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#### § 952.33 Public information.

The Librarian of the Postal Service maintains for public inspection in the Library copies of all initial, tentative and final agency decisions and orders. The Recorder maintains the complete official record of every proceeding.

#### § 952.34 Ex parte communications.

The provisions of 5 U.S.C. 551(14), 556(d), and 557(d) prohibiting ex parte communications apply to proceedings under these rules of practice.

**Stanley F. Mires,**

*Chief Counsel, Legislative.*

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## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R09-OAR-2011-0131, FRL-9280-5]

#### Approval and Promulgation of Air Quality Implementation Plans; State of California; Regional Haze State Implementation Plan and Interstate Transport Plan; Interference With Visibility Requirement

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** EPA is proposing to approve a revision to the California State Implementation Plan (SIP) that addresses regional haze for the first implementation period through 2018. This revision addresses the requirements of the Clean Air Act (CAA or "Act") and EPA's rules that require states to prevent any future and remedy any existing anthropogenic impairment of visibility in mandatory Class I areas caused by emissions of air pollutants from numerous sources located over a wide geographic area (also referred to as the "regional haze program"). States are required to assure reasonable progress toward the national goal of achieving natural visibility conditions in Class I areas.

In addition, we are proposing to approve certain portions of this Regional Haze SIP revision and a related SIP revision submitted by California on November 16, 2007, as meeting the requirements of CAA Section 110(a)(2)(D)(i)(II) regarding interference with other states' measures to protect visibility for the 1997 8-hour ozone and 1997 particulate matter (PM<sub>2.5</sub>) National

Ambient Air Quality Standards (NAAQS).

**DATES:** Written comments must be received at the address below on or before April 14, 2011.

**ADDRESSES:** Submit your comments, identified by Docket ID Number EPA-R09-OAR-2011-0131 by one of the following methods:

1. *Federal Rulemaking portal:* <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.

2. *E-mail:* [Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov).

3. *Fax:* 415-947-3579 (Attention: Jerry Wamsley).

4. *Mail:* Jerry Wamsley, EPA Region 9, Air Division, Planning Office (Air-2), 75 Hawthorne Street, San Francisco, California 94105.

5. *Hand Delivery or Courier:* Such deliveries are only accepted Monday through Friday, 8:30 a.m.-4:30 p.m., excluding Federal holidays. Special arrangements should be made for deliveries of boxed information.

*Instructions:* Direct your comments to Docket ID No. EPA-R09-OAR-2011-0131. Our policy is that EPA will include all comments received in the public docket without change. EPA may make comments available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information through <http://www.regulations.gov> or e-mail that you consider to be CBI or otherwise protected. The <http://www.regulations.gov> Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA, without going through <http://www.regulations.gov>, EPA will include your e-mail address as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA

Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

*Docket:* All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available (e.g., CBI or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at <http://www.regulations.gov>, or in hard copy at the EPA Region 9, Air Division, Planning Office, Air-2, 75 Hawthorne Street, San Francisco, CA 94105. EPA requests that you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 9-5:30 PST, excluding Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Jerry Wamsley, U.S.E.P.A., Region 9, Air Division, Planning Office, Air-2, 75 Hawthorne Street, San Francisco, CA 94105; via telephone at (415) 947-4111; or via electronic mail at [wamsley.jerry@epa.gov](mailto:wamsley.jerry@epa.gov).

#### SUPPLEMENTARY INFORMATION:

Throughout this document, "we," "us," or "our," refer to EPA.

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## I. The State's Submittals

Today's proposed action concerns two submittals from California. The first submittal from the state is the California Regional Haze Plan (CRHP). The second submittal from the state is the 2007 Transport SIP, submitted as Appendix C to the State Strategy for California's 2007 State Implementation Plan for the 1997 ozone and PM<sub>2.5</sub> National Ambient Air Quality Standards. Details on both submittals follow below.

The California Air Resource Board (ARB) submitted the California Regional Haze Plan (CRHP) to EPA on March 16, 2009.<sup>1</sup> ARB submitted additional materials to EPA on September 8, 2009.<sup>2</sup> After discussion with EPA staff regarding BART-eligible sources, ARB submitted updated information about these sources on June 9, 2010.<sup>3</sup> ARB's

<sup>1</sup> See the following documents: Transmittal letter dated March 16, 2009 from James N. Goldstene, Executive Officer, California Air Resources Board, to Laura Yoshii, Acting Regional Administrator USEPA Region IX; and, State of California, Air Resource Board Resolution 09-4, dated January 22, 2009, adopting the California Regional Haze Plan.

<sup>2</sup> Transmittal letter dated September 8, 2009 from James N. Goldstene, Executive Officer, California Air Resources Board, to Laura Yoshii, Acting Regional Administrator, USEPA Region IX, with attachments.

<sup>3</sup> Transmittal letter dated June 9, 2010 from James N. Goldstene, Executive Officer, California Air

Resources Board, to Jared Blumenfeld, Regional Administrator, USEPA Region IX, with attachments.

March 16, 2009 submittal includes public process documentation for the CRHP and documentation of a duly noticed public hearing held on January 22, 2009.

On November 16, 2007, ARB submitted the State Strategy for California's 2007 State Implementation Plan to attain the 1997 8-hour ozone and PM<sub>2.5</sub> NAAQS (2007 State Strategy).<sup>4</sup> Appendix C of the 2007 State Strategy, as modified by Attachment A,<sup>5</sup> contains the "Interstate Transport State Implementation Plan (SIP) for 8-hour Ozone and PM<sub>2.5</sub> to satisfy the Requirements of Clean Air Act section 110(a)(2)(D)(i) for the State of California" (2007 Transport SIP). The 2007 Transport SIP addresses the Transport SIP requirements of CAA section 110(a)(2)(D)(i) for the 1997 8-hour ozone and 1997 PM<sub>2.5</sub> NAAQS. ARB's November 16, 2007 submittal includes public process documentation for the 2007 State Strategy, including the 2007 Transport SIP. In addition, the SIP revision includes documentation of a duly noticed public hearing held on September 27, 2007 on the proposed 2007 State Strategy.

For the portion of today's proposed action related to the 2007 Transport SIP, we are proposing action only with regard to the section 110(a)(2)(D)(i)(II) requirement that the SIP must prohibit any source or other type of emissions activity in California from emitting pollutants that will interfere with another state's measures to protect visibility. EPA intends to act in separate proposals on other portions of California's 2007 Transport SIP that address the remaining elements of CAA section 110(a)(2)(D)(i) for the 1997 8-hour ozone and PM<sub>2.5</sub> NAAQS.<sup>6</sup>

Resources Board, to Jared Blumenfeld, Regional Administrator, USEPA Region IX, with attachments.

<sup>4</sup> See transmittal letter dated November 16, 2007, from James N. Goldstene, Executive Officer, CARB, to Wayne Natri, Regional Administrator, EPA Region 9, with enclosures, and CARB Resolution No. 07-28 (September 27, 2007).

<sup>5</sup> See "Technical and Clarifying Modifications to April 26, 2007 Revised Draft Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan and May 7, 2007 Revised Draft Appendices A through G," included as Attachment A to CARB's Board Resolution 07-28 (September 27, 2007).

<sup>6</sup> The other elements of CAA section 110(a)(2)(D)(i) require that California emission sources do not (a) contribute significantly to nonattainment of the 1997 8-hour ozone and PM<sub>2.5</sub> NAAQS in any other State, (b) interfere with maintenance of these standards by any other State, and (c) interfere with measures required under Part C of the CAA to prevent significant deterioration of air quality in regard to these standards.

## II. What is the background for EPA's proposed action?

### A. The Regional Haze Problem

Regional haze is visibility impairment produced by a multitude of sources and activities located across a broad geographic area that emit fine particles (PM<sub>2.5</sub>) (e.g., sulfates, nitrates, organic carbon, elemental carbon, and soil dust), and their precursors (e.g., sulfur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>) and in some cases, ammonia (NH<sub>3</sub>) and volatile organic compounds (VOC)). Fine particle precursors react in the atmosphere to form fine particulate matter which impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that one can see. PM<sub>2.5</sub> can also cause serious health effects and mortality in humans and contributes to environmental impacts, such as acid deposition and eutrophication.

Data from the existing visibility monitoring network, the "Interagency Monitoring of Protected Visual Environments" (IMPROVE) monitoring network, show that visibility impairment caused by air pollution occurs virtually all the time at most national park and wilderness areas. The average visual range in many Class I areas (i.e., national parks and memorial parks, wilderness areas, and international parks meeting certain size criteria) in the western United States is 100-150 kilometers, or about one-half to two-thirds of the visual range that would exist without anthropogenic air pollution.<sup>7</sup> In most of the eastern Class I areas of the United States, the average visual range is less than 30 kilometers, or about one-fifth of the visual range that would exist under estimated natural conditions. 64 FR 35715 (July 1, 1999).

### B. Requirements of the CAA and EPA's Regional Haze Rule

In section 169A(a)(1) of the 1977 Amendments to the CAA, Congress created a program to protect visibility in the nation's national parks and wilderness areas.<sup>8</sup> This section of the

<sup>7</sup> Visual range is the greatest distance, in kilometers or miles, at which a dark object can be viewed against the sky.

<sup>8</sup> Areas designated as mandatory Class I Federal areas consist of national parks exceeding 6,000 acres, wilderness areas and national memorial parks exceeding 5,000 acres, and all international parks that were in existence on August 7, 1977. 42 U.S.C. 7472(a). In accordance with section 169A of the CAA and after consulting with the Department of the Interior, EPA promulgated a list of 156 areas where visibility is identified as an important value. 44 FR 69122 (November 30, 1979). The extent of a

CAA establishes as a national goal the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution.” On December 2, 1980, EPA promulgated regulations to address visibility impairment in Class I areas that is “reasonably attributable” to a single source or small group of sources, *i.e.*, “reasonably attributable visibility impairment” (RAVI). 45 FR 80084. These regulations represented the first phase in addressing visibility impairment. EPA deferred action on regional haze that emanates from a variety of sources until monitoring, modeling, and scientific knowledge about the relationships between pollutants and visibility impairment were improved.

Congress added section 169B to the CAA in 1990 to address regional haze issues. EPA promulgated a rule to address regional haze on July 1, 1999, the Regional Haze Rule (RHR) (64 FR 35713). The RHR revised the existing visibility regulations to integrate provisions addressing regional haze impairment and to establish a comprehensive visibility protection program for Class I areas. The requirements for regional haze, found at 40 CFR 51.308 and 51.309, are included in EPA’s visibility protection regulations at 40 CFR 51.300–309. Some of the main elements of the regional haze requirements are summarized in section III of this preamble. The requirement to submit a regional haze plan revision to the SIP applies to all 50 states, the District of Columbia and the Virgin Islands.<sup>9</sup> 40 CFR 51.308(b) requires states to submit the first implementation plan addressing regional haze visibility impairment no later than December 17, 2007.

### C. Roles of Agencies in Addressing Regional Haze

Successful implementation of the regional haze program will require long-

mandatory Class I area includes subsequent changes in boundaries, such as park expansions. 42 U.S.C. 7472(a). Although states and tribes may designate as Class I additional areas which they consider to have visibility as an important value, the requirements of the visibility program set forth in section 169A of the CAA apply only to “mandatory Class I Federal areas.” Each mandatory Class I Federal area is the responsibility of a “Federal Land Manager.” 42 U.S.C. 7602(i). When we use the term “Class I area” in this action, we mean a “mandatory Class I Federal area.”

<sup>9</sup> Albuquerque/Bernalillo County in New Mexico must also submit a regional haze SIP to completely satisfy the requirements of section 110(a)(2)(D) of the CAA for the entire State of New Mexico under the New Mexico Air Quality Control Act (section 74–2–4).

term regional coordination among states, tribal governments and various federal agencies. As noted above, pollution affecting the air quality in Class I areas can be transported over long distances, even hundreds of kilometers. Therefore, to address effectively the problem of visibility impairment in Class I areas, states need to develop coordinated strategies with one another, taking into account the effect of emissions from one jurisdiction on the air quality in another.

Because the pollutants that lead to regional haze can originate from sources located across broad geographic areas, EPA has encouraged the states and tribes across the United States to address visibility impairment from a regional perspective. Five regional planning organizations (RPOs) were developed to address regional haze and related issues. The RPOs first evaluated technical information to better understand how their states and tribes impact Class I areas across the country, and then pursued the development of regional strategies to reduce emissions of particulate matter (PM) and other pollutants leading to regional haze.

The Western Regional Air Partnership (WRAP), one of five RPOs nationally, is a voluntary partnership of State, Tribal, Federal, and local air agencies dealing with air quality in the west. WRAP member states include: Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. WRAP Tribal members include Campo Band of Kumeyaay Indians, Confederated Salish and Kootenai Tribes, Cortina Indian Rancheria, Hopi Tribe, Hualapai Nation of the Grand Canyon, Native Village of Shungnak, Nez Perce Tribe, Northern Cheyenne Tribe, Pueblo of Acoma, Pueblo of San Felipe, and Shoshone-Bannock Tribes of Fort Hall.

### D. Interstate Transport Pollution and Visibility Requirements

On July 18, 1997, EPA promulgated new NAAQS for 8-hour ozone and for PM<sub>2.5</sub>. See 62 FR 38856; 62 FR 38652. Section 110(a)(1) requires states to submit a plan to address certain requirements for a new or revised NAAQS within three years after promulgation of such standards, or within such shorter time as EPA may prescribe. Section 110(a)(2) lists the elements that such new plan submissions must address, as applicable, including section 110(a)(2)(D)(i), which pertains to the interstate transport of certain emissions.

On April 25, 2005, EPA issued a “Finding of Failure to Submit SIPs for

Interstate Transport for the 8-hour Ozone and PM<sub>2.5</sub> NAAQS.” 70 FR 21147. This included a finding that California and other states had failed to submit SIPs to address interstate transport of emissions affecting visibility and started a two-year clock for the promulgation of a Federal Implementation Plan (FIP) by EPA, unless the state made a submission to meet the requirements of section 110(a)(2)(D)(i) and EPA approves such submission. *Id.*

On August 15, 2006, EPA issued guidance on this topic entitled, “Guidance for State Implementation Plan (SIP) Submissions to Meet Current Outstanding Obligations Under Section 110(a)(2)(D)(i) for the 8-Hour Ozone and PM<sub>2.5</sub> National Ambient Air Quality Standards” (“2006 Guidance”).

As identified in the 2006 Guidance, the “good neighbor” provisions in section 110(a)(2)(D)(i) of the CAA require each state to have a SIP that prohibits emissions that adversely affect other states in ways contemplated in the statute. Section 110(a)(2)(D)(i) contains four distinct requirements related to the impacts of interstate transport. The SIP must prevent sources in the state from emitting pollutants in amounts which will: (1) Contribute significantly to nonattainment of the NAAQS in other states; (2) interfere with maintenance of the NAAQS in other states; (3) interfere with provisions to prevent significant deterioration of air quality in other states; or, (4) interfere with efforts to protect visibility in other states.

With respect to establishing that emissions from sources in the state would not interfere with measures in other states to protect visibility, the 2006 Guidance recommended that states make a submission indicating that it was premature, at that time, to determine whether there would be any interference with measures in the applicable SIP for another state designed to “protect visibility” until the submission and approval of regional haze SIPs. Regional haze SIPs were required to be submitted by December 17, 2007. See 74 FR 2392. At this later point in time, however, EPA believes it is now necessary to evaluate such section 110(a)(2)(D)(i) submissions from a state to ensure that the existing SIP, or the SIP as modified by the submission, contains adequate provisions to prevent interference with the visibility programs of other states, such as for consistency with the assumptions for controls relied upon by other states in establishing reasonable progress goals to address regional haze.

The regional haze program, as reflected in the RHR, recognizes the

importance of addressing the long-range transport of pollutants for visibility and encourages states to work together to develop plans to address haze. The regulations explicitly require each state to address its "share" of the emission reductions needed to meet the reasonable progress goals for neighboring Class I areas. Working together through a regional planning process, states are required to address an agreed upon share of their contribution to visibility impairment in the Class I areas of their neighbors. 40 CFR 51.308(d)(3)(ii). Given these requirements, we anticipate that regional haze SIPs will contain measures that will achieve these emissions reductions, and that these measures will meet the requirements of section 110(a)(2)(D)(i).

As a result of the regional planning efforts in the west, all states in the WRAP region contributed information to a Technical Support System (TSS) which provides an analysis of the causes of haze, and the levels of contribution from all sources within each state to the visibility degradation of each Class I area. The WRAP states consulted in the development of reasonable progress goals, using the products of this technical consultation process to co-develop their reasonable progress goals for the western Class I areas. The modeling done by the WRAP relied on assumptions regarding emissions over the relevant planning period and embedded in these assumptions were anticipated emissions reductions in each of the states in the WRAP, including reductions from installation of Best Available Retrofit Technology (BART) at appropriate sources and other measures to be adopted as part of the state's long-term strategy for addressing regional haze. The reasonable progress goals in the draft and final regional haze SIPs that have now been prepared by states in the west accordingly are based, in part, on the emissions reductions from nearby states that were agreed on through the WRAP process.

California's 2007 Transport SIP refers to EPA's 2006 Guidance and states that the Regional Haze SIP would address interstate regional haze impacts. We interpret this to mean that California intended its Regional Haze Plan to address the interstate visibility requirement of section 110(a)(2)(D)(i) for the 1997 8-hour ozone and 1997 PM<sub>2.5</sub> NAAQS. Accordingly, our evaluation of the 2007 Transport SIP and whether it meets these CAA section 110(a)(2)(D)(i) visibility requirements relies on our evaluation of relevant information from California's Regional Haze Plan.

### III. What are the requirements for regional haze SIPs?

#### A. The CAA and the Regional Haze Rule

Regional haze SIPs must assure reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas. Section 169A of the CAA and EPA's implementing regulations require states to establish long-term strategies for making reasonable progress toward meeting this goal. Implementation plans must also give specific attention to certain stationary sources that were in existence on August 7, 1977, but were not in operation before August 7, 1962, and require these sources, where appropriate, to install BART controls for the purpose of eliminating or reducing visibility impairment. The specific regional haze SIP requirements are discussed in further detail below.

#### B. Determination of Baseline, Natural, and Current Visibility Conditions

The RHR establishes the deciview as the principal metric for measuring visibility. This visibility metric expresses uniform changes in haziness in terms of common increments across the entire range of visibility conditions, from pristine to extremely hazy conditions. Visibility expressed in deciviews is determined by using air quality measurements to estimate light extinction and then transforming the value of light extinction using a logarithm function. The deciview is a more useful measure for tracking progress in improving visibility than light extinction itself because each deciview change is an equal incremental change in visibility perceived by the human eye. Most people can detect a change in visibility at one deciview.<sup>10</sup>

The deciview is used to express reasonable progress goals (RPGs) (which are interim visibility goals towards meeting the national visibility goal), defining baseline, current and natural conditions, and tracking changes in visibility. The regional haze SIPs must contain measures that ensure "reasonable progress" toward the national goal of preventing and remedying visibility impairment in Class I areas caused by anthropogenic air pollution by reducing anthropogenic emissions that cause regional haze. The national goal is a return to natural conditions, *i.e.*, anthropogenic sources of air pollution would no longer impair visibility in Class I areas.

<sup>10</sup> The preamble to the RHR provides additional details about the deciview. 64 FR 35714, 35725 (July 1, 1999).

To track changes in visibility over time at each of the 156 Class I areas covered by the visibility program (40 CFR 81.401–437), and, as part of the process for determining reasonable progress, states must calculate the degree of existing visibility impairment at each Class I area at the time of each regional haze SIP submittal and periodically review progress every five years midway through each ten-year implementation period. To do this, the RHR requires states to determine the degree of impairment (in deciviews) for the average of the 20 percent least impaired ("best") and 20 percent most impaired ("worst") visibility days over a specified time period at each of their Class I areas. In addition, states must also develop an estimate of natural visibility conditions for the purpose of comparing progress toward the national goal. Natural visibility is determined by estimating the natural concentrations of pollutants that cause visibility impairment and then calculating total light extinction based on those estimates. EPA has provided guidance to states regarding how to calculate baseline, natural and current visibility conditions in documents titled, EPA's *Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule*, September 2003, (EPA-454/B-03-005 located at [http://www.epa.gov/ttncaaa1/t1/memoranda/rh\\_envcurhr\\_gd.pdf](http://www.epa.gov/ttncaaa1/t1/memoranda/rh_envcurhr_gd.pdf)), (hereinafter referred to as "EPA's 2003 Natural Visibility Guidance"), and *Guidance for Tracking Progress Under the Regional Haze Rule* (EPA-454/B-03-004 September 2003 located at [http://www.epa.gov/ttncaaa1/t1/memoranda/rh\\_tpurhr\\_gd.pdf](http://www.epa.gov/ttncaaa1/t1/memoranda/rh_tpurhr_gd.pdf)), (hereinafter referred to as "EPA's 2003 Tracking Progress Guidance").

For the first regional haze SIPs that were due by December 17, 2007, "baseline visibility conditions" were the starting points for assessing "current" visibility impairment. Baseline visibility conditions represent the degree of visibility impairment for the 20 percent least impaired days and 20 percent most impaired days for each calendar year from 2000 to 2004. Using monitoring data for 2000 through 2004, states are required to calculate the average degree of visibility impairment for each Class I area, based on the average of annual values over the five-year period. The comparison of initial baseline visibility conditions to natural visibility conditions indicates the amount of improvement necessary to attain natural visibility, while the future comparison of baseline conditions to the then current conditions will indicate the

amount of progress made. In general, the 2000–2004 baseline period is considered the time from which improvement in visibility is measured.

### C. Determination of Reasonable Progress Goals

The vehicle for ensuring continuing progress towards achieving the natural visibility goal is the submission of a series of regional haze SIPs from the states that establish two RPGs (*i.e.*, two distinct goals, one for the “best” and one for the “worst” days) for every Class I area for each (approximately) ten-year implementation period. The RHR does not mandate specific milestones or rates of progress, but instead calls for states to establish goals that provide for “reasonable progress” toward achieving natural (*i.e.*, “background”) visibility conditions. In setting reasonable progress goals (RPGs), states must provide for an improvement in visibility for the most impaired days over the (approximately) ten-year period of the SIP, and ensure no degradation in visibility for the least impaired days over the same period.

States have significant discretion in establishing RPGs, but are required to consider the following factors established in section 169A of the CAA and in EPA’s RHR at 40 CFR 51.308(d)(1)(i)(A): (1) The costs of compliance; (2) the time necessary for compliance; (3) the energy and non-air quality environmental impacts of compliance; and, (4) the remaining useful life of any potentially affected sources. States must demonstrate in their SIPs how these factors are considered when selecting the RPGs for the best and worst days for each applicable Class I area. States have considerable flexibility in how they take these factors into consideration, as noted in EPA’s *Guidance for Setting Reasonable Progress Goals under the Regional Haze Program*, July 1, 2007, memorandum from William L. Wehrum, Acting Assistant Administrator for Air and Radiation, to EPA Regional Administrators, EPA Regions 1–10 (pp. 4–2, 5–1) (“EPA’s Reasonable Progress Guidance”). In setting the RPGs, states must also consider the rate of progress needed to reach natural visibility conditions by 2064 (referred to as the “uniform rate of progress” (URP) or the “glide path”) and the emission reduction measures needed to achieve that rate of progress over the ten-year period of the SIP. Uniform progress towards achievement of natural conditions by the year 2064 represents a rate of progress that states are to use for analytical comparison to the amount of progress they expect to achieve. In

setting RPGs, each state with one or more Class I areas (“Class I state”) must also consult with potentially “contributing states,” *i.e.*, other nearby states with emission sources that may be affecting visibility impairment at the Class I state’s areas. 40 CFR 51.308(d)(1)(iv).

### D. Best Available Retrofit Technology

Section 169A of the CAA directs states to evaluate the use of retrofit controls at certain larger, often uncontrolled, older stationary sources in order to address visibility impacts from these sources. Specifically, section 169A(b)(2)(A) of the CAA requires states to revise their SIPs to contain such measures as may be necessary to make reasonable progress towards the natural visibility goal, including a requirement that certain categories of existing major stationary sources<sup>11</sup> built between 1962 and 1977 procure, install, and operate the “Best Available Retrofit Technology (BART)” as determined by the state. Under the RHR, states are directed to conduct BART determinations for such “BART-eligible” sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area. Rather than requiring source-specific BART controls, states also have the flexibility to adopt an emissions trading program or other alternative program as long as the alternative provides greater reasonable progress towards improving visibility than BART.

On July 6, 2005, EPA published the *Guidelines for BART Determinations Under the Regional Haze Rule* at Appendix Y to 40 CFR Part 51 (hereinafter referred to as the “BART Guidelines”) to assist states in determining which of their sources should be subject to the BART requirements and in determining appropriate emission limits for each applicable source. In making a BART determination for a fossil fuel-fired electric generating plant with a total generating capacity in excess of 750 megawatts, a state must use the approach set forth in the BART Guidelines. A state is encouraged, but not required, to follow the BART Guidelines in making BART determinations for other types of sources.

States must address all visibility-impairing pollutants emitted by a source in the BART determination process. The most significant visibility impairing pollutants are SO<sub>2</sub>, NO<sub>x</sub> and PM. EPA has indicated that states should use

their best judgment in determining whether VOC or NH<sub>3</sub> compounds impair visibility in Class I areas.

Under the BART Guidelines, states may select an exemption threshold value for their BART modeling, below which a BART-eligible source would not be expected to cause or contribute to visibility impairment in any Class I area. The state must document this exemption threshold value in the SIP and must state the basis for its selection of that value. Any source with emissions that model above the threshold value would be subject to a BART determination review. The BART Guidelines acknowledge varying circumstances affecting different Class I areas. States should consider the number of emission sources affecting the Class I areas at issue and the magnitude of the individual sources’ impacts. An exemption threshold set by the state should not be higher than 0.5 deciview.

In their SIPs, states must identify potential BART sources, described in the RHR as “BART-eligible sources”, and document their BART control determination analyses. In making BART determinations, section 169A(g)(2) of the CAA requires that states consider the following factors: (1) The costs of compliance; (2) the energy and non-air quality environmental impacts of compliance; (3) any existing pollution control technology in use at the source; (4) the remaining useful life of the source; and, (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. States are free to determine the weight and significance assigned to each factor.

A regional haze SIP must include source-specific BART emission limits and compliance schedules for each source subject to BART. Once a state has made its BART determination, the BART controls must be installed and in operation as expeditiously as practicable, but no later than five years after the date EPA approves the regional haze SIP. CAA section 169(g)(4). 40 CFR 51.308(e)(1)(iv). In addition to what is required by the RHR, general SIP requirements mandate that the SIP must also include all regulatory requirements related to monitoring, recordkeeping, and reporting for the BART controls on the source. States have the flexibility to choose the type of control measures they will use to meet the requirements of BART.

### E. Long-Term Strategy

Consistent with the requirement in section 169A(b) of the CAA that states include in their regional haze SIP a ten-

<sup>11</sup> The set of “major stationary sources” potentially subject to BART is listed in CAA section 169A(g)(7).

to fifteen-year strategy for making reasonable progress, section 51.308(d)(3) of the RHR requires that states include a long-term strategy (LTS) in their regional haze SIPs. The LTS is the compilation of all control measures a state will use during the implementation period of the specific SIP submittal to meet applicable RPGs. The LTS must include “enforceable emissions limitations, compliance schedules, and other measures needed to achieve the reasonable progress goals” for all Class I areas within and affected by emissions from the state. 40 CFR 51.308(d)(3).

When a state’s emissions are reasonably anticipated to cause or contribute to visibility impairment in a Class I area located in another state, the RHR requires the impacted state to coordinate with contributing states to develop coordinated emissions management strategies. 40 CFR 51.308(d)(3)(i). In such cases, the contributing state must demonstrate that it has included in its SIP, all measures necessary to obtain its share of the emission reductions needed to meet the RPGs for the Class I area. The RPOs have provided forums for significant interstate consultation, but additional consultation between states may be required to sufficiently address interstate visibility issues (*e.g.*, where two states belong to different RPOs).

States should consider all types of anthropogenic sources of visibility impairment in developing their LTS, including stationary, minor, mobile, and area sources. At a minimum, states must describe how each of the following seven factors listed below are taken into account in developing their LTS: (1) Emission reductions due to ongoing air pollution control programs, including measures to address RAVI; (2) measures to mitigate the impacts of construction activities; (3) emissions limitations and schedules for compliance to achieve the RPG; (4) source retirement and replacement schedules; (5) smoke management techniques for agricultural and forestry management purposes including plans as currently exist within the state for these purposes; (6) enforceability of emissions limitations and control measures; and, (7) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the LTS. 40 CFR 51.308(d)(3)(v).

#### *F. Coordination of the Regional Haze SIP and Reasonably Attributable Visibility Impairment*

As part of the RHR, EPA revised 40 CFR 51.306(c) regarding the LTS for

RAVI to require that the RAVI plan must provide for a periodic review and SIP revision not less frequently than every three years until the date of submission of the state’s first plan addressing regional haze visibility impairment, which was due December 17, 2007, in accordance with 40 CFR 51.308(b) and (c). On or before this date, the state must revise its plan to provide for review and revision of a coordinated LTS for addressing RAVI and regional haze, and the state must submit the first such coordinated LTS with its first regional haze SIP. Future coordinated LTSs, and periodic progress reports evaluating progress towards RPGs, must be submitted consistent with the schedule for SIP submission and periodic progress reports set forth in 40 CFR 51.308(f) and 51.308(g), respectively. The periodic review of a state’s LTS must report on both regional haze and RAVI impairment and must be submitted to EPA as a SIP revision.

#### *G. Monitoring Strategy and Other Implementation Plan Requirements*

Section 51.308(d)(4) of the RHR requires a monitoring strategy for measuring, characterizing, and reporting on regional haze visibility impairment that is representative of all mandatory Class I areas within the state. The strategy must be coordinated with the monitoring strategy required in 40 CFR 51.305 for RAVI. Compliance with this requirement may be met through “participation” in the Interagency Monitoring of Protected Visual Environments (IMPROVE) network, *i.e.*, review and use of monitoring data from the network. The monitoring strategy is due with the first regional haze SIP, and it must be reviewed every five years. The monitoring strategy must also provide for additional monitoring sites if the IMPROVE network is not sufficient to determine whether RPGs will be met.

The SIP must also provide for the following:

- Procedures for using monitoring data and other information in a state with mandatory Class I areas to determine the contribution of emissions from within the state to regional haze visibility impairment at Class I areas both within and outside the state;
- Procedures for using monitoring data and other information in a state with no mandatory Class I areas to determine the contribution of emissions from within the state to regional haze visibility impairment at Class I areas in other states;
- Reporting of all visibility monitoring data to the Administrator at least annually for each Class I area in

the state, and where possible, in electronic format;

- Developing a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions.

A state must also make a commitment to update the inventory periodically; and,

- Other elements, including reporting, recordkeeping, and other measures necessary to assess and report on visibility.

The RHR requires control strategies to cover an initial implementation period extending to the year 2018, with a comprehensive reassessment and revision of those strategies, as appropriate, every ten years thereafter. Periodic SIP revisions must meet the core requirements of section 51.308(d) with the exception of BART. The requirement to evaluate sources for BART applies only to the first regional haze SIP. Facilities subject to BART must continue to comply with the BART provisions of section 51.308(e), as noted above. Periodic SIP revisions will assure that the statutory requirement of reasonable progress will continue to be met.

#### *H. Consultation With States and Federal Land Managers*

The RHR requires that states consult with Federal Land Managers (FLMs) before adopting and submitting their SIPs. 40 CFR 51.308(i). States must provide FLMs an opportunity for consultation, in person and at least sixty days prior to holding any public hearing on the SIP. This consultation must include the opportunity for the FLMs to discuss their assessment of impairment of visibility in any Class I area and to offer recommendations on the development of the RPGs and on the development and implementation of strategies to address visibility impairment. Furthermore, a state must include in its SIP a description of how it addressed any comments provided by the FLMs. Finally, a SIP must provide procedures for continuing consultation between the state and FLMs regarding the state’s visibility protection program, including development and review of SIP revisions, five-year progress reports, and the implementation of other programs having the potential to contribute to impairment of visibility in Class I areas.

#### IV. EPA's Analysis of the California Regional Haze Plan

As described in Section I, the California Regional Haze SIP consists of the CRHP and two supplemental submittals. ARB submitted the CRHP to EPA on March 16, 2009. ARB submitted additional materials to EPA on September 8, 2009. ARB submitted updated information about BART-eligible sources on June 9, 2010.

##### A. Affected Class I Areas in California

There are twenty-nine affected Class I areas in California.<sup>12</sup> These Class I areas include the following national parks, national monuments, and wilderness areas managed by the U.S. National Park Service, the U.S. Forest Service, and the U.S. Bureau of Land Management (USBLM):

1. Redwood National Park;
2. Marble Mountain Wilderness;
3. Lava Beds National Monument;
4. South Warner Wilderness;
5. Thousand Lakes Wilderness;
6. Lassen Volcanic National Park;
7. Caribou Wilderness;
8. Yolla Bolly Middle Eel Wilderness (includes land managed by USBLM);
9. Point Reyes National Seashore;
10. Ventana Wilderness;
11. Pinnacles National Monument;
12. Desolation Wilderness;
13. Mokelumne Wilderness;
14. Emigrant Wilderness;
15. Hoover Wilderness;
16. Yosemite National Park;
17. Ansel Adams Wilderness;
18. Kaiser Wilderness;
19. John Muir Wilderness;
20. Kings Canyon National Park;
21. Sequoia National Park;
22. Dome Lands Wilderness (includes land managed by the USBLM);
23. San Rafael Wilderness;
24. San Gabriel Wilderness;
25. Cucamonga Wilderness;
26. San Geronio Wilderness;
27. San Jacinto Wilderness;
28. Agua Tibia Wilderness; and,
29. Joshua Tree National Park.

As part of its analysis, ARB apportioned the state's twenty-nine Class I areas into the following four sub-

regions: Northern California; Sierra California; Coastal California; and, Southern California. Within each sub-region, the Class I areas are assigned to a specific representative IMPROVE monitor. For example, within the Northern California sub-region, Class I areas are assigned as follows: The Marble Mountain Wilderness and the Yolla-Bolly-Middle Eel Wilderness are assigned to the Trinity IMPROVE monitor; the Lava Beds National Monument and South Warner Wilderness are assigned to the Lava Beds IMPROVE monitor; and, the Lassen Volcanic National Park, the Caribou wilderness, and the Thousand Lakes wilderness are assigned to the Lassen Volcanic IMPROVE monitor.<sup>13</sup>

California's four sub-regions for analyzing regional haze represent groupings that consider the unique terrain, ecology, land use, and weather patterns around each IMPROVE monitor. ARB's detailed examination of the resultant ambient air monitoring data showed similarities within definable intra-State regions. These four sub-regions are different from each other based on physiographic features and land use patterns. California has grouped its Class I Areas by geographic sub-region to facilitate comparison of different landscapes, meteorological conditions, the impacts of local and regional emissions, and the results of local and regional control measures.

California identified Class I areas outside of the state that are affected by California's regional haze pollutants. (CRHP, Figure 8.1) The CRHP also examined specific visibility effects of emissions on the following Class I areas outside of the state: Jarbidge Wilderness Area, Nevada; Kalmiopsis Wilderness Area and Crater Lake National Park, Oregon; and, Sycamore Canyon Wilderness Area and Grand Canyon National Park, Arizona.

To conclude, we believe that California has identified all of Class I areas in the state that may be affected by emissions from California. Also, California identified Class I areas in

neighboring states that may be affected by emissions from California. (CRHP, Figure 8.1)

##### B. Visibility Conditions and Uniform Rate of Progress

ARB developed the visibility estimates in the CRHP using models and analytical tools provided by the WRAP. We have reviewed the models and analytical tools used by the WRAP and those used by ARB in developing the CRHP. In summary, we found that the models were used appropriately, consistent with EPA guidance in effect at the time of their use. The models used by the WRAP were state-of-the-science at the time the modeling was conducted and model performance was adequate for the purposes that they were used.<sup>14</sup>

##### 1. Baseline and Natural Visibility Conditions

Baseline visibility conditions represent the degree of visibility impairment for the 20 percent least impaired days and 20 percent most impaired days for each calendar year from 2000 to 2004. Using monitoring data for 2000 through 2004, states are required to calculate the average degree of visibility impairment for each Class I area, based on the average of annual values over the five-year period. Appendix B of the CRHP provides the details of these 2000–2004 baseline deciview calculations for each Class I area.

For each Class I area, ARB calculated, in deciviews, the current visibility conditions (worst 20 percent of days) for the 2000–2004 baseline period (Table 1, column A) and the future natural conditions for 2064 (Table 1, column D), the long-term programmatic goal. ARB calculated the deciview value representing the best visibility days during 2000–2004 baseline conditions, a value that must be maintained in future years.<sup>15</sup>

<sup>14</sup> For our detailed review and discussion, please see "Technical Support Document for Technical Products Prepared by the Western Regional Air Partnership in Support of Western Regional Haze Plans", Final, February 2011 (WRAP TSD).

<sup>15</sup> See Table 8 for a complete listing of the "best 20 percent of days" and "worst 20 percent of days" and a comparison between 2000–2004 and 2018 deciview values for each California Class I area.

<sup>12</sup> See Figure 1–2, "California's Class I Areas and IMPROVE Monitoring Network, page 1–4, CRHP, for a listing and a map showing the twenty-nine Class I areas.

<sup>13</sup> Table 2–1, "IMPROVE monitors and Visibility at California Class I Areas", page 2–3, CRHP provides a detailed listing of IMPROVE monitor assignments. Also, see Figure 2–1, CRHP, "California's Geographic Sub-regions", page 2–6 for a visual representation.

TABLE 1—VISIBILITY CALCULATIONS FOR CALIFORNIA CLASS I AREAS  
[Grouped by related IMPROVE monitor and reported in deciviews]

Class I Area (NP = National Park, WA = Wilderness Area, NM = National Monument, NS = National Seashore)	2000–04 Baseline (worst 20% of days) (A)	2018 Reasonable Progress Goal (RPG) (worst 20% of days) (B)	2018 Uniform Rate of Progress estimate (URP) (C)	2064 Natural condition (D)	Date natural condition reached at RPG rate of improvement (E)
Marble Mountain WA, Yolla Bolly Middle Eel WA (TRIN monitor) .....	17.4	16.4	15.2	7.9	2137
Lava Beds NM, South Warner WA (LABE monitor) .....	15.1	14.4	13.4	7.9	2148
Lassen Volcanic NP, Caribou WA, Thousand Lakes WA (LAVO monitor) .....	14.2	13.3	12.6	7.3	2123
Desolation WA, Mokelumne WA (BLIS monitor) .....	12.6	12.3	11.1	6.1	2307
Hoover WA (HOOV monitor) .....	12.9	12.5	11.7	7.7	2186
Yosemite NP, Emigrant WA (YOSE monitor) .....	17.6	16.7	15.3	7.6	2160
Ansel Adams WA, Kaiser WA, John Muir WA (KAIS monitor) .....	15.5	14.9	13.6	7.1	2200
Sequoia NP, Kings Canyon NP (SEQU monitor) .....	25.4	22.7	21.2	7.7	2096
Dome Lands WA (DOME monitor) .....	19.4	18.1	16.6	7.5	2132
Redwood NP (REDW monitor) .....	18.5	17.8	17.4	13.9	2096
Point Reyes NS (PORE monitor) .....	22.8	21.3	21.2	15.8	2069
Pinnacles NM, Ventana WA (PINN monitor) .....	18.5	16.7	16.0	8.0	2086
San Rafael WA (RAFA monitor) .....	18.8	17.3	16.2	7.6	2109
San Gabriel WA, Cucamonga WA (SAGA monitor) .....	19.9	17.4	16.9	7.0	2076
San Geronio WA, San Jacinto WA (SAGO monitor) .....	22.2	19.9	18.7	7.3	2095
Agua Tibia WA (AGTI monitor) .....	23.5	21.6	19.8	7.6	2121
Joshua Tree NP (JOSH monitor) .....	19.6	17.9	16.7	7.2	2106

Source: Table 7–2, page 7–10, CRHP.

2. Uniform Rate of Progress Estimate

ARB calculated the uniform rate of progress (URP) estimate for each Class I area using the 2000–2004 baseline deciview and 2064 programmatic goal deciview values. Essentially, the URP is represented as the line drawn between a given Class I area’s 2004 baseline value and 2064 natural condition or programmatic goal value. This line is linear and assumes the same increment of progress every year for 60 years. Figure 7–1 of the CRHP provides an illustration of the uniform rate of progress calculation and its graphic representation. ARB then calculated each Class I area’s URP estimate for 2018.<sup>16</sup> The URPs for each Class I area are listed in Table 1, column C.

EPA has determined that California has produced the following visibility estimates in deciviews for each Class I area: Baseline visibility conditions; a ten-year reasonable progress estimate for

2018; a 2018 uniform rate of progress estimate for comparison purposes; and a 2064 natural condition estimate. We propose to find that these estimates are consistent with the requirements of the RHR, particularly those requirements at 40 CFR 51.308(d)(2)(i) and (iii). Also, we propose to find that California has produced URP estimates consistent with the requirement in 40 CFR 51.308(d)(1)(i)(B).

C. California Emissions Inventories

The RHR requires a statewide emissions inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I area. 40 CFR 51.308(d)(4)(v). In establishing baseline visibility conditions in each Class I area, the CRHP provides an emissions inventory for 2002, representing the mid-point of the 2000–2004 baseline timeframe. Also, to chart progress in

each Class I area, the CRHP estimated emissions for 2018, the first ten-year programmatic milestone. The emissions inventories estimate annual emissions for the following haze producing pollutants: Oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), ammonia (NH<sub>3</sub>), particulate matter smaller than 10 microns but larger than 2.5 microns (PM coarse), fine particulate matter from organic carbon (OC Fine PM), fine particulate matter from elemental carbon (EC Fine PM), and fine particulate matter from other sources (Other Fine PM). The emissions inventories are divided into four source categories: Stationary sources, area sources, mobile sources, and natural sources. See Table 2. This information was also analyzed to compare anthropogenic versus natural sources of emissions. See Table 3.

TABLE 2—EMISSIONS INVENTORY FOR CALIFORNIA REGIONAL HAZE POLLUTANTS BY SOURCE CATEGORY FOR 2002 AND 2018  
[Tons per year]

Pollutant	Stationary (tpy)		Area (tpy)		Mobile (tpy)		Natural (tpy)	
	2002	2018	2002	2018	2002	2018	2002	2018
NO <sub>x</sub> .....	104,991	109,514	112,988	112,789	909,380	370,385	93,043	93,043

<sup>16</sup> See Table 7–2, “Summary of Reasonable Progress Goal and Uniform Rate of Progress to

Future Natural Conditions, 2018 Worst Days URP,” page 7–10, CRHP.



TABLE 2—EMISSIONS INVENTORY FOR CALIFORNIA REGIONAL HAZE POLLUTANTS BY SOURCE CATEGORY FOR 2002 AND 2018—Continued

[Tons per year]

Pollutant	Stationary (tpy)		Area (tpy)		Mobile (tpy)		Natural (tpy)	
	2002	2018	2002	2018	2002	2018	2002	2018
SO <sub>2</sub> .....	42,227	49,632	9,139	10,134	11,588	3,800	9,840	9,840
VOC .....	54,632	54,631	335,114	594,843	518,405	232,839	2,890,198	2,890,198
NH <sub>3</sub> .....	433	0	202,045	193,486	22,679	30,430	7,595	7,595
PM Coarse .....	10,172	13,700	263,902	291,429	5,075	6,389	23,124	23,124
Fine PM OC .....	5,515	3,696	44,986	36,777	13,991	15,834	92,097	92,097
Fine PM EC .....	933	835	5,887	5,503	21,577	12,589	19,078	19,078
Other PM Fine .....	10,537	12,317	55,005	54,016	2,125	2,929	5,880	5,880

Source: Table 3-2, "Individual Pollutants and Source Categories," page 3-4 CRHP.

TABLE 3—2002 EMISSIONS INVENTORY FOR ANTHROPOGENIC AND NATURAL SOURCES

Pollutant	Source (tons/year)		Anthropogenic share (percent)
	Anthropogenic	Natural	
NO <sub>x</sub> .....	1,127,359	93,043	92
SO <sub>2</sub> .....	62,954	9,840	86
VOC .....	908,151	2,890,198	24
NH <sub>3</sub> .....	225,157	7,595	97
PM Coarse .....	279,148	23,124	92
OC Fine PM .....	64,491	92,097	41
EC Fine PM .....	28,397	19,078	60
Other PM Fine .....	67,667	5,880	92

Source: Based on Table 3-1, "Overall Emission Source Inventory," page 3-3 CRHP.

D. Sources of Visibility Impairment

Within Appendix B of the CRHP, ARB analyzed the contribution of various pollutants to light extinction (*i.e.*,

visibility impairment) for each Class I area in the state. EPA compiled California's data for each of the Class I areas into a single table. Table 4 shows

how much each pollutant contributed to light extinction at each of California's Class I areas during the period from 2000 to 2004.

TABLE 4—PERCENTAGE OF LIGHT EXTINCTION CONTRIBUTED BY EACH POLLUTANT IN CALIFORNIA CLASS I AREAS ON WORST 20% OF DAYS, 2000–2004

[Averaged observations]

Class I area	NO <sub>3</sub> and/or AmNO <sub>3</sub>	SO <sub>4</sub> and/or AmSO <sub>4</sub>	OMC	EC	CM	Soil	Sea salt
Marble Mountain WA, Yolla Bolly-Middle Eel WA (TRIN monitor) .....	12.7	17.1	54.5	8.6	4.8	1.8	0.6
Lava Beds NM, South Warner WA (LABE monitor) .....	8.9	17.3	55.9	8.4	6.6	2.5	0.3
Lassen Volcanic NP, Caribou WA, Thousand Lakes WA (LAVO monitor) ..	10.9	20.1	50.8	9.1	5.9	3.0	0.09
Desolation WA, Mokelumne WA (BLIS monitor) .....	8.7	18.4	50.9	10.8	7.6	3.6	0.07
Hoover WA (HOOV monitor) .....	5.2	16.2	50.0	7.8	15.3	5.2	0.32
Yosemite NP, Emigrant WA (YOSE monitor) .....	14.8	14.4	52.9	8.8	7.3	1.6	0.18
Ansel Adams WA, Kaiser WA, John Muir WA (KAIS monitor) .....	18.1	21.9	38.3	7.2	11.1	2.3	0.56
Sequoia NP, Kings Canyon NP (SEQU monitor) .....	54.6	14.9	18.8	5.2	5.6	0.76	0.25
Dome Lands WA (DOME monitor) .....	25.8	19.5	27.8	6.3	17.9	2.4	0.32
Redwood NP (REDW monitor) .....	13.1	27.9	15.0	2.8	7.7	0.56	33.0
Point Reyes NS (PORE monitor) .....	39.6	14.5	12.5	3.4	7.7	0.41	21.9
Pinnacles NM, Ventana WA (PINN monitor) .....	31.6	25.7	24.4	8.5	7.0	1.1	1.7
San Rafael WA (RAFA monitor) .....	20.2	36.0	22.8	4.9	12.6	1.8	1.8
San Gabriel WA, Cucamonga WA (SAGA monitor) .....	40.0	17.8	22.1	6.2	12.0	1.3	0.58
San Geronio WA, San Jacinto WA (SAGO monitor) .....	53.0	15.6	16.5	6.1	7.2	1.3	0.24
Agua Tibia WA (AGTI monitor) .....	31.1	33	18.2	6.7	8.9	1.4	0.83
Joshua Tree NP (JOSH monitor) .....	42.9	19.3	16.2	6.5	12.3	2.5	0.31

Class I Abbreviations: NP = National Park, WA = Wilderness Area, NM = National Monument, NS = National Seashore.

Pollutant Abbreviations: NO<sub>3</sub> = Nitrate; AmNO<sub>3</sub> = Ammonium Nitrate; SO<sub>4</sub> = Sulfate; AmSO<sub>4</sub> = Ammonium Sulfate; OMC = Organic Matter Carbon; EC = Elemental Carbon; Soil = PM Soil; CM = Coarse Matter.

Source: Appendix B, CA RHP. See each monitor analysis chapter.

As the data in Table 4 show, the three primary contributors or drivers of haze

in California are: Nitrates, organic carbon, and sulfates. Conversely, the

monitoring data also show that coarse mass particulate matter, elemental

carbon, and fine soils do not drive visibility impairment on worst case days.

#### 1. Sources of Visibility Impairment in California Class I Areas

According to Appendix B of the CRHP, light extinction from nitrate is a key driver of haze at many California Class I sites, especially in Southern California and other sites located near major urban areas and transportation corridors. (CRHP, Section 4.7.3) This finding is consistent with the WRAP's Particulate Source Apportionment Technology (PSAT) showing that NO<sub>x</sub> from mobile sources was the most significant precursor of nitrate pollution at these Class I areas. The CRHP states, "The gradient of least to most influence in light extinction corresponds directly to the amount of mobile source NO<sub>x</sub> emissions nearby." (CRHP, page 7–3, *see also* sub-regional discussions in CRHP, Section 4.7)

Appendix B of the CRHP also shows that organic carbon is the significant cause of worst day haze, in all of the state but Southern California. The WRAP source apportionment analysis, which formed the basis for the analysis in the CRHP, suggests that wildfires, biogenics (natural plant, animal, and soil organism emissions), and area sources are the primary contributors to organic carbon constituting from 25 percent to 90 percent on worst visibility days. Biogenic emissions peak during the dry wildfire season, and contribute the most natural organic carbon, annually. Much of the directly emitted organic carbon in California comes from wildfires. Also, source apportionment modeling found that the majority of secondary organic carbon is derived from biogenic emission sources. A review of the PSAT analysis indicates that pollution from wildfires dominates in Class I areas with more than 50 percent light extinction from organic carbon.

Using PSAT modeling again, ARB found sulfates also drive haze at some Class I areas on some worst days, with the influence most perceptible along the coast. PSAT results indicate that Offshore and non-WRAP region sources are the largest contributors, accounting for approximately 50 to 75 percent of the measured sulfate levels. In-state anthropogenic sulfate emissions are estimated to account for 1 percent to 35 percent. (CRHP, Section 6.2.3). There are very few large SO<sub>x</sub> sources in California and low sulfur fuel is already required for both mobile and stationary sources. Offshore emissions appear to contribute both natural marine sulfates and SO<sub>x</sub> from marine commercial

shipping activities. The Coastal sub-region and Southern California experience larger impacts from offshore shipping. Class I Areas in Southern California show slightly higher contributions from California anthropogenic sulfate (22 percent to 35 percent) than other Class I Areas, reflecting the proximity to point sources such as refineries and port-related activities.

Coarse mass particulates do not drive haze on worst days in California. Occasionally, coarse mass particulates may contribute to a single worst day at some of the drier Class I areas in the Mojave Desert and on the lee side of the Sierra Nevada. The days with slightly elevated coarse mass particulates are almost always associated with windblown dust events. These wind-driven events also cause very slight elevations in fine soil (PM<sub>2.5</sub> fraction of dust), but this species never drives worst days.

Elemental carbon is not a driver of haze on worst days in California. Despite its strong capability to extinguish light, emissions are very low and are not expected to increase through 2018.

Fine soil contributes least to haze statewide and is not a driver of haze on worst days. Fine soil is less than 1 percent of the annual contribution to light extinction at many IMPROVE monitors on best and worst days, with the highest annual average worst day contribution being just over 5 percent at one isolated IMPROVE monitor (HOOV) in the rain shadow (drier lee side) of the Sierra Nevada. On a day-to-day basis, fluctuations in concentration at the IMPROVE monitors are associated with high wind events.

To summarize, ARB found the three primary drivers of haze in California to come from the following source categories: Mobile sources for nitrate, natural sources for organic carbon, and off-shore and non-WRAP region sources for sulfate. These three sources are likely to retain a large influence on visibility conditions in the future as well. Studies show coarse mass particulate matter, elemental carbon, and fine soils do not drive visibility impairment on worst-case days.

Regarding emissions from other western states and their visibility effects, given mountains in the east and north, the Pacific Ocean to the west, and prevailing weather patterns that move from west to east, emissions from neighboring states are not expected to significantly affect visibility in California's Class I areas. Smoke, however, from large wildfires in

neighboring states, is an exception as it would be expected to impair visibility.

To conclude, California's largest source of controllable visibility impairing emissions is NO<sub>x</sub> from mobile sources (see the 2002 emissions inventory estimate in Table 2). Results from California's source apportionment analysis show that other anthropogenic emissions contributing to haze come from sources that are not within California's control. For example, organic carbon emissions from natural sources such as wildfires and biogenics, whether from in-state or out-of-state, contribute significantly to impaired visibility at all Class I areas in California. Also, visibility impairment from sulfates is caused by international sources outside the WRAP states, such as shipping. While California has programs to reduce in-state organic carbon and SO<sub>2</sub> emissions, the CRHP indicates that reductions in anthropogenic sources of NO<sub>x</sub>, especially NO<sub>x</sub> from mobile sources, will lead to significant visibility improvements in California Class I areas.

#### 2. California Contributions to Visibility Impairment in Class I Areas Outside of the State

Within the baseline years, California is estimated to have a very small impact on visibility impairment in the following Class I areas in nearby states: Jarbidge Wilderness Area, Nevada; Kalmiopsis Wilderness Area and Crater Lake National Park, Oregon; and, Sycamore Canyon Wilderness Area and Grand Canyon National Park, Arizona. The CRHP shows the NO<sub>x</sub> and SO<sub>x</sub> contributions to haze during the baseline years in these neighboring out-of-state Class I areas.<sup>17</sup> The measured contribution of NO<sub>x</sub> and SO<sub>x</sub> emissions to particle light extinction is relatively small in these Class I areas, as is the estimated contribution of California NO<sub>x</sub> and SO<sub>x</sub> sources within these measurements. When combined, these 2002 estimates of California's contribution to visibility impairment in out-of-state Class I areas suggest that California emissions are responsible for only a very small part of existing visibility impairment at out-of-state Class I areas. These base year estimates, however, do not reflect future reductions in California's emissions inventory through 2018.

To conclude, the state has provided an emissions inventory of natural and

<sup>17</sup> See Table 8.1 Nitrate Contribution to Haze in Baseline Years, page 8–3 and Table 8.2, Sulfate Contribution to Haze In Baseline Years, page 8–4, CRHP.

anthropogenic sources that contribute to visibility impairment in Class I areas. California estimated stationary, area, and mobile sources emissions for the required base year, 2002, and for 2018. Also, with the WRAP, the state did source apportionment analyses of visibility impairment to determine the relative contributions of haze causing pollutants in Class I areas, both inside and outside of California. We found these analyses to be valid and technically correct. (See WRAP TSD.) Consequently, we propose to find that the state has met the requirements of 40 CFR 51.308(d)(3)(iv) and (d)(4)(v).

*E. Best Available Retrofit Technology Evaluation*

California is required to evaluate the use of best available retrofit technology (BART) controls at 26 types of major stationary sources<sup>18</sup> built between 1962 and 1977 that have the potential to emit 250 tons or more of any pollutant and may reasonably be anticipated to cause or contribute to any impairment of visibility in any Class I area. CAA Section 169A(b)(2)(A) and 40 CFR 51.308(e). The state must submit a list of all BART-eligible sources within the state, and a determination of BART controls, including emission limitations and schedules for compliance, for those sources subject to BART. Each source subject to BART is required to install and operate BART, as expeditiously as practicable, but no later than five years after EPA approval of the statewide regional haze SIP revision. CAA Section 169(g)(4) and 40 CFR 51.308(e)(1)(iv).

1. Sources Potentially Subject to BART

The first phase of a BART evaluation is to identify all the BART-eligible sources within a state's boundaries. BART eligible sources are those sources which have the potential to emit 250 tons per year or more of a visibility-

impairing air pollutant, were put in place between August 7, 1962 and August 7, 1977 and whose operations fall within one or more of 26 specifically listed source categories. 40 CFR 51.301. California assumed that any source meeting the emission criteria which fell into the 26 listed source categories was BART-eligible unless there was adequate documentation to verify that the source was not put into place during the time period defined in the RHR. This analysis yielded a list of 28 sources, found in Table 5–2 of the plan.<sup>19</sup> Three of the sources identified in this table were determined to have shut down: The BART-eligible units at the TXI Cement plant in Oro Grande;<sup>20</sup> the Spreckels Sugar plant in Mendota;<sup>21</sup> and, the Mirant electric generating station in San Francisco.<sup>22</sup> These sources have shutdown and/or decommissioned their BART eligible sources and so were eliminated from further review by ARB.<sup>23</sup>

2. Sources Not Contributing to Visibility Impairment

The second phase of the BART determination process is to identify those BART-eligible sources that may reasonably be anticipated to cause or contribute to visibility impairment at any Class I area and are, therefore, subject to BART. As explained above, EPA has issued guidelines that provide states with guidance for addressing the BART requirements. 40 CFR Part 51 Appendix Y; see also, 70 FR 39104 (July 6, 2005). The BART Guidelines describe how states may consider exempting some BART-eligible sources from further BART review based on dispersion modeling showing that the sources contribute below a certain threshold amount. Generally, states may not establish a contribution threshold that exceeds 0.5 deciview impact. 70 FR 39161 (July 6, 2005).

California established a threshold of 0.5 deciview. With this threshold, any source with an impact of greater than 0.5 deciview in any Class I area would be subject to a BART analysis and, if appropriate, BART emissions limitations.

California did not provide an explanation for selecting the 0.5 deciview threshold for determining whether a BART source may be reasonably anticipated to cause or contribute to any visibility impairment in a Class I area. Based on EPA's review of the BART-eligible sources in California, however, EPA is proposing to find that a 0.5 dv threshold is appropriate, given the specific facts in California.

EPA's BART Guidelines recommend that states "consider the number of BART sources affecting the Class I areas at issue and the magnitude of the individual sources' impacts." 70 FR 39104, 39161. The BART Guidelines also state, "In general, a larger number of BART sources causing impacts in a Class I area may warrant a lower contribution threshold." *Id.* An email from Christine M. Suarez-Murias, California Air Resources Board to Greg Nudd, USEPA, dated February 11, 2011 (Suarez-Murias email) included an attachment with details about the Class I areas nearest to BART sources for those BART sources that either showed an impact less than 0.5 deciview, or were consistent with EPA's model plant analysis. Modeling for the sources in the Regional Clean Air Incentives Market (RECLAIM) program in the South Coast Air Quality Management District (SCAQMD) showed that their collective impact would be well below the 0.5 deciview threshold, therefore further documentation regarding the Class I areas is not necessary. Table 5 shows these details from the Suarez-Murias e-mail.

TABLE 5—CLASS I AREAS IMPACTED BY BART-ELIGIBLE SOURCES BELOW THE 0.5 DECIVIEW (dv) THRESHOLD

Source	Model result	Emission rate [tpy]	Distance [km]	Nearest class I area
Searles Industrial .....	0.208 dv .....	*~1900	70	Dome Lands WA.
Big West Refineries .....	Model plant ...	313	80	Dome Lands WA.
Chevron Richmond Refinery .....	0.393 dv .....	*~1900	30	Pt. Reyes NS.
Conoco Phillips Refinery Rodeo .....	0.366 dv .....	*~2200	40	Pt. Reyes NS.
Tesoro Refinery Martinez .....	0.069 dv .....	*~500	50	Pt. Reyes NS.
Rhodia Sulfuric Acid Plant (Martinez) .....	0.092 dv .....	~700	50	Pt. Reyes NS.
Shell Refinery Martinez .....	0.169 dv .....	*~1100	50	Pt. Reyes NS.
Valero Refinery Benicia .....	0.291 dv .....	*~7700	50	Pt. Reyes NS.

<sup>18</sup> The set of "major stationary sources" potentially subject to BART is listed in CAA section 169A(g)(7).

<sup>19</sup> The final version of this table may be found in the technical supplement to the SIP submitted on June 9, 2010.

<sup>20</sup> June 2010 supplement, August 4, 2009 letter from Alan J. De Salvo, Mojave Desert Air Quality Management District to Karen Magliano, California Air Resources Board with attachment.

<sup>21</sup> *Ibid.*

<sup>22</sup> See California Energy Commission San Francisco Electric Reliability Project Power Plant

Licensing Case Docket Number 04–AFC–1. (<http://www.energy.ca.gov/sitingcases/sanfrancisco/index.html>)

<sup>23</sup> See Revised Table 5–2 (March 2010 version) in attachments to June 2010 supplement.

TABLE 5—CLASS I AREAS IMPACTED BY BART-ELIGIBLE SOURCES BELOW THE 0.5 DECIVIEW (DV) THRESHOLD—Continued

Source	Model result	Emission rate [tpy]	Distance [km]	Nearest class I area
Mirant Pittsburg .....	Model plant ...	559	74	Pt. Reyes NS.
Mirant Antioch .....	Model plant ...	277	79	Pt. Reyes NS.
Rhodia Sulfuric Acid Plant Ventura .....	Model plant ...	314	48	San Gabriel WA.
So Cal Gas .....	Model plant ...	212	52	San Gabriel WA.
Coolwater Reliant Dagget .....	0.489 dv .....	*~3100	70	San Geronio WA.
Reliant .....	Model plant ...	659	70	San Rafael WA.
JR Simplot Lathrop .....	Model plant ...	600	101	Yosemite NP.

\* Annual emissions of NO<sub>x</sub> and SO<sub>2</sub> estimated by rounding up from 24-hr max emissions used in modeling, multiplied by 365 days.

Table 5 shows that there are three Class I areas affected by multiple BART-eligible sources that California has determined are not subject to BART: Dome Lands WA, San Gabriel WA, and Point Reyes NS. The Dome Lands WA is impacted by two BART-eligible sources. The Searles Industrial source was modeled to have a 0.208 deciview effect, which is well below the 0.5 deciview threshold. The Big West Refineries plant is well within the parameters of the EPA model plant. Furthermore, since it has a lower emission rate than Searles Industrial and is further from the Dome Lands Class I area, it is reasonable to assume that Big West Refineries maximum contribution to visibility impairment is also well below the 0.5 deciview threshold. The San Gabriel WA is also affected by two BART-eligible sources. Each source is well below the EPA model plant parameters and both are unlikely to have a significant effect on visibility at that Class I area.

The Point Reyes NS is affected by several BART-eligible sources that California has determined are not subject to BART. California's analysis, however, supports its claim that these sources are not causing visibility impairment at Point Reyes NS. Appendix B to the CRHP shows that

visibility impairment on the worst 20 percent of days at Point Reyes NS is caused primarily by nitrate (39.59%), sea salt (21.86%) and sulfate (14.54%). (CRHP, page B-105) Sea salt is clearly non-anthropogenic. According to the WRAP source apportionment study relied upon for the CRHP, nitrate extinction on the worst 20 percent of days is overwhelmingly from mobile sources of NO<sub>x</sub>, not stationary sources. (CRHP, page B-108) The sulfate on the worst 20 percent of days at Point Reyes NS is primarily from SO<sub>2</sub> emitted from offshore sources and wildfires in Oregon during the 2000-2004 base year period, and the base year period contribution from California stationary sources is relatively small. Moreover, the stationary source contribution occurred during the baseline period, which was before the Valero Refinery in Benicia was required to achieve significant SO<sub>2</sub> reductions as a result of an EPA-negotiated consent decree. (CRHP, Page 5-24) In conclusion, based on the factors discussed above, the EPA finds the 0.5 deciview threshold to be appropriate for California.

The BART Guidelines allow using model plants to determine which BART eligible sources are not reasonably expected to cause or contribute to visibility impairment. That is, one can

evaluate the visibility impacts of an example facility and apply those results to similar facilities. Based on EPA's model plant analysis, we believe that a state that has established 0.5 deciview as a contribution threshold could reasonably exempt from the BART review process sources that emit less than 500 tons per year of NO<sub>x</sub> or SO<sub>2</sub> (or combined NO<sub>x</sub> and SO<sub>2</sub>), as long as these sources are located more than 50 kilometers from any Class I area; and sources that emit less than 1000 tons per year of NO<sub>x</sub> or SO<sub>2</sub> (or combined NO<sub>x</sub> and SO<sub>2</sub>) that are located more than 100 kilometers from any Class I area. If a state has BART eligible sources that fall within these parameters, then it is reasonable to assume that these sources do not cause or contribute to visibility impairment at Class I areas; therefore, they are not subject to BART controls.

California evaluated its remaining BART eligible sources and determined that only three sources were subject to BART. The other sources demonstrated that, considering their emissions and distance to the nearest Class I area, they were not causing or contributing to visibility impairment at Class I areas. The results of this analysis are shown in Table 6.

TABLE 6—RESULTS OF SUBJECT TO BART ANALYSIS IN CALIFORNIA

BART eligible source	Analysis results deciview (dv)
Tesoro Refinery Martinez .....	0.069 dv.
Rhodia Sulfuric Acid Plant Martinez .....	0.092 dv.
Shell Refinery Martinez .....	0.169 dv.
Searles Industrial .....	0.208 dv.
Valero Refinery Benicia .....	0.291 dv.
Conoco Phillips Refinery Rodeo .....	0.366 dv.
Chevron Richmond Refinery .....	0.393 dv.
Coolwater Reliant Dagget .....	0.489 dv.
BP Refinery (Carson) .....	SCAQMD modeling <0.244 dv.
California Portland Cement .....	SCAQMD modeling <0.244 dv.
Chevron Refinery (El Segundo) .....	SCAQMD modeling <0.244 dv.
Conoco Refinery (Carson) .....	SCAQMD modeling <0.244 dv.
Conoco Refinery (Wilmington) .....	SCAQMD modeling <0.244 dv.
Exxon Refinery (Torrance) .....	SCAQMD modeling <0.244 dv.
Tesoro Refinery (Wilmington) .....	SCAQMD modeling <0.244 dv.
Ultramar Refinery .....	SCAQMD modeling <0.244 dv.

TABLE 6—RESULTS OF SUBJECT TO BART ANALYSIS IN CALIFORNIA—Continued

BART eligible source	Analysis results deciview (dv)
Big West Refineries .....	Comparable to EPA model plant.
JR Simplot Lathrop .....	Comparable to EPA model plant.
Mirant Power Plant (Antioch) .....	Comparable to EPA model plant.
Mirant Power Plant (Pittsburg) .....	Comparable to EPA model plant.
Reliant Ventura County .....	Comparable to EPA model plant.
Rhodia Sulfuric Acid Plant (South Coast) .....	Comparable to EPA model plant.
So Cal Gas .....	Comparable to EPA model plant.
Cabrillo Encina Plant .....	Subject to BART.
Duke Energy South Bay .....	Subject to BART.
Dynegy Moss Landing .....	Subject to BART.

Source: e-mail from Christine M. Suarez-Murias, California Air Resources Board to Greg Nudd, USEPA, dated February 11, 2011.

The air control districts with authority over these sources modeled the visibility impacts of the first eight sources on Table 5 using CalPUFF (Tesoro Refinery Martinez through Coolwater Reliant Dagget). These sources were modeled individually and the results indicated that they do not cause or contribute to visibility impairment at Class I areas. The next nine sources were modeled collectively

by the SCAQMD. All of these sources are part of the RECLAIM emissions cap and trade system in the SCAQMD. The SCAQMD modeled all of the sources in RECLAIM (including these nine sources) and demonstrated that the entire universe of sources in RECLAIM has an aggregate impact of less than a 0.244 deciview on Class I areas. Therefore, each individual source must have a less than 0.244 deciview impact

on visibility at Class I areas, meaning none of them cause or contribute to visibility impairment at these protected areas. The EPA evaluated the modeling analyses conducted by all the districts and found them to be valid and technically correct.<sup>24</sup> (See BART TSD.)

The next seven sources used the EPA model plant analysis described previously in this section. The details on these sources are shown in Table 7.

TABLE 7—CALIFORNIA BART SOURCES MEETING THE EPA MODEL PLANT REQUIREMENTS

Source	Emissions (tons per year)	Distance (kilometers)	Class I area affected
Big West Refineries .....	313	80	Domelands WA.
JR Simplot Lathrop .....	600	101	Yosemite NP.
Mirant Power Plant Antioch .....	277	79	Pt. Reyes NS.
Mirant Power Plant Pittsburg .....	559	74	Pt. Reyes NS.
Reliant Ventura County .....	659	70	San Rafael WA.
Rhodia Sulfuric Acid Plant (South Coast) .....	314	48	San Gabriel WA.
So Cal Gas .....	212	52	San Gabriel WA.

Source: e-mail from Christine M. Suarez-Murias, California Air Resources Board to Greg Nudd, USEPA, dated February 11, 2011.

EPA’s model plant analysis indicated that a source emitting less than 500 tons per year (tpy) of combined NO<sub>x</sub> and SO<sub>x</sub> would not contribute to visibility impairment if it were located more than 50 kilometers from the nearest Class I area. Four of the sources in Table 6 emit less than 500 tpy and three of them are more than 50 kilometers away from the nearest Class I area. The Rhodia Sulfuric Acid Plant is 48 kilometers from the San Gabriel Wilderness Area. However, since its emission rate is well below 500 tons per year, this source is also consistent with the model plant analysis. The EPA model plant analysis also indicated that sources that emit less than 1000 tons per year do not contribute to visibility impairment if they are located more than 100 kilometers away from the nearest Class I area. Three of the sources in Table 6

exceed 500 tpy but emit less than 1000 tpy. The JR Simplot Lathrop source is over 100 kilometers from the nearest Class I area and so is consistent with the model plant. The Mirant Power Plant in Pittsburg and the Reliant Plant in Ventura County are somewhat less than 100 kilometers from their respective Class I areas; however, their emissions are significantly less than 1000 tpy. For these reasons, we propose to find that these are also consistent with the EPA model plant analysis.

3. Sources Already Controlled to BART

The remaining BART eligible sources, Cabrillo Encina Plant, Duke Energy (South Bay), and Dynegy Moss Landing are subject to BART. These plants are all natural gas burning electric generating units. Since these sources burn natural gas, their SO<sub>x</sub> emissions are not significant with respect to visibility.

NO<sub>x</sub> emissions are the primary concern, considering visibility impairment. Each of these sources already control NO<sub>x</sub> emissions with selective catalytic reduction (SCR) technology. This technology is recognized as the Best Available Control Technology for natural gas burning electric generating units and is required on most new sources of this type. As such, SCR represents BART for these sources.

To conclude, California evaluated the required universe of sources for applicability of BART controls using the criteria in the RHR and the BART Guidance. The state found that three sources were eligible for the application of BART controls: Cabrillo Encina Plant, Duke Energy (South Bay), and Dynegy Moss Landing. After a review of the control technologies in use at these BART eligible plants, California found that BART level controls were already

<sup>24</sup> For our detailed review and discussion, please see “Technical Support Document for USEPA’s

Review of the California Regional Haze Plan’s Modeling for the Best Available Retrofit Technology

(BART) Evaluation”, Prepared by USEPA Region 9, March 4, 2011 (BART TSD).

in place at the sources with a potential to impair visibility at Class I areas. We propose to find that California has conducted a BART evaluation consistent with the requirement in 40 CFR 51.308(e).

*F. Visibility Projections for 2018 and the Reasonable Progress Goals*

The RHR requires states to establish a goal, expressed in deciviews, for each Class I area within the state that provides for reasonable progress toward achieving natural visibility conditions by 2064. The RPG must improve visibility for the most impaired days,

and ensure no degradation in visibility for the least impaired days over the period of the SIP.

The RPGs for the CRHP show visibility improvement by 2018 for both “worst 20 percent of days” and “best 20 percent of days” in all Class I areas when compared to the baseline “worst” and “best” days. See Table 8.

TABLE 8—BASELINE VERSUS 2018 VISIBILITY CONDITIONS FOR CALIFORNIA CLASS I AREAS

[Grouped by respective IMPROVE monitor and reported in deciviews]

Class I area (NP = National Park, WA = Wilderness Area, NM = National Monument, NS = National Seashore)	2000–04 Baseline worst haze days	2018 Estimated worst haze days (RPG)	2018 URP estimate	2000–04 Baseline best haze days	2018 Estimated best haze days
	(A)	(B)	(C)	(D)	(E)
Marble Mountain WA, Yolla Bolly Middle Eel WA (TRIN monitor) .....	17.4	16.4	15.2	3.4	3.2
Lava Beds NM, South Warner WA (LABE monitor) .....	15.1	14.4	13.4	3.2	3.0
Lassen Volcanic NP, Caribou WA, Thousand Lakes WA ... (LAVO monitor) .....	14.2	13.3	12.6	2.7	2.5
Desolation WA, Mokelumne WA (BLIS monitor) .....	12.6	12.3	11.1	2.5	2.5
Hoover WA (HOOV monitor) .....	12.9	12.5	11.7	1.4	1.3
Yosemite NP, Emigrant WA (YOSE monitor) .....	17.6	16.7	15.3	3.4	3.2
Ansel Adams WA, Kaiser WA, John Muir WA (KAIS monitor) .....	15.5	14.9	13.6	2.3	2.1
Sequoia NP, Kings Canyon NP (SEQU monitor) .....	25.4	22.7	21.2	8.8	8.1
Dome Lands WA (DOME monitor) .....	19.4	18.1	16.6	5.1	4.7
Redwood NP (REDW monitor) .....	18.5	17.8	17.4	6.1	5.8
Point Reyes NS (PORE monitor) .....	22.8	21.3	21.2	10.5	10.1
Pinnacles NM, Ventana WA (PINN monitor) .....	18.5	16.7	16.0	8.9	8.1
San Rafael WA (RAFA monitor) .....	18.8	17.3	16.2	6.4	5.8
San Gabriel WA, Cucamonga WA (SAGA monitor) .....	19.9	17.4	16.9	4.1	4.8
San Geronio WA, San Jacinto WA (SAGO monitor) .....	22.2	19.9	18.7	5.4	5.0
Agua Tibia WA (AGTI monitor) .....	23.5	21.6	19.8	9.6	8.9
Joshua Tree NP (JOSH monitor) .....	19.6	17.9	16.7	6.1	5.7

Sources: Table 6–1, page 6–10; and Table 7–2, page 7–10, CRHP.

Also, as required by the RHR, California estimated the time each Class I area would take to reach natural conditions under the RPG rate of visibility improvement (see Table 1, column E). While some of the time estimates are close to the 2064 natural conditions goal, none of the estimates show that natural conditions will be achieved by 2064 in California’s Class I areas.

1. Establishing the Reasonable Progress Goals

Because California’s RPG estimates provide for a rate of improvement in visibility slower than the rate needed to show attainment of natural conditions by 2064, the RHR requires the state to demonstrate why its RPGs are reasonable and why a rate of progress leading to attainment by 2064 is not reasonable.<sup>25</sup> 40 CFR 51.308(d)(1)(ii).

<sup>25</sup> The RHR also requires that the state provide to the public an assessment of the number of years it will take to reach natural visibility conditions. 40 CFR 51.308(d)(1)(ii). California’s estimates were noticed to the public during the public review and

The RHR specifies that RPGs, as well as the demonstration of the reasonableness of attainment beyond 2064, are to be evaluated through the use of four factors: Costs of compliance; time necessary for compliance; energy and, non-air quality environmental impacts of compliance; and remaining useful life of any potentially affected sources. 40 CFR 51.308(d)(1)(i)(A); 51.308(d)(1)(ii). As explained below, we believe the CRHP demonstrates these four factors and that the RPGs in the plan are reasonable.

California’s RPGs are projected visibility levels based on atmospheric modeling performed by the WRAP. The WRAP modeling was based, in part, on California’s 2018 emissions projections derived from the emissions reductions described in California’s 2018 Progress Strategy. California’s 2018 Progress Strategy is based on the identification of the major drivers of haze on worst days, as well as the sources of these pollutants

comment process prior to ARB’s adoption of the CRHP.

and their precursors. In particular, the 2018 Progress Strategy predicts significant reductions in the nitrate component of haze from NO<sub>x</sub> emission reductions achieved by California’s mobile source control programs. Weighted emissions, or back trajectory analyses, along with predictive modeling show that substantial reductions in nitrate, roughly 50 percent at every Class I area, can be achieved through mobile source NO<sub>x</sub> emission reductions in the 2018 Progress Strategy. (CRHP, page 7–3)

The analysis of the sources of haze from section 4.7 of CRHP shows that the primary anthropogenic source of haze within California is NO<sub>x</sub> emissions. Therefore, the largest impact California can make to improve visibility is by reducing anthropogenic sources of the NO<sub>x</sub> emissions that lead to the formation of nitrates, especially, NO<sub>x</sub> from mobile sources. According to ARB’s 2018 emissions inventory, California will have reduced NO<sub>x</sub> emissions by 47 percent compared to 2002, with the majority of those

emission reductions coming from mobile sources. The 2018 emissions inventory also shows that reductions in mobile source SO<sub>x</sub> emissions will offset increases in other source categories. (See Table 2) In addition, the 2018 emissions inventory predicts reductions in organic carbon PM and mobile source elemental carbon PM emissions.

TABLE 9—PERCENTAGE CHANGE IN ANTHROPOGENIC EMISSIONS INVENTORY FROM 2002 TO 2018

Pollutant	2002 Anthropogenic emissions inventory (tpy)	2018 Anthropogenic emissions inventory (tpy)	Percentage change
NO <sub>x</sub> .....	1,127,359	592,688	- 47
SO <sub>2</sub> .....	62,954	63,566	1
VOC .....	908,151	882,313	- 3
NH <sub>3</sub> .....	225,157	223,916	- 1
PM Coarse .....	279,149	311,518	12
Fine PM OC .....	64,492	56,307	- 13
Fine PM EC .....	28,397	18,927	- 33
Other PM Fine .....	67,667	69,262	2

California also evaluated all source categories that could reasonably be expected to contribute to visibility impairment at Class I areas.<sup>26</sup> This analysis considered, for each sub-region, the species contributing to haze and the source categories responsible for anthropogenic emissions of precursors to those species. For example, in the Sierra Nevada mountain range, nitrate pollution accounts for 17 percent of light extinction on the most impaired days of the baseline period. Because nitrate is the predominant anthropogenic pollutant in this area and most of the emissions are from within the state, California examined the anthropogenic sources of NO<sub>x</sub> in that area. A PSAT analysis indicated that 76 percent of those emissions were from mobile sources. California also considered SO<sub>2</sub> emissions, which comprise 14 percent of light extinction on the most impaired days; 45 percent of these emissions were shown by PSAT to be from outside the modeling domain while 22 percent were from within California. California examined these sources and demonstrated that they were already reasonably controlled. (CRHP, Chapter 4, Section 4.7)

In addition, through the state's efforts to attain and maintain the Federal and State health-based air quality standards, the state asserts that every reasonable measure is included in the state's 2018 Progress Strategy underlying the RPGs for Class I areas.

EPA also notes that there is a degree of uncertainty, due to wildfires and biogenic emissions, in the values representing baseline and natural conditions.

Furthermore, as explained in the EPA's RPG Guidance, the 2018 URP estimate is not a presumptive target, and

RPGs may be greater, lesser, or equivalent to the glide path. The glide path to 2064 represents a rate of progress which states are to use for analytical comparison to the amount of progress they expect to achieve. Given the strenuous efforts needed in California to achieve the emission reductions described in Tables 2 and 9, the resulting 2018 RPGs, and the constraints and uncertainties described above, we believe it would be unreasonable to require the CRHP to meet the 2018 URP estimates.

Consequently, we propose to find that the state has demonstrated that its 2018 RPGs are reasonable and consistent with the requirements of 40 CFR 51.308(d)(1) and 51.308(d)(1)(ii).

2. Interstate Consultation

The CRHP, along with its RPGs, is the result of California's continuous consultation with thirteen other western states through regular meetings of the WRAP Working Groups and Forums, via conference calls, face-to-face meetings, and workshops over the timeframe of several years. Through the WRAP consultative process, California resolved technical tasks and policy decisions related to monitoring, emissions, fire tracking, application of BART, source attribution, modeling, and control measure issues. Emissions from other western US states are not expected to affect California significantly, except for smoke from large wildfires.

Furthermore, there were no comments on the CRHP from neighboring states regarding the plan's baseline visibility estimates, 2018 visibility projections, RPGs, or 2018 Progress Strategy.

G. Long-Term Strategy

The RHR requires California to submit a long-term strategy addressing regional haze visibility impairment for the Class I areas affected by the emissions from

the state. California's 2018 Progress Strategy reflects the measures that were included in the 2002 and 2018 emission inventories and WRAP analyses that produced California's reasonable progress goals. The RHR requires that a state's strategy consider emission reductions from on-going control programs, construction activity mitigation, source retirement and replacement, and smoke management techniques. Due to California's severe air quality problems, the state has emissions control programs that address these RHR considerations.

California's 2018 Progress Strategy (Chapter 4 of the CRHP) includes Federal, State and local control measures. As reflected in the 2018 emissions inventory, these control measures address the main anthropogenic constituents of California's visibility problem: NO<sub>x</sub>, SO<sub>x</sub>, and directly emitted particulate matter emissions. As the RPGs in Table 8 suggest, the measures in the 2018 Progress Strategy will improve visibility in all California Class I areas. Also, implementation of the 2018 Progress Strategy is expected to minimize California's existing very small contribution to visibility impairment in downwind states. The CRHP describes ongoing state and local emission control measures, as summarized below.

1. Ongoing Air Pollution Control Programs

Air pollution control programs in California are divided among the state, multi-county air districts, and county level air quality control agencies. Among state agencies, ARB is responsible for regulating mobile sources emissions (except where preempted by Federal law) and consumer products, developing fuel specifications, establishing gasoline vapor recovery standards and certifying

<sup>26</sup> Please see CRHP Chapter 4, Section 4.7, Regional Analysis of Source Categories.

vapor recovery systems. Local air districts have primary responsibility for regulating stationary and area wide sources.

#### a. Mobile Source Programs

California's regulation of mobile source emissions covers new vehicle emissions standards, low polluting fuel formulations, and off-road sources such as lawn and garden equipment, recreational vehicles and boats, and construction equipment. With the implementation of the 2018 Control Strategy, the state predicts that reductions from mobile sources will occur as the result of several regulatory efforts.

For example, according to the CRHP, California's 2008 low-emission vehicle standards and reformulated gasoline reduced VOC emissions to less than 50 pounds per 100,000 miles traveled, and predicted reductions for the 2010 model year to be approximately 10 pounds per 100,000 miles. California also points out that mobile source organic carbon emissions are reduced beyond what is required under national regulations. (CRHP, page 4–2 to 4–3)

ARB's efforts with EPA to regulate large diesel, gasoline and liquid petroleum gas equipment will result in new large off-road equipment that will be 98 percent cleaner. These regulations will reduce both NO<sub>x</sub> and elemental carbon emissions. (CRHP, page 4–4)

In addition, ARB has worked with EPA to reduce emissions from goods movement sources. For example, the CRHP estimates that low-sulfur fuel requirements will reduce SO<sub>x</sub> emissions from ship auxiliary engines by 96 percent and new locomotive engines by 50–60 percent. (CRHP, Table 4–1 and discussion, page 4–4)

ARB plans to reduce emissions from smaller engines, such as lawn and garden equipment, recreational vehicles, and boats, achieving 82–90 percent fewer NO<sub>x</sub> emissions than uncontrolled units. (CRHP, Table 4–1, and discussion, page 4–4)

The CRHP describes California's efforts to reduce diesel PM emissions since 2000, when California began implementing its Diesel Risk Reduction Plan, aimed at reducing diesel PM emissions by 85 percent by 2020. Through engine retrofits and replacements, ARB predicts these control measures will reduce NO<sub>x</sub> emissions as well as diesel PM emissions. (CHRP, Section 4.2.3, page 4–6) The CRHP states that this program has already provided visibility benefits as shown by elemental carbon trends at IMPROVE monitors. In 2013 and 2018, the state predicts more visibility

improvement as related rules adopted during the 2000–2004 baseline period continue their implementation. (CRHP, page 7–4)

#### b. Stationary and Area Source Regulations by Local Air Agencies

California's thirty-five local air districts and air quality control agencies are primarily responsible for regulating emissions from stationary and area-wide sources through rules and permitting programs. For example, air district regulated sources include industrial sources like factories, refineries, and power plants; commercial sources like gas stations, dry cleaners, and paint spray booth operations; residential sources like fireplaces, water heaters, and house paints; and miscellaneous non-mobile sources like emergency generators. Air districts also inspect and test fuel vapor recovery systems to check that such systems are operating as certified.<sup>27</sup>

#### 2. Construction Activities

Many air districts have adopted stringent rules to control fugitive dust emissions from construction activities. These rules include the following examples: San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation 8—Fugitive PM–10 Prohibitions, adopted in 2004 (71 FR 8461, (February 17, 2006)); and, SCAQMD Rule 403—Fugitive Dust (73 FR 12639, (March 10, 2008)).

In July 2007, ARB adopted a regulation designed to reduce diesel and NO<sub>x</sub> emissions from the state's estimated 180,000 off-road vehicles used in construction, mining, airport ground support and other industries. These regulations were not adopted in time to be considered by the WRAP and the state when producing the RPGs; however, ARB estimates that by 2020 “particulate matter will be reduced by 74 percent and NO<sub>x</sub> will be reduced by 32 percent compared to current levels.” (CRHP, page 4–11)

#### 3. Source Retirement and Replacement Schedules

ARB reports that older and high polluting sources produce the majority of mobile source emissions; as a result, California has directed its source retirement strategy towards mobile sources. California has pursued the

retirement of engines using incentive funding programs together with in-use regulations. For example, using the Carl Moyer Program, the state has invested up to \$170 million annually to clean up as many as 7,500 older, higher-emitting engines, thereby reducing NO<sub>x</sub> emissions by as much as 24 tons per day. (CRHP, pages 4–11 to 4–12)

#### 4. Smoke Management Programs

California's “Smoke Management Guidelines for Agricultural and Prescribed Burning (SMG)” is the basis for the state's Smoke Management Program. Together, the ARB and the local air pollution control districts implement the SMG. ARB oversees the program and makes daily burn/no burn day decisions for each of the air basins in the state. In turn, air districts have adopted comprehensive smoke management programs and regulations to implement and enforce the SMG. These smoke management programs contain requirements for agricultural and prescribed burns permits; daily burn authorizations; annual reporting; registration and smoke management plans for prescribed burns.<sup>28</sup> According to the CRHP, smoke management plans must specifically consider Class I Areas as sensitive receptors. (CRHP, pages 4–12 and 4–13)

#### 5. Enforceability of Measures in the Long-Term Strategy

The RHR requires that the state's long-term strategy include enforceable measures necessary to achieve the reasonable progress goals at every Class I area (inside and outside the state) affected by emissions from that state. 40 CFR 51.308(d)(3). California's RPGs are based on the region-wide inventory developed by the WRAP states that included data for California sources. The emissions inventory from California was based on rules adopted through 2004. (CRHP, page 3–1)

Table 2 of this notice shows changes in emissions by pollutant and source category between 2002 and 2018. The pollutants of concern for visibility impairment are NO<sub>x</sub>, SO<sub>2</sub>, and VOC (as organic carbon precursor). A review of Table 2 indicates that moderate increases of SO<sub>2</sub> and VOC from

<sup>27</sup> For a complete listing of local California air district rules within the federally enforceable SIP, please see our online database at <http://www.epa.gov/region9/air/sips/index.html>. This database is organized first by state and then local agency. The rules are listed by number, title, adoption date, and the date the rule was approved into the SIP.

<sup>28</sup> Examples of local air district rules implementing the SMG are as follows: Sacramento Metropolitan Air Pollution Control District Rule 501—Agricultural Burning (49 FR 47490 (December 5, 1984)); adopted in 1992 and amended since, SJVAPCD Rule 4103—Open Burning (74 FR 57907 (November 10, 2009)); SJVAPCD Rule 4106—Prescribed Burning and Hazard Reduction (67 FR 8894 (February 27, 2002)); and, Northern Sierra Air Quality Management District Regulation 3—Open Burning (62 FR 48480 (September 16, 1997) and 64 FR 45170 (August 19, 1999)).



stationary and area sources are offset by significant reductions in emissions from mobile sources. Table 2 also shows that the reductions in NO<sub>x</sub> statewide are attributable to a decrease in emissions from mobile sources of over 530,000 tons per year. Therefore, the enforceability of mobile source measures is a critical consideration when evaluating the measures necessary to achieve the reasonable progress goals.

California's mobile source measures fall within two categories: Measures for which the state has obtained or has applied to obtain a waiver of federal pre-emption under CAA section 209 (section 209 waiver measure or waiver measure) and those for which the state is not required to obtain a waiver (non-waiver measures).

EPA's position on the creditability of California's mobile source control measures in SIP attainment demonstrations has been addressed in previous actions. See EPA's proposed approval and final approval of the SJV 1-Hour Ozone Plan at 74 FR 33933, 33938, (July 14, 2009) and 75 FR 10420, 10424 (March 8, 2010).

EPA recently evaluated California mobile source measures as part of our November 10, 2010 proposed action on the San Joaquin Valley 2008 PM<sub>2.5</sub> plan and the San Joaquin Valley portions of the revised 2007 state strategy. See, e.g., 75 FR 74517 (Nov. 10, 2010). In taking this action, we described how EPA had either approved California's mobile source rules into the SIP, or granted a waiver of federal pre-emption under CAA section 209.

Based on this analysis, EPA proposes to find that the measures in the CRHP are sufficient to achieve the reasonable progress goals, as required by 40 CFR 51.308(d)(3).

To conclude, California has submitted a long-term strategy addressing visibility impairment due to regional haze within Class I areas, both inside and outside of the state. Through participation in the WRAP, California consulted with neighboring states and coordinated its 2018 Progress Strategy, as well as developed and documented the technical basis for the 2018 Progress Strategy. Within the 2018 Progress Strategy, the state has considered and addressed measures to mitigate the impacts of construction activities, source retirement and replacement schedules, and smoke management for agricultural and forestry practices. The state has estimated the 2002 base year and 2018 anthropogenic and natural source emissions inventory and the emission reductions resulting from the 2018 Progress Strategy's control measures. Consequently, we propose to

find that California has met the requirements of 40 CFR 51.308(d)(3).

#### *H. Monitoring Strategy*

According to the CRHP, California intends to rely on the IMPROVE monitoring program to collect and report data for reasonable progress tracking for all Class I Areas in the state. Because the RHR requires a long-term tracking program over a 60-year implementation period, the CRHP states that California expects the configuration of the monitors, sampling site locations, laboratory analysis methods and data quality assurance, and network operation protocols will not change; or, if they are changed, any future IMPROVE program will remain comparable to the one operating during the 2000–2004 RHR baseline period. Through 2018, the CRHP does not specify any additional monitors beyond the existing IMPROVE network. Also, California will continue to meet the requirement to coordinate its CRHP monitoring with its monitoring for RAVI by participating in the IMPROVE monitoring network. Finally, California plans to use data reported by the IMPROVE program as part of the regional technical support analysis tools found at the Visibility Information Exchange Web System (VIEWS), as well as other analysis tools and efforts sponsored by the WRAP. (CRHP, page 9–1)

To conclude, California has submitted a monitoring strategy for measuring, characterizing and reporting on regional haze visibility impairment in the state's Class I areas. The state will depend on the IMPROVE monitoring program to collect and report data for tracking reasonable progress, as specified in the RHR for all Class I areas in the state. The state will use data reported by the IMPROVE program and the regional analysis tools found at the VIEWS. Consequently, we propose to find that the state has met the requirements of 40 CFR 51.308(d)(4).

#### *I. Federal Land Manager Consultation and Coordination*

The RHR requires states to coordinate the development and implementation of their visibility protection programs with the Federal Land Managers (FLMs). In particular, states must provide FLMs an opportunity for consultation at least sixty days prior to holding any public hearing on the SIP. Consultation must include the opportunity for the FLMs to discuss their assessment of visibility impairment in any Class I areas, and offer recommendations on the development of RPGs and strategies to address visibility impairment. A state

must describe in its SIP how it addressed any comments provided by the FLMs and include procedures for continuing consultation between the state and FLMs on program implementation. In the future, FLMs must have the opportunity for consultation with the state on the development and review of plan revisions and five-year progress reports as well as on the implementation of other programs that might contribute to visibility impairment in Class I areas.

The CRHP states that California has provided a list of ARB contacts to the FLMs, as required by the RHR. In November 2006, ARB sponsored a "Regional Haze Teach-In," with participants from several federal agencies (the U.S. Forest Service, the National Park Service, the Bureau of Land Management, the U.S. Fish and Wildlife Service, the EPA), and interested air districts. ARB staff presented and discussed the state's proposed 2018 Progress Strategy and RPGs. (CRHP, page 8–5) Subsequently, an ARB/Federal Land Managers Regional Haze Steering Committee (Steering Committee) was formed. The participants conducted monthly conferences to review progress on regional haze planning and to obtain input from FLMs. California's RPGs were also discussed during these calls. (CRHP, page 8–5)

Prior to the January 22, 2009 ARB adoption hearing, ARB provided the FLMs with a draft of the CRHP and requested comment. ARB also provided a webcast workshop on December 15, 2008 to allow participation by federal land management agency field office staff in remote locations. (CRHP, page 8–6) Appendix F of the CRHP includes the FLMs' official comments, along with responses prepared by ARB.

The CRHP states that California will continue to coordinate and consult with the FLMs over the course of the implementation period. California intends to use three existing coordination mechanisms for this purpose: the Interagency Air and Smoke Council, the Air and Land Managers Group, and the WRAP. (CRHP, page 8–7)

To conclude, beginning in November 2006, California provided numerous and regular opportunities for FLM review of the CRHP as it was developed. Prior to ARB adoption of the CRHP on January 22, 2009, ARB provided a 60-day comment period for FLMs and a formal public comment period beginning December 5, 2008, and a video-conferencing forum to solicit FLM comment on the final draft CRHP. FLM comments and ARB responses were

included with the CRHP in Appendix F. In the future, the state will consult and coordinate regional haze activities with FLMs through three existing venues: The Interagency Air and Smoke Council, the Air and Land Managers Group, and the WRAP. Consequently, we propose to find that the state has met the FLM coordination and consultation requirements of 40 CFR 51.308(i).

#### *J. Periodic SIP Revisions and Five-Year Progress Reports*

The CRHP states that California will perform a mid-course review in 2013 to assess progress towards reaching the RPGs. California's mid-course review will consider post-2004 control measures that were not included in the 2018 Progress Strategy. The CRHP states that the mid-course review will also do the following: "Update natural conditions to reflect new information, if available; update the RPGs with latest WRAP modeling, if appropriate; re-evaluate the RPGs to determine if they should be adjusted to better reflect achievable improvements in visibility, as future control measures are adopted and implemented; compare the actual deciview calculations against progress towards reaching the RPGs and the uniform rate of progress; assess the impact at the monitors from BART-specific and post-2004 adopted and implemented measures; and, evaluate the adequacy of the existing CRHP elements." (CRHP, Section 9.3, page 9–2)

In 2018, California will revise the CRHP, following procedures for coordination with other western states and FLMs. California intends for the 2018 CRHP revision to include the following updates: "Current calculation methodologies for visibility; evaluation of the appropriateness of natural condition levels and updates, if appropriate; current visibility conditions for most impaired and least impaired days; progress towards natural conditions; effectiveness of California's 2018 Progress Strategy; affirmation or revision of reasonable progress goals; updated emission inventories; and, re-evaluation of the monitoring strategy." (CRHP, Section 9.4, pages 9–2 to 9–3)

To conclude, California has submitted a plan with commitments to provide a 2013 progress report evaluating the January 22, 2009 CRHP and RPGs, as well as a 2018 regional haze plan revision. Consequently, we propose to find that the state has met the requirements of 40 CFR 51.308(f) and (g).

#### **V. EPA's Analysis of How California's Regional Haze Plan Meets Interstate Transport Requirements**

Section 110(a)(2)(D)(i)(II) requires SIP revision to contain "adequate provisions \* \* \* prohibiting \* \* \* any source or other types of emission activity within the State from emitting any air pollutant in amounts which will \* \* \* interfere with measures required to be included in the applicable implementation plan for any other State \* \* \* to protect visibility." EPA is proposing to find that the SIP submitted by California to address regional haze contains adequate provisions to meet the "good neighbor" provisions of section 110(a)(2)(D)(i)(II) with respect to visibility.

As an initial matter, EPA notes that section 110(a)(2)(D)(i)(II) does not specify explicitly how EPA should ascertain whether a state's SIP contains adequate provisions to prevent emissions from sources in that state from interfering with measures required in another state to protect visibility. Thus, the statute is ambiguous on its face, and EPA must interpret this provision.

Our 2006 Guidance recommended that a state could meet the visibility prong of the transport requirements for section 110(a)(2)(D)(i)(II) by submitting a regional haze SIP, due in December 2007. EPA's reasoning was that the development of the regional haze SIPs was intended to occur in a collaborative environment among the states, and that through this process states would coordinate on emissions controls to protect visibility on an interstate basis. In fact, in developing their respective reasonable progress goals, WRAP states consulted with each other through the WRAP's work groups. As a result of this process, the common understanding was that each state would take action to achieve the emissions reductions relied upon by other states in their reasonable progress demonstrations under the RHR. This interpretation is consistent with the RHR requirement that a state participating in a regional planning process must include "all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process." 40 CFR 51.308(d)(3)(ii).

As discussed above in sections IV.F and IV.G of this proposed rule, as a WRAP member, California developed the 2018 Progress Strategy in consultation with 13 other WRAP states to address regional haze visibility impairment in Class I areas affected by California emissions. California also developed a set of emissions inventories reflecting the state's implementation of

a broad range of emission control measures included in the 2018 Progress Strategy. See sections IV.C and IV.G.5 above for a discussion of these emissions inventories and control measures. As part of the WRAP's regional consultative process, California provided the WRAP with these emissions inventories for the WRAP's regional 2018 future year modeling. The WRAP projected visibility levels for all Class I areas in California and neighboring states based on California's projected 2018 emissions inventories and the 2018 inventories supplied by other WRAP states. Each of the WRAP states then developed its regional haze plan using these visibility projections.

As a result, California's 2018 Progress Strategy and projected emissions inventories, including the control measures upon which they rely, were accounted for in the WRAP's apportionment of emission reduction obligations among the member states. Each of the WRAP states then developed their respective reasonable progress goals based upon an understanding that California's implementation of the emission control measures included in the 2018 Progress Strategy would achieve California's projected 2018 emissions inventory levels. Thus, the following elements of the CRHP ensure that emissions from California will not interfere with the reasonable progress goals for neighboring states' Class I areas: Chapter 3 (Emissions Inventory), chapter 4 (California 2018 Progress Strategy), and chapter 8 (Consultation). We propose to determine that these elements of the CRHP adequately address California's apportionment of emission reduction obligations agreed upon through the WRAP consultative process and, therefore, satisfy the requirement in CAA section 110(a)(2)(D)(i)(II) regarding measures required in other states to protect visibility for the 1997 8-hour ozone and PM<sub>2.5</sub> NAAQS.

#### **VI. EPA's Proposed Action**

Because EPA believes the California Regional Haze Plan fulfills all the relevant requirements of Section 169B and the Regional Haze Rule, we are proposing to fully approve the plan as described in section 110(k)(3) of the Act. In sum, we are proposing to find that California has met the following Regional Haze Rule requirements: The state has established baseline visibility conditions and reasonable progress goals for each of its Class I areas; the state has developed a long-term strategy with enforceable measures ensuring reasonable progress towards meeting the Reasonable Progress Goals for the first

ten-year planning period, through 2018; the state has addressed adequately the application of Best Available Retrofit Technology to specific stationary sources; the state has an adequate regional haze monitoring strategy; the state has provided for consultation and coordination with federal land managers in producing its regional haze plan; and, provided for the regional haze plan's future revisions.

In addition, we are proposing to approve California's 2007 Transport SIP and the following specific elements of the CRHP as satisfying the CAA Section 110(a)(2)(D)(i)(II) requirement to prohibit emissions that will interfere with measures to protect visibility in another state for the 1997 8-hour ozone and 1997 PM<sub>2.5</sub> NAAQS: Chapter 3 (Emissions Inventory), chapter 4 (California 2018 Progress Strategy), and, chapter 8 (Consultation).

## VII. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and

- Does not provide EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994). In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the State, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Visibility, Volatile organic compounds.

**Authority:** 42 U.S.C. 7401 *et seq.*

Dated: March 9, 2011.

**Jared Blumenfeld,**

*Regional Administrator, Region IX.*

[FR Doc. 2011-6003 Filed 3-14-11; 8:45 am]

**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R04-OAR-2010-0958-201104; FRL-9280-7]

### Approval and Promulgation of Implementation Plans; South Carolina: Prevention of Significant Deterioration and Nonattainment New Source Review; Fine Particulate Matter and Nitrogen Oxides as a Precursor to Ozone

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** EPA is proposing to approve a revision to the South Carolina State Implementation Plan (SIP), submitted by the State of South Carolina, through the South Carolina Department of Health and Environmental Control (SC DHEC), to EPA on December 2, 2010, for

parallel processing. The proposed SIP revision modifies South Carolina's New Source Review (NSR) Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) programs. The proposed revision makes two changes for which EPA is proposing approval in today's rulemaking. First, the revision incorporates NSR provisions for fine particulate matter (also known as PM<sub>2.5</sub>) as amended in EPA's 2008 NSR PM<sub>2.5</sub> Implementation Rule (hereafter referred to as the "NSR PM<sub>2.5</sub> Rule") into the South Carolina SIP. Second, the proposed revision addresses a PSD permitting requirement promulgated in the 1997 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) Implementation Rule NSR Update Phase II (hereafter referred to as the "Ozone Implementation NSR Update or Phase II Rule"). Both changes in the proposed SIP revision are necessary to comply with federal regulations related to South Carolina's NSR permitting program. EPA is proposing approval of the December 2, 2010, proposed SIP revision because the Agency has preliminarily determined that the revisions are in accordance with the Clean Air Act (CAA or Act) and EPA regulations regarding NSR permitting.

**DATES:** Comments must be received on or before April 14, 2011.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R04-OAR-2010-0958 by one of the following methods:

1. <http://www.regulations.gov>: Follow the on-line instructions for submitting comments.

2. *E-mail:* [benjamin.lynorae@epa.gov](mailto:benjamin.lynorae@epa.gov).

3. *Fax:* (404) 562-9019.

4. *Mail:* EPA-R04-OAR-2010-0958, Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, Georgia 30303-8960.

5. *Hand Delivery or Courier:* Ms. Lynorae Benjamin, Chief, Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, Georgia 30303-8960. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding Federal holidays.

*Instructions:* Direct your comments to Docket ID No. "EPA-R04-OAR-2010-0958." EPA's policy is that all comments