

## **Public Comments on Draft Regional Haze Plan with CARB Responses**

The docket for public comment was open from May 13 through June 14, 2022. Eleven comments were received during this period. The docket for public comment was reopened during the Board Meeting on June 24, 2022. Three comments were submitted to the docket during the Board Meeting. The full text of each comment can be accessed through CARB's online Comment Log at

[https://www.arb.ca.gov/lispub/comm/iframe\\_bccommlog.php?listname=hazesip2021](https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=hazesip2021).

The narrative that follows provides a summary of each of the comments followed by a CARB response.

### **Comment 1: Received from Ronald Stein, PTS ADVANCE**

#### *Summary of Comment*

Solar and wind for electricity generation are reliant on sunshine and breezes and need back up from coal, natural gas, or nuclear to ensure continuous electricity. Renewables cannot manufacture any products derived from crude oil. Oil derivatives are manufactured into more than 6,000 products. Ridding the world of fossil fuels will lead to supply chain restrictions and inflationary pressure. Fossil fuels provide inexpensive, reliable, accessible power and products that are one of the best ways out of poverty and are necessary for modern human civilization and welfare.

#### *CARB Response to Comment*

This comment is not specifically directed at the substance of the Regional Haze Plan and does not require a response. Strategies to reduce emissions that result from the combustion of fossil fuels are a necessary step to improve air quality in California and meet a range of federal and state air quality objectives, including the interim reasonable progress goals for Class I areas where visibility is protected under the Regional Haze Rule.

### **Comment 2: Received from Mark Rose, National Parks Conservation Assoc.**

#### *Summary of Comment*

The current comment period is not sufficient to review CARB's legal and technical analysis, research missing data, conduct independent analysis, and develop meaningful comments. Commenter requests that the comment period be extended to August 13, 2022 and the Board meeting date to consider adoption of the Regional Haze Plan be delayed to August 25, 2022.

*CARB Response to Comment*

CARB responded to the commenter's requests in a letter to the commenter on June 9, 2022.

During the development of the draft Regional Haze Plan, CARB staff held two public workshops to provide stakeholders with information on the regional haze program, visibility conditions in protected areas, results of technical analyses, and key elements of the strategy to ensure visibility improves during this planning period. Further, CARB staff participated in numerous teleconferences with staff from the National Parks Conservation Association detailing technical analyses and the basis being used to inform strategy development. The strategy presented in the draft Regional Haze Plan is in-line with and reflective of information shared during the workshops and individual teleconferences. The comment period and Board hearing date remained consistent with those published in the Notice of Public Hearing.

**Comment 3: Received from Juan Gonzalez**

*Summary of Comment*

Agricultural food production and distribution relies on fuel.

*CARB Response to Comment*

This comment is not specifically directed at the substance of the Regional Haze Plan and does not require a response. Strategies to reduce emissions that result from the combustion of fuel are a necessary step to improve air quality in California and meet a range of federal and state air quality objectives, including the interim reasonable progress goals for Class I areas protected under the Regional Haze Rule.

Comment 4: Received from Frank Lands, Regional Director, NPS, IR 8, 9, 10, 10, 12

*Summary of Comment*

NPS appreciated the opportunity for early engagement and consultation with CARB on SIP development. CARB provided for public transparency by summarizing NPS input in the public notice and responding to feedback in Appendix I of the proposed SIP.

The SIP focuses on NO<sub>x</sub> and does not address SO<sub>2</sub> contributions to ammonium sulfate, a larger component of haze than ammonium nitrate in most of the state's Class I areas. Commenter recommends the SIP thoroughly evaluate SO<sub>2</sub> emission reduction opportunities. Commenter requests that CARB broaden SIP analyses to include review of additional point source air pollution control measures and expanded justification for facility screening or full four-factor analyses for NO<sub>x</sub> and/or SO<sub>2</sub> for eight refineries, six cement plants, five biomass

facilities, and one chemical facility. Commenter also stated that CARB's reliance on other programs excludes NPS from contributing their expertise to specifically address haze.

*CARB Response to Comment:*

Thank you for acknowledging CARB's early engagement and consultation efforts. We appreciate the opportunity to engage with NPS staff.

Regional haze planning is an iterative process. Every ten years, CARB takes a fresh look at visibility conditions, emissions contributing to visibility impairment, and assess opportunities to make meaningful improvements in visibility. This iterative process allows states to make informed planning decisions, supported by science, and adjust strategies as needed. CARB's strategy in the first regional haze planning period was focused on mobile source measures aimed at reducing NO<sub>x</sub> and SO<sub>x</sub> emissions and the required best available retrofit technology (BART) analyses. The BART analysis required states to evaluate larger, older sources from 26 categories during the first planning round to determine whether emission controls should be installed to improve visibility at Class 1 areas. One facility was identified during the BART analyses and was required to install BART-level SO<sub>x</sub> controls. As a result of the implementation of the statewide mobile source control measures and the installation of controls at the facility identified during the BART analyses, NO<sub>x</sub> and SO<sub>x</sub> emissions declined significantly and the amount of visibility impairment resulting from ammonium nitrate and ammonium sulfate decreased.

Technical analyses for this planning period indicate that ammonium nitrate plays a dominant role in visibility impairment attributable to anthropogenic sources and that most ammonium sulfate, which can be formed through atmospheric reactions involving sulfur compounds including SO<sub>2</sub>, is attributable to natural and international sources, which are outside the State's jurisdiction. Therefore, in contrast to the first Regional Haze Plan, California's strategy for this planning period is on reducing NO<sub>x</sub> emissions, a precursor to the formation of ammonium nitrate.<sup>1</sup> California's strategy relies on emission reductions from mobile source controls measures because mobile sources account for nearly 80 percent of NO<sub>x</sub> emission in

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<sup>1</sup> This approach is consistent with EPA guidance.

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.

Guidance on Regional Haze State Implementation Plans for the Second Implementation Period, p. 11 (Aug. 20, 2019), [8-20-2019\\_-\\_regional\\_haze\\_guidance\\_final\\_guidance.pdf \(epa.gov\)](#) [hereinafter "2019 Guidance"].

California. Measures already included in CARB's 2028 regional haze emissions inventory are projected to reduce NO<sub>x</sub> emissions by 146,000 tons per year by 2028. The long-term strategy in this Regional Haze Plan includes a commitment to adopt and implement four additional mobile source control measures and achieve an additional aggregate reduction of 14,600 tons per year in 2028.

Stationary sources account for 15 percent of NO<sub>x</sub> emissions in California. Most major stationary sources are within areas designated as nonattainment for a State or federal air quality standard. Nonattainment designation triggers planning requirements for local air districts, including emission controls for stationary sources. As a result of the considerable geographic extent of areas designated as nonattainment, as well as the severity of some nonattainment areas, many of California's stationary source control programs are among the most stringent in the country. California's stationary source screening process was intended ensure that reasonable NO<sub>x</sub> controls will be in place at large stationary sources that are operating near Class I areas. The screening process involved four steps that are detailed in Chapter 5 of this Regional Haze Plan. The third step involved the review of existing controls, planned controls, and proposed operational changes. Most of the stationary sources identified by the commenter are subject to the expedited best available retrofit control technology (BARCT) requirements of California's AB 617. As explained in Chapter 5 of the Plan, BARCT represents the maximum emission reductions achievable, taking into account energy, environmental, and economic impacts, which includes cost-effectiveness (see Health & Safety Code § 40920.6). Expedited BARCT implementation will therefore have notable impacts on reducing air pollution, including visibility-reducing pollutants or their precursors. Work at the district level is ongoing to implement these requirements, and, after reviewing operating permits and plans for controls to meet AB 617, CARB concluded that these planned control measures indicate a full four-factor analysis would likely result in the conclusion that further controls beyond AB 617 are not reasonable for this planning period. Furthermore, because local air districts are in the process of evaluating controls for these facilities, a parallel analysis would have been inefficient and likely duplicative.<sup>2</sup> CARB will

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<sup>2</sup> Note, for comparison, that the four factors for regional haze planning purposes also include energy and non-air environmental impacts and cost of compliance, similarly to California's BARCT. EPA recommends cost of compliance be expressed as a cost per ton metric (2019 Guidance, p. 31), which is the same metric as BARCT's cost-effectiveness (Health & Safety Code § 40920.6(a)(2)). Thus, California's BARCT and the regional haze four-factor analysis take into account largely overlapping considerations, though the four-factor analysis is aimed at identifying reasonable progress toward natural visibility in Class I areas over the next several decades and expedited BARCT is aimed at achieving maximum emission reductions for the protection of public health over the next few years. Moreover, BARCT is "a technology-forcing standard designed to compel the development of new technologies to meet public health goals. (*American Coatings Ass'n v. South Coast Air Quality*

provide an update on the implementation of the AB 617 expedited BARCT requirements as they relate to regional haze in the next progress report (due January 2025).<sup>3</sup>

As emission reductions are achieved over the course of each planning period, the types of pollutants driving visibility impairment will change. This iterative process for regional haze allows states to make informed planning decisions, supported by science, and adjust strategies as needed.

CARB welcomes input from the federal land managers. CARB's public process for the development and adoption of statewide emission control measures for reducing regional haze, attaining criteria pollutant standards, mitigating climate change, and reducing exposure to toxic air contaminants provides opportunities for all stakeholders, including federal land managers, to engage and contribute their insight, knowledge, and expertise.

#### **Comment 5: Received from Christopher Lish**

##### *Summary of Comment*

Reject the plan. California has the worst air quality in the nation. Haze pollution obscures views, harms human health, and negatively affects ecosystems. A dramatically stronger regional haze plan that analyzes all types of haze pollution and requires emission controls from industrial sources of pollution is needed, not just existing clean vehicles rules.

##### *CARB Response to Comment*

While haze results from a wide range of pollutants that are attributable to a variety of sources, regional haze plans are focused on addressing the components of haze attributable

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*Management District* (2012) 54 Cal.4th 446, 465.) It would be unreasonable to undertake likely largely duplicative four-factor analyses in this planning period on sources subject to AB 617's expedited BARCT requirements.

<sup>3</sup> This is also consistent with EPA guidance. The 2019 Guidance states, on page 9:

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. . . . Selecting a set of sources for analysis of control measures in each implementation period is also consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a state may not need to analyze control measures for all its sources in a given SIP revision. Specifically, section 51.308(f)(2)(i) of the Regional Haze Rule requires a SIP to include a description of the criteria the state has used to determine the sources or groups of sources it evaluated for potential controls. 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.

to anthropogenic sources. Technical analyses indicate that ammonium nitrate plays a dominant role in visibility impairment attributable to anthropogenic sources and that the other haze pollutants are largely attributable to natural and international sources, which are outside the State's jurisdiction. Therefore, California's strategy for this planning period is on reducing NOx emissions, a precursor to the formation of ammonium nitrate. California's strategy relies on emission reductions from mobile source controls measures because mobile sources account for nearly 80 percent of NOx emission in California.

The long-term strategy in this Regional Haze Plan includes a commitment to adopt and implement four additional mobile source control measures and achieve an aggregate reduction of 14,600 tons of NOx per year in 2028. This aggregate reduction is in addition to the reduction of more than 146,000 tons of NOx per year in 2028 projected to result from measures that were already adopted and included in the regional haze emissions inventory. These emission reductions provide for steady progress towards 2064 visibility targets.

Regional haze planning is an iterative process. Every ten years, states will take a fresh look at visibility conditions, emissions contributing to visibility impairment, and assess opportunities to make meaningful improvements in visibility. As emission reductions are achieved and California continues to drive emissions to zero, the types of pollutants driving visibility impairment will change. This iterative process allows states to make informed planning decisions, supported by science, and adjust strategies as needed.

**Comment 6: Received from Janie Kilgore for Matt Haynie, POET, LLC**

*Summary of Comment*

POET supports California's efforts to reduce emissions and hopes to work with the state to meet air quality goals. Although California is working towards the goals in Executive Order N-79-20, internal combustion vehicles will remain a significant part of the California fleet for decades. Rules to require the use of increasingly clean liquid fuels like renewable gasoline and advanced biofuel could help the State meet and maintain climate and air quality goals in the future. Research shows that bioethanol fuels have lower carbon intensities than gasoline and increasing ethanol content can reduce emissions. CARB should ensure that the Regional Haze SIP considers and supports technologies like renewable gasoline and advanced biofuel with carbon capture and sequestration.

*CARB Response to Comment*

Thank you for the comment. While this Regional Haze Plan does not specifically consider technologies like renewable gasoline and advanced biofuel with carbon capture and

sequestration, CARB staff are considering the role of these technologies as part of the current development of California's Scoping Plan.

More information about California's Scoping Plan is available online:

<https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>.

**Comment 7: Received via email from Joe Kordzi (posted by CARB staff)**

*Summary of Comment*

CARB is not requiring four factor analysis for stationary sources subject to BARCT under AB 617. CARB should have information on device-level emissions and device-level controls for all facilities in order to determine if a source should receive additional controls. Commenter is unclear whether reductions from AB 617 are part of the reasonable progress demonstration.

*CARB Response to Comment*

Although emissions reductions are expected, CARB does not rely on AB 617 to make reasonable progress for this planning period. As described in Chapter 5 and Appendix G, stationary sources subject to Expedited BARCT under AB 617 were screened out during source selection because information about planned controls would likely result in the conclusion that no further reasonable controls are necessary for regional haze at this time. Additionally, for purposes of efficiency and prioritization, facilities subject to AB 617 were not asked to complete a four factor analysis because local air districts are in the process of evaluating controls for these facilities and a parallel analysis would have been inefficient and likely duplicative. CARB will provide an update on the implementation of the AB 617 expedited BARCT requirements as they relate to regional haze in the next progress report (due January 2025) and will include resultant emission reductions in the emissions inventory used to develop the next comprehensive revision to the regional haze plan (due in July 2028).

CARB does maintain a database of device-level emissions for more than 30,000 stationary sources in California. These records are voluminous and were provided to the commenter through the public records request process. There is no centralized database that contains all air permits across the State. Permit information can be requested from the local regulatory air district.

**Comment 8: Received from Craig Thomas, The Fire Restoration Group**

*Summary of Comment*

Commenter is supportive of the focus on NO<sub>x</sub> emission reductions in this SIP and appreciative of the substantial reductions in NO<sub>x</sub> and SO<sub>2</sub> that have resulted from mobile source controls. Commenter states that supporting and expanding organic agriculture is a reasonable best available control measure for limiting synthetic ammonia and needs to be included in the SIP.

Commenter recommends that the SIP include a more detailed explanation regarding fire's role on the landscape and the need to expand fire restoration. Commenter raised questions regarding how PM<sub>2.5</sub> and PM<sub>10</sub> are expected remain stable despite an unprecedented increase in wildfire activity. Commenter also requested more information on the factors considered when estimating natural conditions. California is naturally fire-prone, natural conditions need to include smoke impacts, and wilderness vistas absent summer smoke are not natural. Commenter also requested an explanation of ammonia emissions projections.

*CARB Response to Comment*

As explained in the response to Comments 4 and 5, the focus of the long-term strategy for this planning period is on reducing NO<sub>x</sub> emissions from mobile sources. Regional haze planning is an iterative process and as emissions from one source sector are reduced, the relative impact from other pollutants and source sectors may increase. For future planning periods, a focus on other pollutants and source sectors may be necessary to ensure reasonable progress.

Fire plays an important role on California's landscape and considering the role of fire emissions is an important factor in regional haze planning. California's efforts to increase fuel treatment is discussed in Chapter 7 of the proposed Plan. California's Wildfire and Forest Resilience Action Plan, referenced in that chapter, includes a more detailed discussion on the topic. The inventory projections for PM<sub>2.5</sub> and PM<sub>10</sub> emissions, referenced in the comment, represent anthropogenic emissions, which are the focus of regional haze planning. PM<sub>2.5</sub> and PM<sub>10</sub> emissions attributable to wildfire activity are considered natural. For regional haze planning purposes, wildfire emissions are considered a part of natural conditions and, as the commenter noted, natural conditions do not necessarily equate to clear conditions. The Regional Haze Plan's inventory of anthropogenic PM<sub>2.5</sub> and PM<sub>10</sub> emissions, separate from natural emissions, are expected to remain stable through this planning period.

An inventory of ammonia emissions is included in Chapter 3 of this SIP with more detail available in Appendix D and Appendix E. CARB is continuously refining emissions inventories to reflect new information as it becomes available.

**Comment 9: Received from Natalie Levine on behalf of Access Fund, Central Valley Young Environmental Advocates, Coalition to Protect America's National Parks, National Parks Conservation Association, and Outdoor Alliance California**

*Summary of Comment*

CARB has proposed a do-nothing regional haze plan and is missing a key opportunity to reduce air pollution in the state. The commenter is encouraged by CARB's inclusion of analyses for mobile sources but recommends also including enforceable off-road requirements. The commenter is disappointed that no new pollution controls will be required for dozens of industrial sources of haze and asserts that CARB should investigate and require controls for all human-made haze forming pollutants, complete a four factor analysis for major industrial sources of haze, require cost-effective, federally enforceable emission controls for sources, and assess environmental justice impacts of the regional haze SIP. CARB should not overlook this once in a decade opportunity to preserve viewsheds and protect the health of Californians.

*CARB Response to Comment*

See responses to Comments 4 and 5.

The long-term strategy in this Regional Haze Plan includes a commitment to adopt and implement four additional mobile source control measures and achieve an aggregate reduction of 14,600 tons of NO<sub>x</sub> per year in 2028. This aggregate reduction is in addition to the reduction of more than 146,000 tons of NO<sub>x</sub> per year in 2028 projected to result from measures that were already adopted and included in the regional haze emissions inventory. These emission reductions provide for steady progress towards 2064 visibility targets.

See Chapter 6 of the Plan and Appendix H to the Plan where the four reasonable progress factors for off-road mobile control measures considered during the development of this SIP are detailed. Based on that analysis, CARB concluded that further controls on off-road mobile sources are not reasonable for regional haze planning at this time. As part of the Draft 2022 State SIP Strategy that will be considered by CARB in 2022, CARB includes nine measures targeting off-road sources that will provide significant emission reductions in the next regional haze planning period.

CARB's efforts to control emissions that impact communities, climate, and visibility are ongoing and do not start or stop with the Regional Haze Plan. Integrated planning efforts for reducing emissions and improving air quality to meet California's air quality, climate, and community health goals will yield meaningful progress toward these goals. Although off-road mobile source controls were not identified as reasonable for the purposes of regional haze,

opportunities to implement strategies to reduce emissions from this sector are continuing to be considered through the integrated planning process. More information on these comprehensive, integrated planning efforts is provided in Chapter 7 of this plan.

Environmental justice, racial equity, and community engagement have become a central focus of CARB's planning efforts and programs as California strives to address longstanding environmental and health inequities from elevated levels of toxics, criteria pollutants, and secondary impacts of climate change. While the regional haze program is a component of CARB's integrated planning efforts, the scope of the regional haze program is aimed at meeting the regional haze program requirements of the Clean Air Act, which are focused on addressing visibility impairment in specific federal parks and wilderness areas. Nevertheless, reductions in on-road mobile sources are anticipated to provide notable benefits to disadvantaged communities.<sup>4</sup> And measures detailed in CARB's 2022 State SIP Strategy,<sup>5</sup> which go beyond the four additional mobile source control measures committed to in this Plan, will reduce emissions and corresponding health risks in California's most impacted communities.

Other components of CARB's integrated planning efforts are aimed at directly addressing environmental justice impacts of air pollution. For instance, CARB's Community Air Protection Program<sup>6</sup> is focused on reducing exposure in communities most impacted by air pollution. This Program is a first-of-its-kind statewide effort that includes community air monitoring and community emissions reductions programs.

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<sup>4</sup> See, e.g., CARB, Draft 2022 State Strategy for the State Implementation Plan, pp. 17-18 (Jan. 31, 2022), [Draft 2022 State Strategy for the State Implementation Plan January 31, 2022 \(ca.gov\)](#) (citing Apte et al (2019). A Method to Prioritize Sources for Reducing High PM2.5 Exposures in Environmental Justice Communities in California. CARB Research Contract Number 17RD006.). For more information on the anticipated environmental justice impacts on the specific measures CARB is committing to for this Plan, see: Staff Report: Initial Statement of Reasons for the Proposed Advanced Clean Trucks Regulation, ch. VIII (Oct. 22, 2019), [PUBLIC HEARING TO CONSIDER THE PROPOSED ADVANCED CLEAN TRUCKS REGULATION STAFF REPORT: INITIAL STATEMENT OF REASONS \(ca.gov\)](#); Staff Report: Initial Statement of Reasons for the Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, ch. VIII (June 23, 2020), [HD Omnibus ISOR: Revised on 7-9-2020 for Errata \(ca.gov\)](#); Staff Report: Initial Statement of Reasons for the Proposed Heavy-Duty Inspection and Maintenance Regulation, ch. VIII (Oct. 8, 2021), [02. HD I-M ISOR \(ca.gov\)](#); Staff Report: Initial Statement of Reasons for the Proposed Advanced Clean Cars II Regulations, ch. IX (April 12, 2022), [ACC II ISOR \(ca.gov\)](#).

<sup>5</sup> <https://ww2.arb.ca.gov/resources/documents/2022-state-strategy-state-implementation-plan-2022-state-sip-strategy>.

<sup>6</sup> <https://ww2.arb.ca.gov/capp>

Regional haze planning is an iterative process. Every ten years, states will take a fresh look at visibility conditions, emissions contributing to visibility impairment, and assess opportunities to make meaningful improvements in visibility. As emission reductions are achieved and California continues to drive emissions to zero, the types of pollutants driving visibility impairment will change. This iterative process allows states to make informed planning decisions, supported by science, and adjust strategies as needed.

**Comment 10: Received from Sara Laumann, Laumann Legal LLC on behalf of the National Parks Conservation Association, Sierra Club, and Coalition to Protect America's National Parks**

*Summary of Comment*

California's SIP will not result in reasonable progress towards improving visibility at the 29 Class I areas its sources impact. The haze requirements in the CAA present an unparalleled opportunity to protect and restore regional air quality by curbing visibility-impairing emissions from a variety of polluting sources.

Commenters recommend that California include enforceable SO<sub>2</sub> emission limits in the SIP and state that SO<sub>2</sub> was unreasonably omitted from the source selection process given that sulfate makes up a significant portion of visibility impairment, SO<sub>2</sub> emissions are projected to increase, and WRAP modeling is biased low for sulfate.

Commenters also state that the oil and gas sector makes a substantial contribution to visibility impairment and a range of emission control options are available and should be included in the SIP. Two supporting documents were included with the comment that generalized oil and gas emission and control opportunities.

Commenters also recommend that California develop an ammonia emission inventory and advance options to reduce ammonia emissions from the agricultural sector.

Commenters expressed support for inclusion of mobile source measures but stated that NAAQS controls are not stringent enough for meet visibility targets and additional regional haze control measures are needed and recommended that measures to control off-road mobile sources be included in the SIP.

Commenters state that California's consultation process was inadequate and that the State failed to address and incorporate FLM comments, procedures to continue consultation are missing from the SIP, and that interstate consultations were not completed or adequately documented.

Commenters also recommend that California analyze environmental justice impacts of the regional haze SIP and ensure the SIP decreases emissions and minimizes harms to disproportionately impacted communities. The commenters state that the lack of analysis reinforces the historical silo between programs aimed at protecting nature and programs aimed at protecting people.

Multiple attachments in the comment submittal include two reports offering a review of California's Regional Haze SIP, two reports providing a general assessment of control opportunities for the oil and gas sector, an April 2022 letter from the commenters, a 2020 petition to EPA from the commenters to reconsider the Regional Haze Guidance, a screenshot of CARB's Environmental Justice website, a letter from Region 8 staff to Utah, and a copy of slide deck used by NPS staff during a consultation call with CARB. The substantive content of these attachments is consistent with the content of the main comment letter.

*CARB Response to Comment*

See responses to Comments 4, 5, and 9.

States are required to participate in regional planning organizations and for California, that is the WRAP. The WRAP uses the best science available for modeling pollutant impacts. Reference documentation for the WRAP's regional haze modeling is provided in Appendix F.

Technical analyses indicate that ammonium nitrate plays a dominant role in visibility impairment attributable to anthropogenic sources. Therefore, California's strategy for this planning period is focused on reducing NO<sub>x</sub> emissions, a precursor to the formation of ammonium nitrate. California's strategy relies on emission reductions from mobile source control measures because mobile sources account for nearly 80 percent of NO<sub>x</sub> emissions in California. Technical analyses indicate that most ammonium sulfate, which can be formed through atmospheric reactions involving sulfur compounds including SO<sub>2</sub>, is attributable to natural and international sources, which is outside of the State's jurisdiction.

As noted in other responses, the long-term strategy in this regional haze plan includes a commitment to adopt and implement four additional mobile source control measures and achieve an aggregate reduction of 14,600 tons of NO<sub>x</sub> per year in 2028. This aggregate reduction is in addition to the reduction of more than 146,000 tons of NO<sub>x</sub> per year in 2028 projected to result from measures that were already adopted and included in the regional haze emissions inventory. These emission reductions provide for steady progress towards 2064 visibility targets.

Regional haze planning is an iterative process and as emissions from one source sector are reduced, the relative impact from other source sectors may increase. For future planning periods, a focus on other source sectors may be necessary to ensure reasonable progress continues.

A comprehensive inventory of ammonia emissions is included in Chapter 3 of this SIP with more detail available in Appendix D and Appendix E. CARB is continuously refining emissions inventories to reflect new information as it becomes available.

CARB consulted extensively with western states and federal land managers during the development of this SIP. Consultation information, including procedures for continuing consultation, is provided in Chapter 9 of the proposed Plan.

CARB's efforts to control emissions that impact communities, climate, and visibility are ongoing and do not start or stop with the regional haze plan. Integrated planning efforts focused on reducing emission and improving air quality to meet California's air quality, climate, and community health goals will yield meaningful progress in reducing emissions. More information on these comprehensive, integrated planning efforts is provided in Chapter 7 of this plan.

**Comment 11: Received from Sara Laumann, NPCA et al. (Conservation Organizations) on behalf of the National Parks Conservation Association, Sierra Club, and Coalition to Protect America's National Parks**

*Summary of Comment*

Alternative version of Comment 10. Comment and supporting documents provided in a compressed zip file.

*CARB Response to Comment*

See response to Comment 10.

**Comment 12: Received from Katie Goodwin, Access Fund**

*Summary of Comment*

Commenter asserts that California's proposed regional haze plan does not include measures that are adequate to improve air quality in parks and local communities. The commenter states that every national park visitor deserves clean air and clear views and that poor air quality represents a threat to public health and local economies.

Commenter recommends that California conduct a four-factor analysis on the 42 stationary sources identified, and implement strong, significant, and federally enforceable emission

reducing measures for oil refineries, cement manufacturing facilities, and other major industrial sources of haze identified through a proper four-factor analysis process. Commenter also recommends that California thoroughly assess and address climate and environmental justice impacts.

*CARB Response to Comment*

See response to Comments 9 and 10.

**Comment 13: Received from Natalie Levine**

*Summary of Comment*

Through this Regional Haze Plan, California has the opportunity to clean up pollution from oil refineries and other industrial sources, yet the proposed plan does nothing new to limit haze causing pollution. The decision to only focus on oxides of nitrogen and select only one source for analysis is unacceptable. The failure to analyze more sources contributes to the State's inaction on improving air quality in environmental justice communities.

The commenter requests that California analyze all 42 stationary sources identified for haze pollution controls including sulfur dioxide and implement strong, significant, enforceable emission reductions. The commenter also requests that California assess and address climate and environmental justice impacts.

The commenter appreciated the inclusion of mobile sources in the Plan but was disappointed that the Plan solely relied on existing programs.

*CARB Response to Comment*

Technical analyses indicate that ammonium nitrate plays a dominant role in visibility impairment attributable to anthropogenic sources. Therefore, California's strategy for this planning period is on reducing NO<sub>x</sub> emissions, a precursor to the formation of ammonium nitrate. California's strategy relies on emission reductions from mobile source controls measures because mobile sources account for nearly 80 percent of NO<sub>x</sub> emission in California. Technical analyses indicate that most ammonium sulfate, which can be formed through atmospheric reactions involving sulfur compounds including SO<sub>2</sub>, is attributable to natural and international sources, which the State cannot directly control.

Also, see response to Comment 9.

**Comment 14: Received from Natalie Levine**

*Summary of Comment*

This comment consisted of 636 letters recommending rejection of the proposed Regional Haze Plan to ensure clean air and clear skies. California has the worst air quality in the nation and a stronger Regional Haze Plan is needed to address the crisis of dirty air in the state and national parks. The Regional Haze Plan should analyze all sources of haze and requires unique controls. California did not analyze all sources of haze or require pollution controls on industrial sources. The Plan relies on existing clean vehicle rules.

*CARB Response to Comment*

See response to Comment 13.

DRAFT