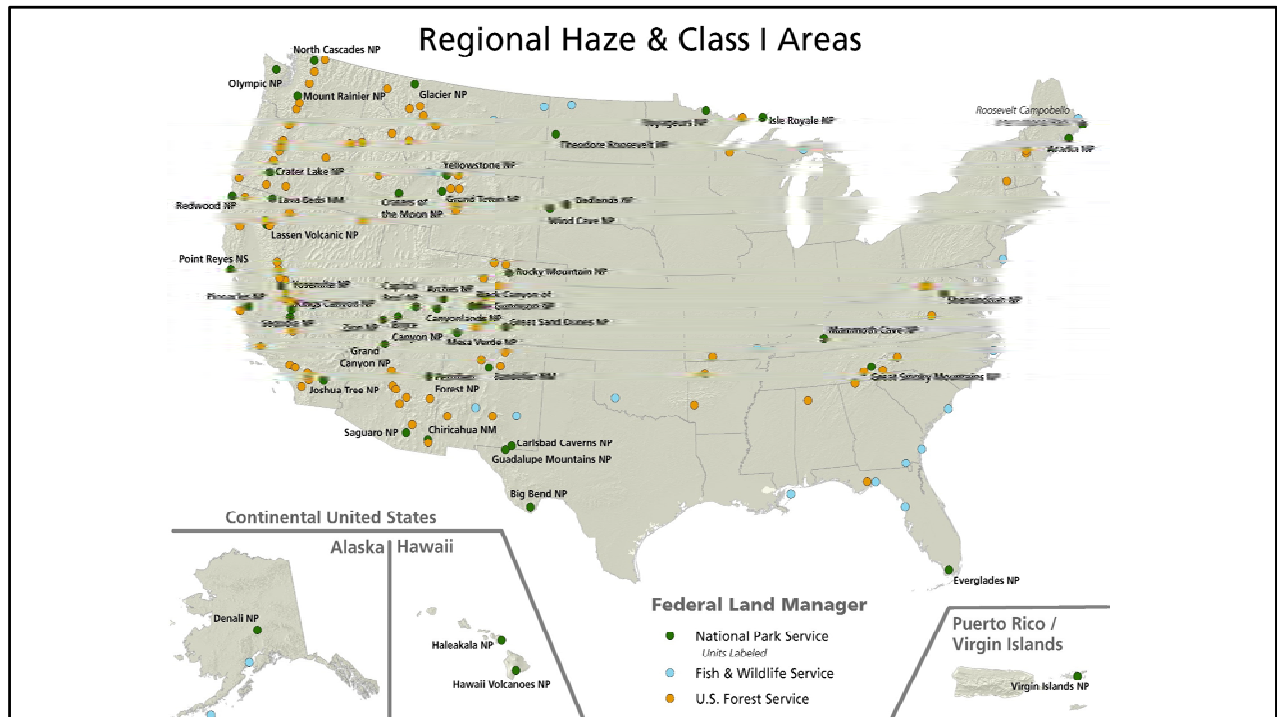


Yosemite NP, California

Left to right images illustrate hazy to clear conditions.

Haze obscures the color and detail in distant features.

NPS photos, Half Dome in Yosemite NP



As you know, the NPS is one of three Federal Land Managers (FLMs) with responsibility for the 156 Class I areas nationwide. The NPS manages 48 Class I areas, with none in the state of Massachusetts. However, because haze caused by air pollution is regional, emissions from facilities in Massachusetts also affect visibility in Class I areas beyond the Massachusetts border, including at Acadia NP in Maine.

NPS map of Class I areas, 2020

Massachusetts National Parks

BY THE NUMBERS

15 National Parks
10,003,220 Visitors to National Parks
\$1,285,400,000 Economic Benefit from NP Tourism
5 National Heritage Areas
4 Wild & Scenic Rivers Managed by NPS
3 National Trails Administered by NPS
4,381 National Register of Historic Places Listings
189 National Historic Landmarks
11 National Natural Landmarks
5,741,266 Objects in National Park Museum Collections
440 Archeological Sites in National Parks
- nps.gov/state/ma



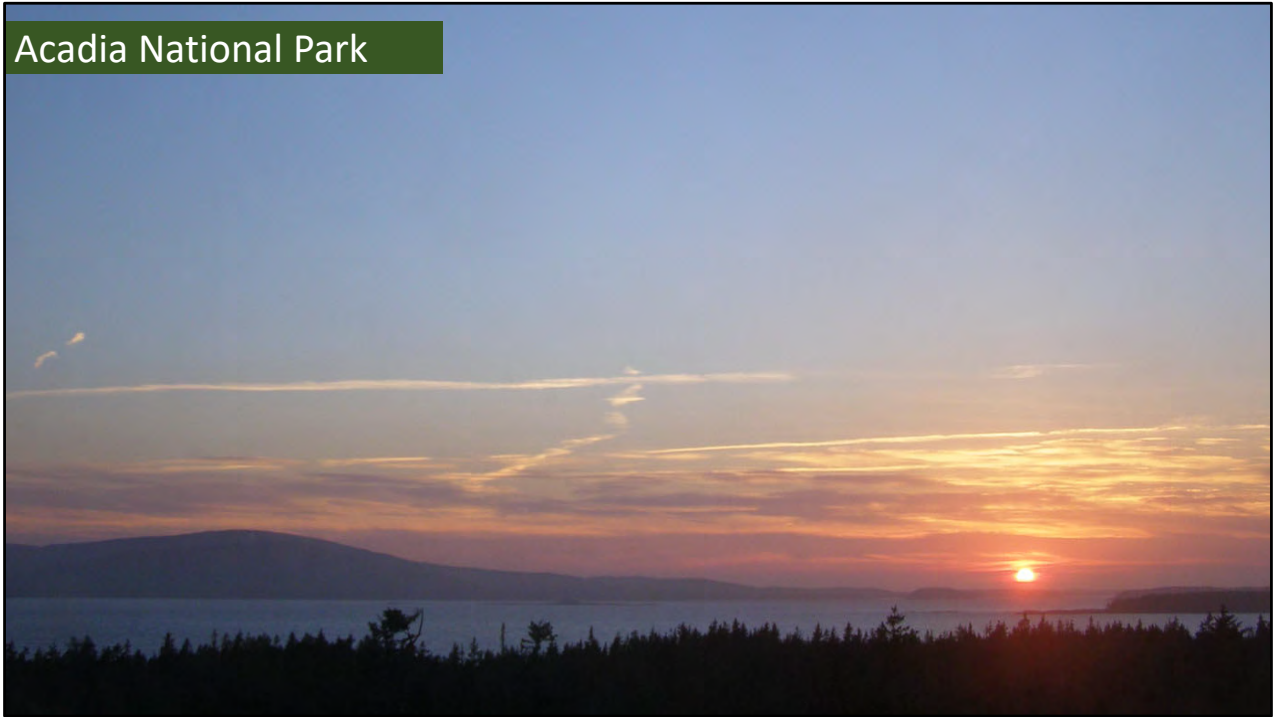
[Massachusetts \(U.S. National Park Service\) \(nps.gov\)](https://nps.gov/state/ma)

Massachusetts may not have any Class I areas but it is home to **15** official NPS units. (and additional sites managed or affiliated with NPS)

1. Adams National Historic Park (NHP),
2. Appalachian National Scenic Trail (NST),
3. Blackstone River Valley NHP,
4. Boston NHP,
5. Boston African American National Historic Site (NHS),
6. Boston Harbor Islands National Recreation Area (NRA),
7. Cape Cod National Seashore,
8. Frederick Law Olmsted NHS,
9. John Fitzgerald Kennedy NHS,
10. Longfellow House Washington's Headquarters NHS,
11. Lowell NHP,
12. Minute Man NHP,
13. New Bedford Whaling NHP,
14. New England NST,
15. Salem Maritime NHS,
16. Saugus Iron Works NHS,
17. Springfield Armory NHS, and
18. Washington-Rochambeau Revolutionary Route National Historic Trail (NHST).

NPS photo, Cape Cod National Seashore

Acadia National Park



Acadia NP, Maine

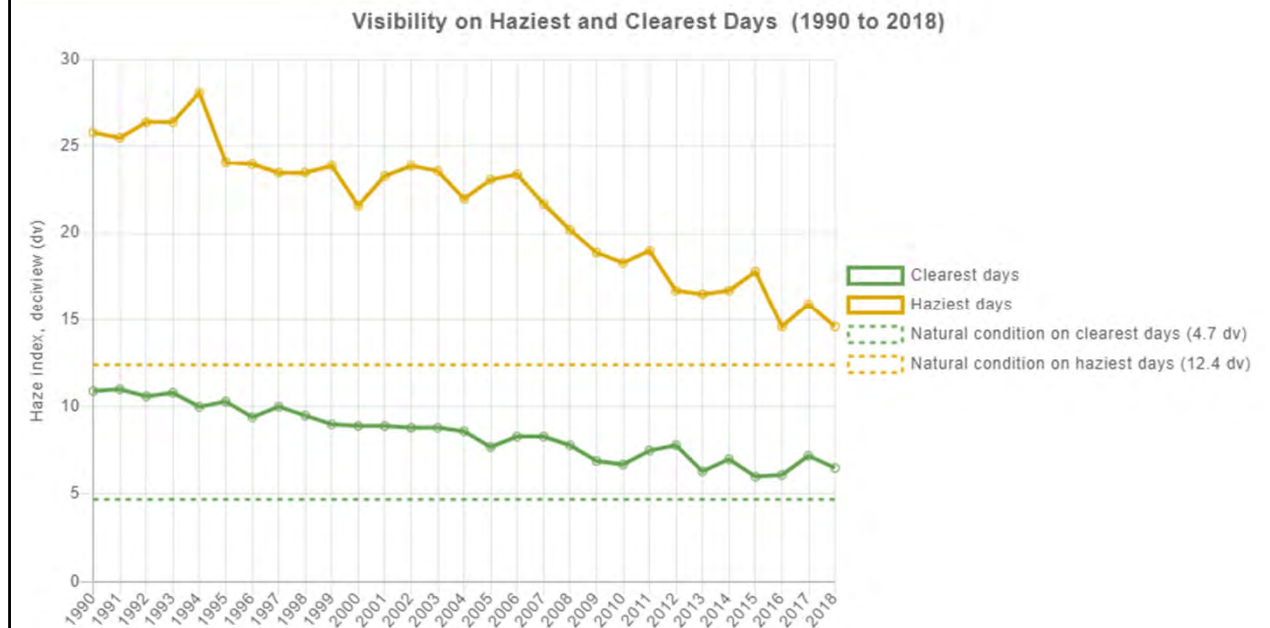
Known as the “Crown Jewel of the North Atlantic Coast”

- 35,332 acres owned by NPS with an additional 13,000 acres under conservation easement – total approximately 48,000 acres
- Protects rocky Maine coast,
- 3.5 million visitors per year,
- One of the top 10 most visited parks in the US
- 158 miles of hiking trails
- 45 miles of carriage roads

Source: www.nps.gov/acad

NPS photo, Acadia NP

Acadia National Park



Long history of visibility monitoring at Acadia National Park (30+ years!)

Steady improvement on both haziest and clearest days

Progress has been made since first Regional Haze planning phase, and we want to continue to make progress over this second planning phase as well.

Long term visibility trend graph from:

<https://www.nps.gov/subjects/air/park-conditions-trends.htm?tabName=trends&parkCode=ACAD¶mCode=Visibility&startYr=1990&endYr=2018&monitoringSite=ACAD>

1%20(IMPROVE)&timePeriod=Long-term

Measuring Progress:

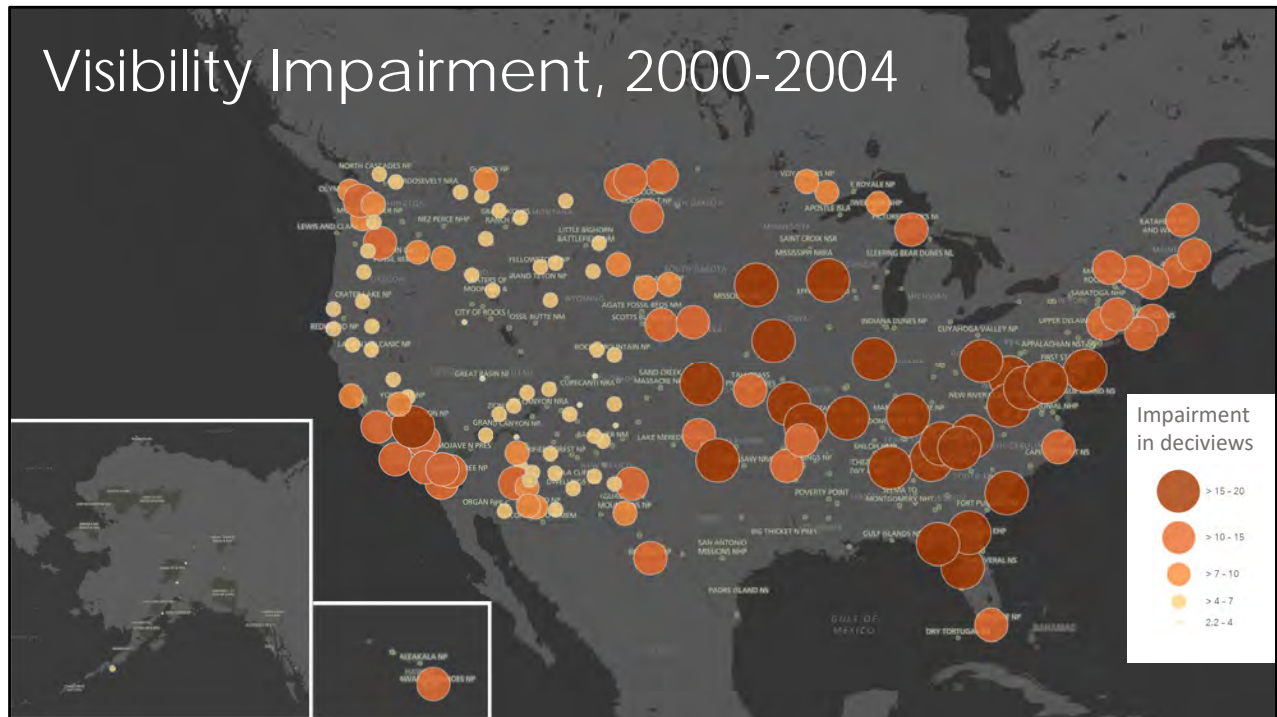


We are currently discussing emission sources for 2018-2028 – Second Planning Period

States' long-term strategies should continue to support visibility improvement in Class I areas in MANE-VU.

The second planning period should be focused on how emissions from facilities will change between 2018 and 2028.

Visibility Impairment, 2000-2004



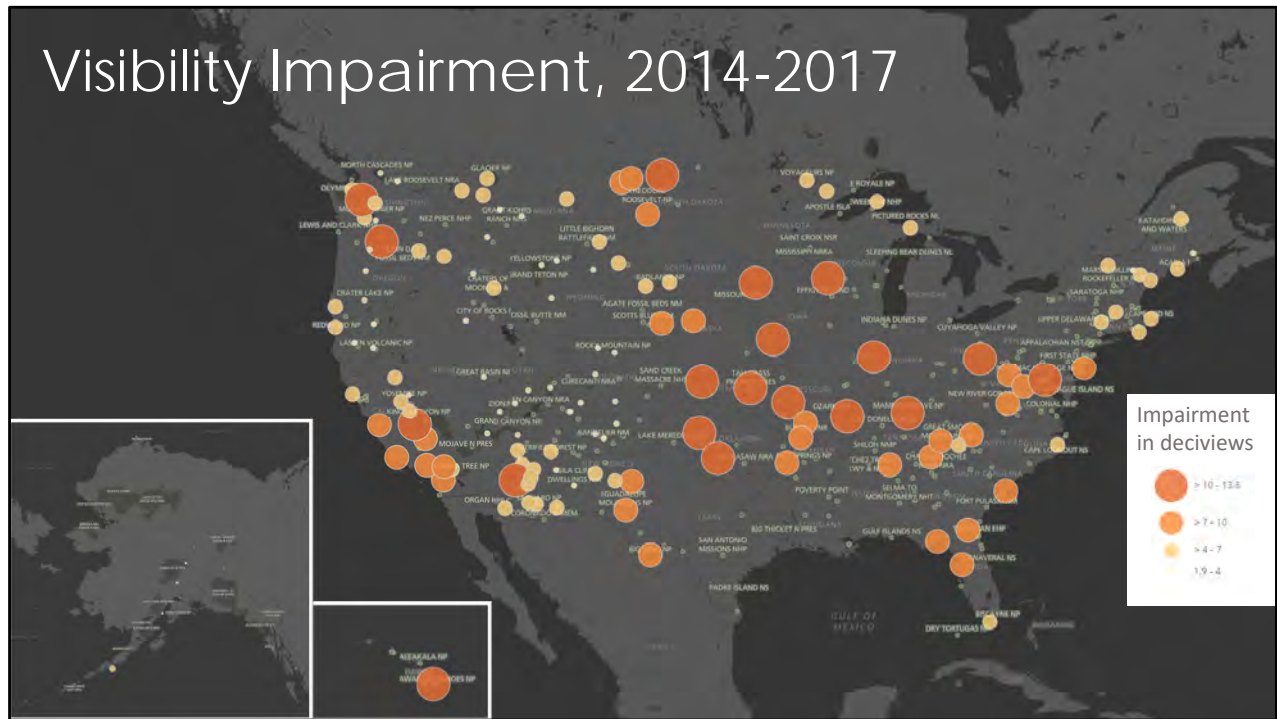
This map shows **baseline visibility impairment** calculated as the difference between the average monitored visibility on the 20% most impaired days (2000-2004) and modeled natural conditions (the 2064 end point for 20% most impaired days). Impairment is measured in deciviews.

Locations on the map represent IMPROVE monitoring sites with sufficient data to calculate both a 2000-2004 and a 2014-2017 average of visibility conditions on **most impaired days**.

NPS map prepared with data from the RHR Summary page on the IMPROVE website:

<http://vista.cira.colostate.edu/Improve/rhr-summary-data/>

Visibility Impairment, 2014-2017



This map shows **current visibility impairment** calculated as the difference between the average monitored visibility on the **20% most impaired days** (2014-2017) and natural conditions (the 2064 end point for **20% most impaired days**). Impairment is measured in deciviews.

Locations on the map represent IMPROVE monitoring sites with sufficient data to calculate both a 2000-2004 and a 2014-2017 average of visibility conditions on **most impaired days**.

NPS map prepared with data from the RHR Summary page on the IMPROVE website:
<http://vista.cira.colostate.edu/Improve/rhr-summary-data/>

National Park Service RHR-R2

- Participating in Regional Planning Organizations (MANEVU)
 - NY, NJ, DC, CT, MA
 - MD, NH, PA
- **Evaluating** facilities for visibility impacts on our **Class I areas**
- Provided lists of facilities to states for 4-factor analysis consideration
- For MassDEP:
 - Ten facilities on 2018 List of Facilities
 - Currently, NPS requests 4-factor analysis on 4 MWC's to reduce NO_x

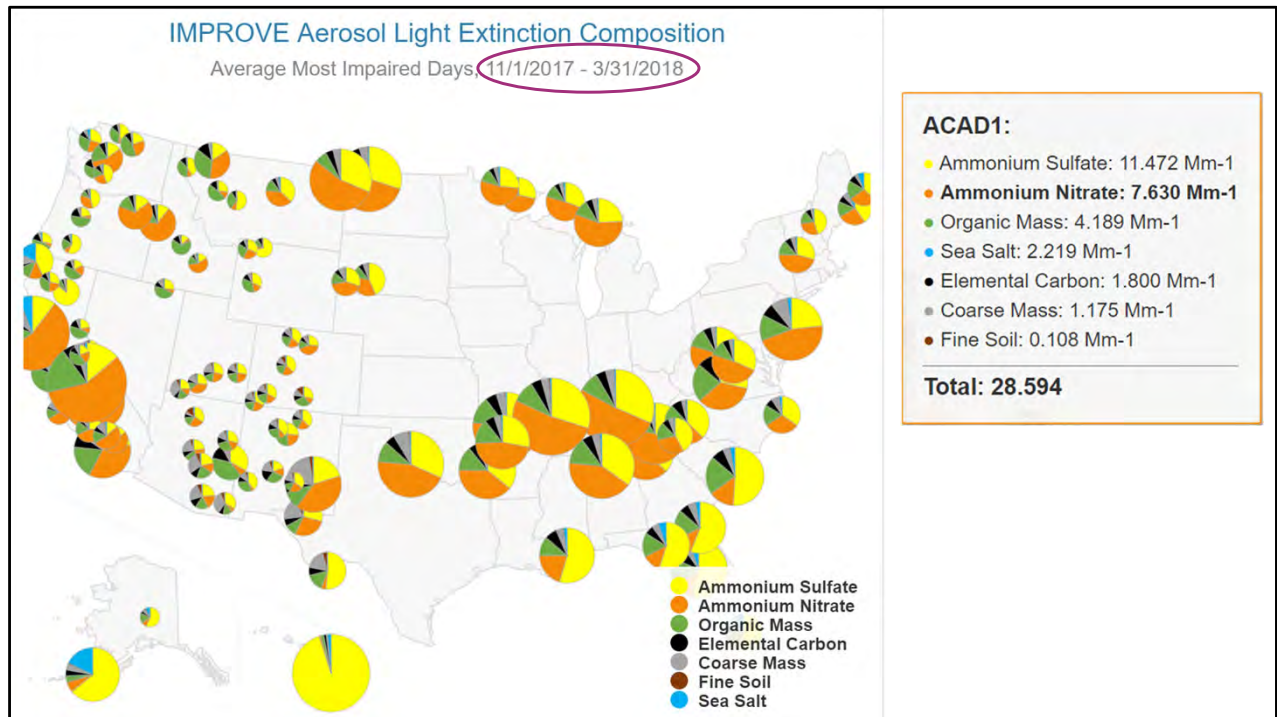


In 2018, NPS provided lists of facilities that impact Class I parks to states and Regional Planning Organizations

- We used a **NPS Class I centric** approach – i.e., we looked at impact of facilities on Acadia NP, Shenandoah NP, and other NPS managed Class I areas
- For each NPS Class I area, we identified those facilities associated with **contributing 80% of visibility impacts**, based on EPA's 2016/2018 guidance
- Calculated Q/d for sources within 1,000km of NPS Class I boundaries using SO₂ and NO_x
 - PM is well controlled on stationary sources, difficult to control for remaining area sources (including mines)
- Removed rail yards and airports
- Adjusted our results to reflect those facilities that had been controlled, shut down, changed fuels, or that we knew would be controlled before 2028

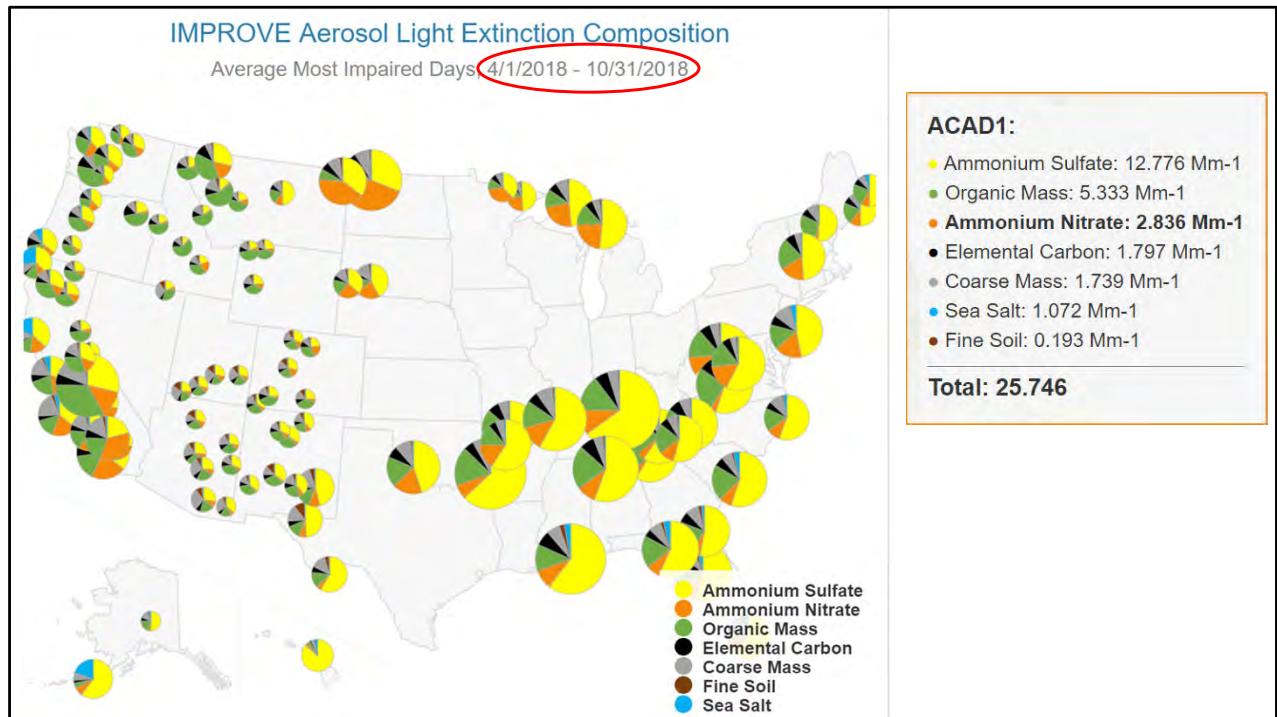
NPS Notes for Massachusetts:

- Reasonable to look more closely at NO_x for this round as SO₂ has significantly been reduced in most MANEVU states.
- NO_x emissions have increasing influence on visibility in the East, especially during the winter months (as next slides will show)
- Municipal Waste Combustors (MWCs) are significant NO_x sources in MA with opportunities to reduce emissions at reasonable cost levels.
- With MANE-VU's threshold of 3 Mm⁻¹, no MWC triggered a 4-factor analysis in MA
- As we have shared previously, this threshold for source selection is too high and misses sources that are contributing significantly to visibility impairment in Class I areas including Acadia NP.
- NPS requests that MA undertake formal 4-factor analysis on the 4 identified MWCs in order to thoroughly examine the potential for reasonable NO_x emission controls in this planning period.
- The second and future planning periods rely on the cumulative benefits of smaller emission reductions to make progress.



In recent years the influence of NO_x emissions on visibility has become more important, especially during the colder winter months. This map looks at November 2017 through March 2018 as an illustration (these dates were chosen to approximate winter season in the northeast). Although sulfate is still the biggest component of haze, nitrate is also significant.

Pie chart maps/data are from:
<http://views.cira.colostate.edu/tssv2/Express/VisTools.aspx>



This chart illustrates how haze composition changes in spring/summer seasons.

Pie chart maps/data are from:

<http://views.cira.colostate.edu/tssv2/Express/VisTools.aspx>

- ★ MA Proposes 4-factor analysis
 ☹ MA Does not propose 4-factor analysis

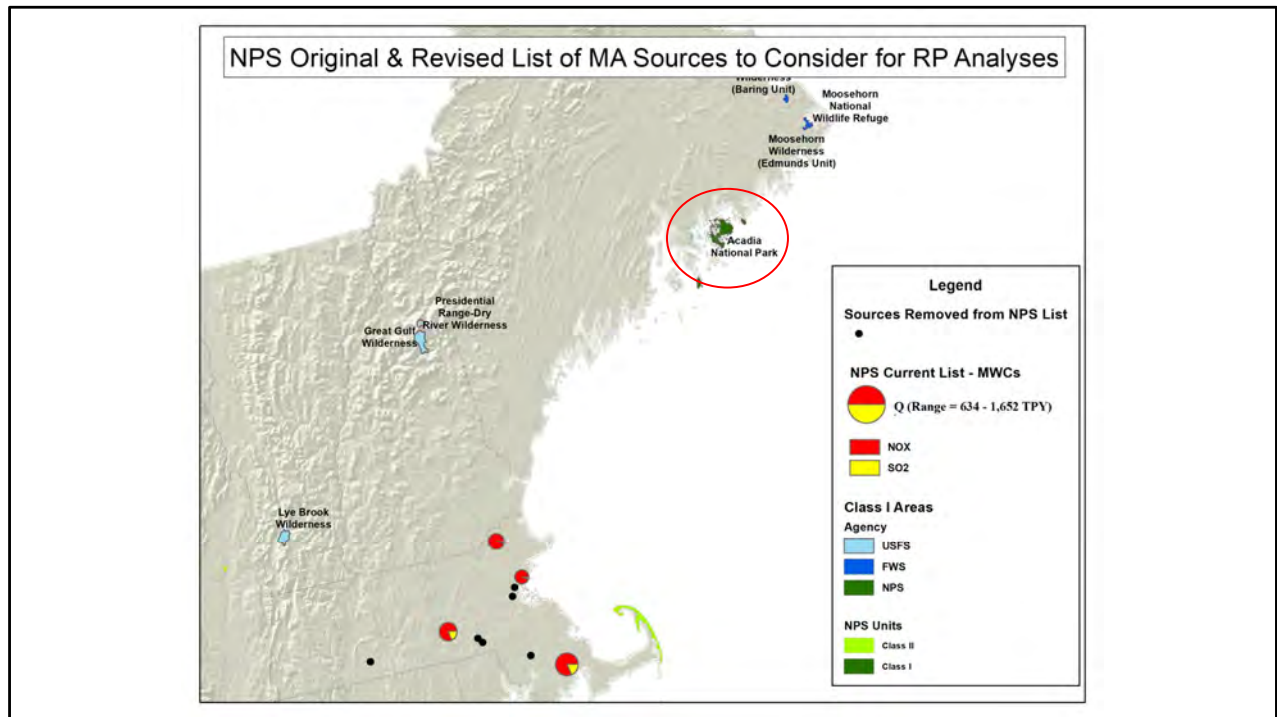
NPS List – 2018 MA Sources for Consideration of Four Factor Analysis

Year	Inventory	EIS ID	Facility Name	NAICS Code	Latitude	Longitude	State	Q	Distance to NPS Class I Area	Q/d	NPS Class I Area
2014	NEI	8127611	SEMASS PARTNERSHIP	Solid Waste Combustors and Incinerators	41.802	-70.788	MA	1,616	301	5.37	ACAD
2014	NEI	7869811	WHEELABRATOR MILLBURY INC	Solid Waste Combustors and Incinerators	42.221	-71.767	MA	1,257	322	3.91	ACAD
2014	NEI	7947211	WHEELABRATOR NORTH ANDOVER INCORPORATED	Solid Waste Combustors and Incinerators	42.726	-71.122	MA	865	245	3.53	ACAD
2014	NEI	8167211	WHEELABRATOR SALUGUS INC	Solid Waste Combustors and Incinerators	42.448	-70.980	MA	709	256	2.76	ACAD
2017	CAMD	7240911	Mystic	Fossil Fuel Power Generation	41.892	-71.067	MA	706	266	2.66	ACAD
2014	NEI	7236411	SOLLUTIA INC	Unlabeled Plastics Film and Sheet Manufacturing	41.57	-72.528	MA	984	376	2.62	ACAD
2014	NEI	6622811	MM TAUNTON ENERGY LLC	Other Electric, Heat and Steam Generating	41.923	-71.086	MA	674	305	2.21	ACAD
2014	NEI	7259211	ARDAGH GLASS INC	Glass and Glassware Manufacturing	41.127	-71.514	MA	383	313	1.22	ACAD
2014	NEI	7887011	MEDICAL AREA TOTAL ENERGY PLANT	Fossil Fuel Power Generation	42.337	-71.108	MA	325	273	1.19	ACAD
2017	CAMD	5736011	Bellingham	Fossil Fuel Power Generation	42.093	-71.483	MA	261	314	0.83	ACAD

NPS List – 2020 MA Sources for Consideration of Four Factor Analysis – Formal Consultation Recommendations - Municipal Waste Combustors

Year	Inventory	EIS ID	County	Facility Name	NAICS Code Description	Latitude	Longitude	NOx	SO2	Q	Distance to NPS Class I Area	Q/d	NPS Class I Area
2017NEI_Aug2019_PT	NEI	8127611	Plymouth	SEMASS PARTNERSHIP	Solid Waste Combustors and Incinerators	41.802	-70.788	1,351	301	1,652	301	5.49	ACAD
2017NEI_Aug2019_PT	NEI	7947211	Essex	WHEELABRATOR NORTH ANDOVER INCORPORATED	Solid Waste Combustors and Incinerators	42.726	-71.122	777	37	814	245	3.32	ACAD
2017NEI_Aug2019_PT	NEI	7869811	Worcester	WHEELABRATOR MILLBURY INC	Solid Waste Combustors and Incinerators	42.221	-71.767	855	187	1,042	322	3.24	ACAD
2017NEI_Aug2019_PT	NEI	8167211	Essex	WHEELABRATOR SALUGUS INC	Solid Waste Combustors and Incinerators	42.448	-70.980	603	31	634	256	2.47	ACAD

Based on updated information, we have reduced the list of sources that the NPS initially recommended for 4-factor analysis from 10 to 4. We now suggest that additional emission reductions may be reasonable for the four MA MWCs and ask that MA undertake formal 4-factor analysis on these sources as part of SIP development.



Location map showing the four MWC's and their proportion of NO_x and SO₂ emissions.

Cape Cod National Seashore is the largest NPS Class II area in MA, highlighted in lime green, 15 total NPS units in MA (all Class II areas).

NPS map, 2021

NO_x limits at Massachusetts Waste Combustors Range from 180 to 250 ppmvd

Facility	Unit	NO _x
SEMASS Resource Recovery	Incinerator/Water Wall Boilers (EU1 and EU2)	250 ppmvd @ 12% CO ₂ (dry basis, 24-hour arithmetic average); 0.50 lb/MMBtu, 208.3 lb/hr
SEMASS Resource Recovery	Refuse-Derived Fuel [RDF] Incinerator/Water Wall Boiler (EU3)	180 ppmvd @ 7% O ₂ (dry basis, 24-hour arithmetic average); 0.50 lb/MMBtu, 208.3 lb/hr
Wheelabrator Millbury Facility	Babcock & Wilcox Incinerator/Mass Burn	205 PPMVD by volume at 7% O ₂ dry basis (24-hour daily arithmetic average)
Wheelabrator North Andover	two identical Mass Burn Incinerator/Water Wall Boiler (EU1 and EU2)	205 ppm by volume at 7% O ₂ dry basis (24-hour daily arithmetic average)
Wheelabrator Saugus	Mass Burn Incinerator/Water Wall Boiler (EU1 and EU2)	205 ppm by volume at 7% O ₂ (dry basis) 24-hour daily arithmetic average

The Air Resources Division (ARD) updated its list of suggested sources for 4-factor analysis to include only the four municipal waste combustors from its original 2018 list of facilities.

These sources are the

1. SEMASS Resource Recovery,
2. Wheelabrator Millbury,
3. Wheelabrator North Andover, and the
4. Wheelabrator Saugus facilities.

All four facilities are equipped with selective non-catalytic reduction (SNCR) units to reduce NO_x emissions. NO_x limits for these sources on currently applicable permits range from 180 ppm to 250 ppm (on a 24-hour basis).

Data are from: <https://www.mass.gov/lists/massachusetts-operating-permit-facilities>

Some Facilities in other States have Lower NO_x limits

- Montgomery County Resource Recovery Facility (MD) is achieving a 30-day rolling average NO_x emissions rate of 105 ppmv—limit was promulgated in state rule:
<http://www.dsd.state.md.us/comar/comarhtml/26/26.11.08.10.htm>.
- Two existing facilities in Virginia, Covanta Arlington/Alexandria and Covanta Fairfax, are undergoing modifications that will result in lower RACT NO_x in late 2021. Operational short-term NO_x limits will be:
 - a. Daily Average Nitrogen Oxides: 110 ppmvd @7% O₂
 - b. Annual Average Nitrogen Oxides: 90 ppmvd @ 7% O₂
- Limits for Virginia facilities have been incorporated into state implementation plan.
- These three facilities employ a new low NO_x system. All are existing facilities, with combustors that were constructed between 1988 and 1995.

This slide shows that similar MWC facilities in Maryland and Virginia are achieving lower NO_x emission rates in the range of 90-110ppmvd.

At least one facility in Maryland, the *Montgomery County Resource Recovery Facility*, is achieving a 30-day rolling average NO_x emissions rate of 105 ppmv. This limit was promulgated in a state rule, which can be found here: <http://www.dsd.state.md.us/comar/comarhtml/26/26.11.08.10.htm>

In addition, two existing facilities in Virginia are undergoing modifications that will result in lower RACT NO_x limits after work is completed in late 2021. Those facilities are Covanta Arlington/Alexandria and Covanta Fairfax. Under the new RACT permits, the operational short-term NO_x limits will be:

- a. Daily Average Nitrogen Oxides: 110 ppmvd @7% O₂
- b. Annual Average Nitrogen Oxides: 90 ppmvd @ 7% O₂

The limits from the RACT permits for these Virginia facilities have been incorporated into Virginia's state implementation plan (SIP). The change to the SIP that incorporated these limits can be found in the Federal Register:

<https://www.federalregister.gov/documents/2019/12/09/2019-26403/approval-and-promulgation-of-air-quality-implementation-plans-virginia-source-specific-reasonably>

These three facilities are employing a new low NO_x system to achieve substantial improvements in NO_x emissions rates. All are **existing facilities**, with combustors that were constructed between 1988 and 1995. It may be possible to improve the short-term NO_x emissions rates of other existing MWC units as well.

We suggest that MA require 4-factor analyses for the four MWCs to determine whether they could technically and cost effectively further reduce NO_x emissions.

Connecticut recently adopted a new rule with lower emissions units for waste incinerators (22a-174-38):



Table 38-2A

**ppmdv
(7% O_x)**

Mass burn refractory combustor	177
Mass burn water wall combustor built before 1986	150
Mass burn water wall combustor built 1986 or later	150
Processed-municipal solid waste combustor	146
Reciprocating grate waste fire fired incinerator/boiler	79

MassDEP staff: Massachusetts has recently (2018) adopted lower NO_x limits for MWCs in its updated reasonably available control technology (RACT) regulation (310 CMR 7.08(2)). Updated permits were issued in 2020 reflecting the new RACT limits; although these permits are not yet in effect as they are under appeal. The appeals are expected to be resolved shortly. The new limits for these facilities will range from 146 to 150 ppm on a 24-hour basis.

The RACT obligations under the 2015 ozone limit have been appealed and thus permits issued under the rule making have not yet been finalized, but it is anticipated they will be finalized soon.

MA did not do 4-factor analysis in part due to MANE-VU process and because they were addressing sources under RACT. MA has submitted a RACT SIP to EPA under 2015 ozone standard and EPA has approved the RACT SIP.

Newer permits have not been finalized yet but are available online.

NPS air staff: Reiterate concern with high threshold of 3 Mm⁻¹ used by MANE-VU to screen sources from four factor analysis. This threshold is too high for individual sources and eliminates many sources that contribute substantially to regional haze. We suggest it may be possible for the four MA MWCs to lower emissions, further than the new permit levels would require, to levels similar to the three MD/VA MWCs discussed on previous slide. Again, we recommend that MassDEP conduct four factor analysis on these MWC's in order to evaluate the technical feasibility and costs of such emission reductions.

MassDEP staff: MassDEP is looking at MWCs through the Ozone Transport Commission (OTC). MassDEP recently went through regulatory and permitting processes. MassDEP relied on MANE-VU process and will look at MWC report developed by an OTC workgroup. MA also expects to get additional improvements through state climate programs. State climate programs include aggressive goals to move vehicles toward electric and residential heating to electric which should lead to large improvements in NO_x. One MA climate goal is only electric vehicles by 2035.

NPS air staff: Suggest that MassDEP document and make federally enforceable NO_x emission reductions that will be secured as a result of these programs (i.e., RACT and climate). If they are substantive enough and secure enough (federally enforceable), this documentation may negate the need for full four factor analyses.

National Park Service RHR-R2



- Thank you for meeting with us!
- Please share:
 - Anticipated SIP schedule
 - How you will respond to NPS comments
- Please let us know:
 - When public comment period opens
 - If/when a public hearing will be held
- The NPS will:
 - Email call summary & any add'l information
 - Share our comments with EPA Region 1

How will MA address NPS comments?

MassDEP: intends to include 1/5/21 call summary documents in draft public SIP. The state's response to NPS comments will be included in the draft public SIP. MassDEP agrees to notify NPS contacts when the draft public SIP is available on-line.

What is your schedule?

MassDEP: expects to release draft SIP for public comment in early March 2021.

What is NPS plan?

NPS air staff: will email a summary of the 1/5/21 consultation call with supporting materials to MassDEP staff by 1/15/21. We are happy to continue working together and to answer any follow-up questions that may arise while MassDEP is preparing the draft SIP for public comment. We will participate in the public review (and hearing if necessary) and may submit formal comments if consultation comments are not adequately addressed in the draft public SIP.

NPS Contacts

NPS Region 1

- Holly Salazer; holly_salazer@nps.gov

Air Resources Division

- Melanie Peters; melanie_peters@nps.gov
- Don Shepherd; don_shepherd@nps.gov
- Debbie Miller; debra_miller@nps.gov
- Andrea Stacy; andrea_stacy@nps.gov

Please reach out to us with any questions.

For any formal notifications of public documents, please include the above list of NPS staff.

NPS photo, Acadia NP

Enclosure 3

Wert, Mark (DEP)

From: Wert, Mark (DEP)
Sent: Monday, January 4, 2021 4:38 PM
To: 'Perron, Ralph -FS'
Cc: Keith, Glenn (DEP); Morin, Joanne O (DEP); McWilliams, Anne K.; Stacy, Andrea; Copeland@cira.colostate.edu; Anderson, Bret A -FS; King, Kirsten L; Shepherd, Don; Geiser, Linda -FS; Allen, Tim; Peters, Melanie; Salazer, Holly; Braczyk, Edward (DEP); Buttarro, Cosmo (DEP); Wolman, Marc (DEP)
Subject: RE: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM
Attachments: MA MWC Emissions Trends.docx; MA MWC Actual Emissions and Rates 2018.docx

Hi Ralph . . .

Yes, this table along with other responses and documentation of our consultation will be included in the SIP in both the body and as appendices.

- Mystic 7 is dual fueled (natural gas and No.6 oil – 0.5% sulfur) – records indicate that both fuels have been in use since at least 2004. Up to 2005 it also burned No.2 oil. The ratio of oil to NG fuel used has changed substantially over the years. My most recent communications with the facility indicate that they expect to continue with oil as a large percentage of their fuel. Their latest Source Registration report indicates that controls are DESP and low NOx burners. Mystic 7 (DEP EU#4) is expected to retire in May 2021. (see attached August 2020 statement from <https://www.exeloncorp.com/newsroom/statement-regarding-the-retirement-of-mystic-generating-station-in-2024>)
- Covanta Haverhill Unit 1 SNCR was installed on 11/1/2000 and the WET LIME SLURRY SCRUBBING on 12/24/2002 . Unit 2 SNCR and WET LIME SLURRY SCRUBBING were both installed on 12/24/2002. These dates are from their Source Registration report for 2019.
- The eGRID data appears to come from EIA which uses a model to estimate SO2 and NOx emissions ([Emissions by plant and by region \(eia.gov\)](#)). This model is quite a bit off for SO2 – see table below with data from the facility's Source Registration reports to MassDEP. Attached are additional Source Registration emissions report data for all of these facilities.

The corrected SO2 emissions rate for Covanta Haverhill for 2018 would be (96 tons*2000 lbs) / 5,363,163 mmbtu = 0.0358 lbs/mmbtu

See attached 2018 emission rates for all of these facilities provided by our Northeast Region.

plant	eGRID 2018 tons SO2	MassDEP 2018 tons SO2	eGRID 2018 tons NOx	MassDEP 2018 tons NOx
Covanta Haverhill	505	96	871	996
SEAMASS	905	363	1,625	1511
Wheelabrator Millbury	102	166	847	865
Wheelabrator N Andover	97	72	781	743

Wheelabrator Saugus	128	16	683	639
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Mark . . .

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One Winter Street, 6th floor, Boston, MA 02108
617-292-5598 (o) / 857.891.7532 (c)

From: Perron, Ralph -FS <ralph.perron@usda.gov>
Sent: Monday, December 21, 2020 3:07 PM
To: Wert, Mark (DEP) <mark.wert@mass.gov>
Cc: Keith, Glenn (DEP) <glenn.keith@mass.gov>; Morin, Joanne O (DEP) <Joanne.O.Morin@mass.gov>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>; Copeland@cira.colostate.edu; Anderson, Bret A -FS <bret.a.anderson@usda.gov>; King, Kirsten L <kirsten_king@nps.gov>; Shepherd, Don <Don_Shepherd@nps.gov>; Geiser, Linda -FS <linda.geiser@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Salazer, Holly <Holly_Salazer@nps.gov>
Subject: RE: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

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Hi Mark,

Thanks for the quick response. Can this table and some discussion regarding the five MWCs be added into the body of the RH SIP, perhaps in section 5.4?

I've got a couple of other questions to help me understand some of the more recent control upgrades.

- Mystic Station Unit 7 was discussed a bit in the RH SIP, including a mention in Table 3-1, with a note about the fuel being residual oil in 2014. In the EPA egrid webpage 2016 (link in previous email), the fuel source is listed as Natural Gas, with controls for SO₂ and NO_x being listed as NA. Did Mystic Station Unit 7 switch to Natural Gas, and if yes, when? What controls are currently in place and being used year round for Mystic 7?
- Covanta Haverhill: when were the SNCR and SDA units installed and fully operational year round? What is the emission rate for SO₂? The 2016 egrid webpage lists this rate as 0.188 for Covanta Haverhill, while the rate is listed at 0.03 for the both of Wheelabrator Millbury units.

Thanks,
Ralph

From: Wert, Mark (DEP) <mark.wert@state.ma.us>
Sent: Monday, December 21, 2020 12:52 PM
To: Perron, Ralph -FS <ralph.perron@usda.gov>
Cc: Keith, Glenn (DEP) <glenn.keith@state.ma.us>; Morin, Joanne O (DEP) <joanne.o.morin@state.ma.us>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>; Copeland@cira.colostate.edu;

Anderson, Bret A -FS <bret.a.anderson@usda.gov>; King, Kirsten L <kirsten_king@nps.gov>; Shepherd, Don <Don_Shepherd@nps.gov>; Geiser, Linda -FS <linda.geiser@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Salazer, Holly <Holly_Salazer@nps.gov>

Subject: RE: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

Hi Ralph . . .

We have added the information on Covanta Haverhill to the attached revised list.

Please let us know if you need anything additional.

Mark . . .

Mark Wert
Branch Chief, Air Planning
Massachusetts Dept. of Environmental Protection -- BAW
One Winter Street, 6th floor, Boston, MA 02108
617-292-5598 (o) / 857.891.7532 (c)

From: Perron, Ralph -FS <ralph.perron@usda.gov>

Sent: Monday, December 21, 2020 8:33 AM

To: Wert, Mark (DEP) <mark.wert@mass.gov>; Shepherd, Don <Don_Shepherd@nps.gov>

Cc: Keith, Glenn (DEP) <glenn.keith@mass.gov>; Morin, Joanne O (DEP) <Joanne.O.Morin@mass.gov>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>; Copeland@cira.colostate.edu; Anderson, Bret A -FS <bret.a.anderson@usda.gov>; King, Kirsten L <kirsten_king@nps.gov>; Geiser, Linda -FS <linda.geiser@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Salazer, Holly <Holly_Salazer@nps.gov>

Subject: RE: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

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Hi Mark,

Can you add another row to this table and share more information about the Covanta Haverhill MWC units? Looking at these two units in egrid, they appear to have the least effective performance measure as compared to the other MWC units in Massachusetts (US Environmental Protection Agency. 2020. Emissions & Generation Resource Integrated Database (eGRID) [Web Page]. Located at: <https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid>).

Thanks



Ralph Perron
Air Quality Specialist

Forest Service
Eastern Region

p: 603-536-6228

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ralph.perron@usda.gov

71 White Mountain Drive
Campton, NH 03223



From: Wert, Mark (DEP) <mark.wert@state.ma.us>
Sent: Wednesday, December 16, 2020 11:52 AM
To: Shepherd, Don <Don_Shepherd@nps.gov>
Cc: Keith, Glenn (DEP) <glenn.keith@state.ma.us>; Morin, Joanne O (DEP) <joanne.o.morin@state.ma.us>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>; Ash, Jeremy - FS <jeremy.ash@usda.gov>; Copeland <cira.colostate.edu>; Anderson, Bret A -FS <bret.a.anderson@usda.gov>; King, Kirsten L <kirsten_king@nps.gov>; Geiser, Linda -FS <linda.geiser@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Perron, Ralph -FS <ralph.perron@usda.gov>; Salazer, Holly <Holly_Salazer@nps.gov>
Subject: RE: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

Hi Don . . .

Please see attached table of information on the MWCs and let us know if you would like anything additional or have questions.

Mark . . .

Mark Wert
Branch Chief, Air Planning
Massachusetts Dept. of Environmental Protection -- BAW
One Winter Street, 6th floor, Boston, MA 02108
617-292-5598 (o) / 857.891.7532 (c)

From: Shepherd, Don <Don_Shepherd@nps.gov>
Sent: Monday, November 23, 2020 9:37 AM
To: Wert, Mark (DEP) <mark.wert@mass.gov>; Salazer, Holly <Holly_Salazer@nps.gov>; King, Kirsten L <kirsten_king@nps.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Allen, Tim <tim_allen@fws.gov>; rperron@fs.fed.us; Copeland <cira.colostate.edu>; 'baanderson02@fs.fed.us' <baanderson02@fs.fed.us>; Geiser, Linda - FS <linda.geiser@usda.gov>; jash@fs.fed.us
Cc: Keith, Glenn (DEP) <glenn.keith@mass.gov>; Morin, Joanne O (DEP) <Joanne.O.Morin@mass.gov>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>
Subject: Re: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

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Hello Mark,

Thanks for sending the Massachusetts pre-proposal draft Regional Haze SIP. I have a few initial comments.

Since Brayton Point was retired in 2017, i do not think its closure can be used to offset other emissions during this planning period.

I have attached NPS's final list of facilities for potential 4-factor analyses, which now consists of four Municipal Waste Combustors (MWCs). The permits for these MWCs include spray dry absorbers for acid gas control and SNCR for NOx control. According to EPA Guidance, sources with effective emission controls may not need to conduct a 4-factor analysis. Please provide information describing the effectiveness of the SO2 and NOx controls on the four MWC's contained in the attached list. It would also be helpful if you would provide information on any new regulations that may further reduce emissions from these MWCs during this planning period.

Please let me know if you have any questions or comments.

thanks,

From: Wert, Mark (DEP) <mark.wert@state.ma.us>

Sent: Friday, November 13, 2020 1:55 PM

To: Salazer, Holly <Holly_Salazer@nps.gov>; King, Kirsten L <kirsten_king@nps.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Allen, Tim <tim_allen@fws.gov>; rperron@fs.fed.us <rperron@fs.fed.us>; Copeland@cira.colostate.edu <Copeland@cira.colostate.edu>; 'baanderson02@fs.fed.us' <baanderson02@fs.fed.us>; Geiser, Linda -FS <linda.geiser@usda.gov>; jash@fs.fed.us <jash@fs.fed.us>

Cc: Keith, Glenn (DEP) <glenn.keith@state.ma.us>; Morin, Joanne O (DEP) <joanne.o.morin@state.ma.us>; Shepherd, Don <Don_Shepherd@nps.gov>; McWilliams, Anne K. <mcwilliams.anne@epa.gov>; Stacy, Andrea <Andrea_Stacy@nps.gov>

Subject: [EXTERNAL] MassDEP Regional Haze SIP for 2018-2028 - Pre-proposal DRAFT to FLM

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TO: Federal Land Managers

Attached is a pre-proposal draft of the MassDEP regional haze SIP for 2018-2028 for your review and comment to fulfill the 60 day consultation requirements of 40 CFR Section 51.308(i)(2). The appendices are accessible at this link:

<https://www.mass.gov/doc/appendices-to-the-massdep-regional-haze-sip-for-2018-2028-draft>

Please provide us with your comments by January 15, 2021.

Please let us know if you wish to schedule an "in person" video meeting to discuss the pre-proposal draft Massachusetts regional haze SIP.

Mark . . .

Mark Wert
Branch Chief, Air Planning
Massachusetts Dept. of Environmental Protection -- BAW
One Winter Street, 6th floor, Boston, MA 02108
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Distribution List

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NPS	Melanie Peters	melanie_peters@nps.gov
USFS	Ralph Perron	

Emissions Trends for Facilities Identified in FLM Comments (tons/yr)

Facility Name	AQID	Pollutant	2008	2011	2015	2018	2019
SEMASS PARTNERSHIP -- SE	1200001	SO ₂	523	451	192	362	378
WHEELABRATOR MILLBURY INC -- CE	1180419	SO ₂	139	225	224	166	147
WHEELABRATOR NORTH ANDOVER INCORPORATED -- NE	1210261	SO ₂	58	38	51	72	82
WHEELABRATOR SAUGUS INC -- NE	1197654	SO ₂	55	31	54	16	33
COVANTA HAVERHILL -- NE	1210007	SO ₂	71	74	12	96	104
SEMASS PARTNERSHIP	1200001	NO _x	1384	1259	1249	1511	1434
WHEELABRATOR MILLBURY INC	1180419	NO _x	814	865	873	865	863
WHEELABRATOR NORTH ANDOVER INCORPORATED	1210261	NO _x	781	768	738	743	815
WHEELABRATOR SAUGUS INC	1197654	NO _x	722	705	667	640	578
COVANTA HAVERHILL -- NE	1210007	NO _x	897	1021	986	996	989

Source: MassDEP Source Registration data (qry_FLM facility emissions x-tab)
In response to email to MassDEP (M.Wert) from NFS (R.Perron) December 21, 2020.

MA MWC Unit Emission Rates for 2018 for Facilities Identified in FLM Comments (lbs/ton)

2018 Actual Emissions							
Facility Name	AQID	Design Capacity	Pollutant	2018 Actual Emissions All Units, TPY	2018 Unit Specific Actual Emissions, TPY	2018 Unit Specific MSW Burned, TPY	2018 Unit Specific Emission Rate, lb/Ton MSW Burned
SEMASS PARTNERSHIP - SE	1200001	3 units, 375 MMBtu/hr each	SO ₂	362	U1 - 149.9 U2 - 133.0 U3 - 79.4	U1 - 338,213 U2 - 362,002 U3 - 375,297	U1 - 0.8820 U2 - 0.7280 U3 - 0.4220
WHEELABRATOR MILLBURY INC - CE	1180419	2 units, 323 MMBtu/hr each	SO ₂	166	U1 - 82.4 U2 - 83.2	U1 - 236,036 U2 - 245,428	U1 - 0.6985 U2 - 0.6781
WHEELABRATOR NORTH ANDOVER INCORPORATED - NE	1210261	2 units, 288.4 MMBtu/hr each	SO ₂	72	U1 - 28.8 U2 - 43.0	U1 - 229,001 U2 - 227,852	U1 - 0.2516 U2 - 0.3772
WHEELABRATOR SAUGUS INC - NE	1197654	2 units, 325 MMBtu/hr each	SO ₂	16	U1 - 9.1 U2 - 7.0	U1 - 211,926 U2 - 219,763	U1 - 0.0861 U2 - 0.0636
COVANTA HAVERHILL -- NE	1210007	2 units, 381.56 MMBtu/hr each	SO ₂	96	U1 - 49.5 U2 - 46.6	U1 - 295,011 U2 - 299,073	U1 - 0.3356 U2 - 0.3116
SEMASS PARTNERSHIP	1200001	3 units, 375 MMBtu/hr each	NO _x	1511	U1 - 569.4 U2 - 550.2 U3 - 389.3	U1 - 338,213 U2 - 362,002 U3 - 375,297	U1 - 3.3890 U2 - 3.0360 U3 - 2.0700
WHEELABRATOR MILLBURY INC	1180419	2 units, 323 MMBtu/hr each	NO _x	865	U1 - 431.9 U2 - 430.9	U1 - 236,036 U2 - 245,428	U1 - 3.6592 U2 - 3.5113
WHEELABRATOR NORTH ANDOVER INCORPORATED	1210261	2 units, 288.4 MMBtu/hr each	NO _x	743	U1 - 363.6 U2 - 379.0	U1 - 229,001 U2 - 227,852	U1 - 3.1758 U2 - 3.3271
WHEELABRATOR SAUGUS INC	1197654	2 units, 325 MMBtu/hr each	NO _x	640	U1 - 304.1 U2 - 323.7	U1 - 211,926 U2 - 219,763	U1 - 2.8697 U2 - 2.9459
COVANTA HAVERHILL -- NE	1210007	2 units, 381.56 MMBtu/hr each	NO _x	996	U1 - 499.2 U2 - 494.4	U1 - 295,011 U2 - 299,073	U1 - 3.3843 U2 - 3.3062

Source: MassDEP Source Registration data

MA MWC Facility Emission Rates for 2018 for Facilities Identified in FLM Comments (lbs/MMBtu)

2018 Actual Emissions								
Facility Name	AQID	Design Capacity	Pollutant	2018 Actual Emissions All Units, TPY	2018 MSW Burned All Units, TPY	2018 MSW Heat Input, MMBtu	2018 Actual Emission Rate, lb/MMBtu	
SEMASS PARTNERSHIP – SE	1200001	3 units, 375 MMBtu/hr each	SO ₂	362	1,075,512	9,679,608	0.0748	
WHEELABRATOR MILLBURY INC – CE	1180419	2 units, 323 MMBtu/hr each	SO ₂	166	481,464	4,333,176	0.0766	
WHEELABRATOR NORTH ANDOVER INCORPORATED – NE	1210261	2 units, 288.4 MMBtu/hr each	SO ₂	72	456,853	4,111,677	0.0350	
WHEELABRATOR SAUGUS INC – NE	1197654	2 units, 325 MMBtu/hr each	SO ₂	16	431,689	3,885,201	0.0082	
COVANTA HAVERHILL -- NE	1210007	2 units, 381.56 MMBtu/hr each	SO ₂	96	594,084	5,346,756	0.0359	
SEMASS PARTNERSHIP	1200001	3 units, 375 MMBtu/hr each	NO _x	1511	1,075,512	9,679,608	0.3122	
WHEELABRATOR MILLBURY INC	1180419	2 units, 323 MMBtu/hr each	NO _x	865	481,464	4,333,176	0.3992	
WHEELABRATOR NORTH ANDOVER INCORPORATED	1210261	2 units, 288.4 MMBtu/hr each	NO _x	743	456,853	4,111,677	0.3614	
WHEELABRATOR SAUGUS INC	1197654	2 units, 325 MMBtu/hr each	NO _x	640	431,689	3,885,201	0.3295	
COVANTA HAVERHILL -- NE	1210007	2 units, 381.56 MMBtu/hr each	NO _x	996	594,084	5,346,756	0.3726	

Assumes 4,500 Btu/lb MSW from AP-42

Source: MassDEP Source Registration data

NEWSROOM

Statement regarding the retirement of Mystic Generating Station in 2024

AUGUST 21, 2020

Mystic Generating Station has a long and proud history of keeping the lights on in Greater Boston and beyond, dating back to the Second World War. We appreciate FERC's consideration of our complaint that challenged the process ISO-NE is using to replace Mystic's reliability benefits to Boston, and while we disagree with their order, we accept it. As a result of the order, we currently do not see a path to continue commercial electric generation at Mystic Generating Station Units 8 and 9 after the Cost of Service agreement expires on May 31, 2024; consequently, we will retire Mystic 8 and 9 at that time. This decision does not impact Mystic Unit 7 and Mystic Jet which will cease operations by May 31, 2021.

We have not made a decision to retire Exelon Generation's nearby Everett Liquefied Natural Gas ("LNG") Facility (Everett). We are continuing to evaluate Everett's future and are hopeful that it will continue to operate following Mystic's retirement. Everett is strategically located, with interconnections to two interstate pipelines and a natural gas distribution system, and a large LNG trucking operation. Marketers and utilities in the Northeast have relied on LNG from Everett for decades as an integral peaking fuel to supplement their pipeline supplies.

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