6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2017-0051; FRL-9970-71-Region 10]

Air Plan Approval; OR, Oakridge; $PM_{2.5}$ Moderate Plan, Finding of Attainment and Clean Data Determination

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to make a finding of attainment by the attainment date and a clean data determination (CDD) for the Oakridge-Westfir (Oakridge), Oregon fine particulate matter nonattainment area (Oakridge NAA). The finding is based upon quality-assured, quality-controlled, and certified ambient air monitoring data showing the area has monitored attainment of the 2006 24-hour fine particulate matter ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS) based on 2014-2016 data available in the EPA's Air Quality System (AQS) database. If finalized, this determination will not constitute a redesignation to attainment.

The EPA also proposes to approve revisions to Oregon's State Implementation Plan (SIP) consisting of the updated Oakridge-Westfir $PM_{2.5}$ Attainment Plan (Oakridge Update) submitted by the Oregon Department of Environmental Quality (ODEQ) on January 20, 2017. The purpose of the Oakridge Update, developed by Lane Regional Air Protection Agency (LRAPA) in coordination with the ODEQ, is to provide an attainment demonstration of the 2006 24-hour $PM_{2.5}$ NAAQS and correct deficiencies in the 2012 Oakridge Attainment Plan.

DATES: Comments must be received on or before **[insert date 30 days after date of publication in the Federal Register]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R10-OAR-2017-0051 at *https://www.regulations.gov*. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information the disclosure of which is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

FOR FURTHER INFORMATION CONTACT: Christi Duboiski, 206-753-9081, *duboiski.christi@epa.gov*.

SUPPLEMENTARY INFORMATION: Throughout this document, wherever "we", "us" or "our" is used, it is intended to refer to the EPA.

TABLE OF CONTENTS:

I. Background for the EPA's Proposed Action

A. Regulatory Background

On October 17, 2006, the EPA strengthened the 24-hour $PM_{2.5}$ NAAQS by lowering the level of the standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$ in order to provide increased protection of public health (40 CFR 50.13).[1] Epidemiological studies have shown statistically significant correlations between elevated $PM_{2.5}$ (particulate matter 2.5 micrometers in diameter and smaller) levels and premature mortality. Other important adverse health effects associated with elevated $PM_{2.5}$ exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), changes in lung function and increased respiratory symptoms. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease, and children (78 FR 3088, January 15, 2013). $PM_{2.5}$ can be emitted directly into the atmosphere as a solid or liquid particle (''primary $PM_{2.5}$'' or ''direct $PM_{2.5}$'') or can be formed in the atmosphere as a result of various chemical reactions

1 *See* 71 FR 61224 (October 17, 2006). The EPA set the first NAAQS for $PM_{2.5}$ on July 18, 1997 (62 FR 36852), including annual standards of 15.0 $\mu g/m^3$ based on a 3-year average of annual mean $PM_{2.5}$ concentrations and 24-hour (daily) standards of 65 $\mu g/m^3$ based on a 3-year average of 98th percentile 24-hour concentrations (40 CFR 50.7). Unless otherwise noted, all references to the $PM_{2.5}$ standard in this notice are to the 2006 24-hour standard of 35 $\mu g/m^3$ codified at 40 CFR 50.13.

among precursor pollutants such as nitrogen oxides, sulfur oxides, volatile organic compounds, and ammonia (''secondary $PM_{2.5}$'').[2]

Following promulgation of a new or revised NAAQS, the EPA is required by section 107(d)(1) of the CAA to designate areas throughout the United States as attainment, nonattainment, or unclassifiable for the NAAQS. Nonattainment areas include both areas that are violating the NAAQS, and nearby areas with emissions sources or activities that contribute to violations in those areas. States with areas designated nonattainment are required to prepare and submit a plan for attaining the NAAQS in the area as expeditiously as practicable.

The requirements for attainment plans for the 2006 24-hour $PM_{2.5}$ NAAQS include the general nonattainment area planning requirements in CAA section 172 of title I, part D, subpart 1 (subpart 1) and the additional planning requirements specific to particulate matter in CAA sections 188 and 189 of title I, part D, subpart 4 (subpart 4). The EPA has a longstanding general guidance document that interprets the 1990 amendments to the CAA, commonly referred to as the "General Preamble" (57 FR 13498, April 16, 1992). The General Preamble addresses the relationship between subpart 1 and subpart 4 requirements and provides recommendations to states for meeting statutory requirements for particulate matter nonattainment planning. Specifically, the General Preamble explains that requirements applicable to Moderate area nonattainment SIPs are set forth in subpart 4, but such SIPs must also meet the general nonattainment planning provisions in subpart 1, to the extent these provisions "are not otherwise subsumed by, or integrally related to," the more specific subpart 4 requirements (57 FR 13538). On August 16, 1994, the EPA promulgated an addendum to the General Preamble providing

2 *See* EPA, *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter* (EPA–452/R–12–005, December 2012), p. 2–1.

additional guidance for particulate matter nonattainment areas (59 FR 41988). Additionally, on August 24, 2016, the EPA issued a final rule, *Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements* ($PM_{2.5}$ SIP Requirements Rule) (81 FR 58009), to clarify our interpretations of the statutory requirements that apply to $PM_{2.5}$ nonattainment areas.

The requirements of subpart 1 for attainment plans include, among other things: (i) the section 172(c)(1) requirements to provide for the implementation of reasonably available control measures (RACM), including reasonably available control technology (RACT), and attainment of the NAAQS; (ii) the section 172(c)(2) requirement to demonstrate reasonable further progress (RFP); (iii) the section 172(c)(3) requirement for emissions inventories; and (iv) the section 172(c)(9) requirement for contingency measures.

The subpart 4 requirements for Moderate areas are generally comparable with the subpart 1 requirements and include: (i) section 189(a)(1)(B) requirements to demonstrate attainment by the outermost statutory Moderate area attainment date (*i.e.*, the end of the sixth calendar year following designation) or that attainment by such date is impracticable; (ii) section 189(a)(1)(C) requirements to ensure RACM will be implemented within four years of designation; (iii) section 189(c) requirements for RFP and quantitative milestones (QMs); and (iv) section 189(e) control requirements for precursor emissions from major stationary sources. In this action, the EPA is evaluating the Oakridge Update for compliance with the statutory and regulatory requirements applicable to Moderate $PM_{2.5}$ nonattainment areas.

B. Oakridge NAA Background

In 1994, the EPA designated Oakridge a nonattainment area for PM_{10} – particulate matter ten micrometers and smaller. In 1996, LRAPA in coordination with the ODEQ, prepared and

submitted a PM_{10} attainment plan for Oakridge. The EPA approved it on March 15, 1999 (64 FR 12751). On July 26, 2001, EPA published a finding of attainment for the Oakridge PM_{10} NAA (66 FR 38947). However, the designation status in 40 CFR part 81 remains Moderate nonattainment for the area until such time as LRAPA meets the CAA requirements for redesignaton to attainment. A redesignation request and maintenance plan for PM_{10} has not been submitted. The area has continued to attain the PM_{10} NAAQS.

In 1997, the EPA revised the particulate standard to include $PM_{2.5}$ at a daily standard of 65 $\mu g/m^3$. Due to the same set of control measures that it used to address exceedances of the PM_{10} standard, Oakridge successfully remained below the $PM_{2.5}$ standard promulgated in 1997. When the EPA tightened the $PM_{2.5}$ standard from 65$\mu g/m^3$ to 35$\mu g/m^3$ in 2006, Oakridge was found to be violating the new standard. The air quality monitoring data at the Willamette Activity Center (WAC) was evaluated for 2006–2008, resulting in a design value of 40 $\mu g/m^3$. The EPA designated Oakridge, Oregon as nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS on November 13, 2009 (74 FR 58689), prompting the development of the $PM_{2.5}$ Attainment Plan for the Oakridge, Oregon NAA (Oakridge Attainment Plan). The EPA subsequently classified the area as Moderate nonattainment for the 2006 24-hour $PM_{2.5}$ standard (79 FR 31565, June 2, 2014)[3].

On December 12, 2012, LRAPA, in coordination with the ODEQ, submitted the Oakridge Attainment Plan. On October 21, 2016, the EPA finalized partial approval and partial disapproval of this plan (81 FR 72714). In that action, the EPA approved the description of the

[3] On January 4, 2013, the D.C. Circuit Court issued a decision in *NRDC v. EPA*, 706 F.3d 428, holding that the EPA erred in implementing the 1997 $PM_{2.5}$ NAAQS pursuant to the general implementation provisions of subpart 1 of Part D of Title I of the CAA (subpart 1), rather than the particulate-matter-specific provisions of subpart 4 of Part D of Title I (subpart 4). Prior to the January 4, 2013 Court decision, states had worked towards meeting the air quality goals of the 2006 $PM_{2.5}$ NAAQS in accordance with the EPA regulations and guidance derived from subpart 1 of Part D of Title I of the CAA. The EPA considered this history in issuing the $PM_{2.5}$ Subpart 4 Nonattainment Classification and Deadline Rule (79 FR 31566, June 2, 2014) that identified the initial classification under subpart 4 for areas currently designated nonattainment for the 1997 and/or 2006 $PM_{2.5}$ standards as moderate.

Oakridge NAA and listing as nonattainment, and the 2008 base year emission inventory as meeting the section 172(c)(3) requirement for emissions inventories. The EPA disapproved all other elements of the submittal. The disapproval action for the Oakridge Attainment Plan started a sanctions clock for the imposition of offset sanctions and highway sanctions 18 months and 24 months respectively after the November 21, 2016 effective date, pursuant to section 179(a) of the CAA and our regulations at 40 CFR 52.31. In addition to sanctions, the EPA must promulgate a FIP no later than two years from the date of the finding if the deficiency has not been corrected within that time period.

The Oakridge Attainment Plan included control measures that were fully implemented and modeled attainment by the December 2014 deadline. However, leading up to the deadline, the *Identification of Nonattainment Classification and Deadlines for Submission of State Implementation Plan (SIP) Provisions for the 1997 Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standard (NAAQS) and 2006 $PM_{2.5}$ NAAQS* was finalized. The rule classified Oakridge as Moderate and established December 31, 2015, as the attainment date deadline for the Oakridge NAA (79 FR 31565, June 2, 2014). This decision was based on the fact that subpart 4 of the CAA requires a Moderate area attainment date to be no later than the end of the 6th calendar year after designation. The applicable attainment date for Oakridge changed from December 2014 to December 2015.

In order to measure progress towards meeting the attainment date, both LRAPA and the EPA followed monitoring data closely to ensure the area was meeting targets consistent with the modeling demonstration submitted in the 2012 Oakridge Attainment Plan. Prior to the December 31, 2015, attainment date deadline, LRAPA determined Oakridge would not come into attainment based on 2013-2015 monitoring data. Under section 188(d), the EPA has discretion to

grant an extension to the attainment date for an area if the state requests the extension and meets the statutory criteria for such an extension. On December 14, 2015, LRAPA requested a 1-year extension of the 2015 attainment date for the Oakridge NAA. On July 18, 2016, the EPA granted a 1-year extension of the 2006 24-hour attainment date for the Oakridge NAA (81 FR 46612) from December 31, 2015 to December 31, 2016 (extended attainment date), on the basis that the State met the criteria for such an extension under the CAA.

Notwithstanding the extension of the attainment date to December 31, 2016, the applicable Moderate area attainment demonstration date for the Oakridge NAA remains December 31, 2015. The $PM_{2.5}$ SIP Requirements Rule provides that a state's modeled attainment demonstration needs to establish that an area will attain the NAAQS by the projected attainment date. Practically speaking, this is considered satisfied by the modeling showing that the 98^{th} percentile is below the standard for the attainment year (81 FR 58010, at page 58054).

The EPA authorizes this approach because of the potential availability of extensions of the attainment date under relevant provisions of the CAA. In other words, if ambient data show attainment-level concentrations in the final statutory attainment year, but the three-year average does not demonstrate attainment, a state may be eligible for up to two 1-year extensions of the attainment date. *See* 40 CFR 51.1005. Extensions of the attainment date are available to accommodate states that may be able to attain the NAAQS by the extended attainment date, even if the measured design value for an area does not meet the NAAQS by the end of the 6^{th} calendar year after designation. For this reason, the EPA's $PM_{2.5}$ SIP Requirements Rule indicates that it is acceptable for a state to model air quality levels for the final statutory attainment year in which the area is required to attain the standard (in this case 2015).

Because the initial Oakridge Attainment Plan did not adequately address the $PM_{2.5}$ problems in the airshed or meet the requirements of the CAA and the $PM_{2.5}$ SIP Requirements Rule, LRAPA developed the Oakridge Update that was subsequently adopted and submitted by the ODEQ to the EPA on January 20, 2017. The Oakridge Update was submitted to satisfy the requirement for an updated comprehensive 2008 base year emission inventory and the 2015 attainment projected inventory for direct $PM_{2.5}$ emissions and all $PM_{2.5}$ precursors, an analysis and selection of reasonably available control measures and reasonably available control technologies (RACM and RACT), an attainment demonstration based on permanent and enforceable requirements, contingency measures, and quantitative milestones (QM) demonstrating reasonable further progress (RFP) toward attainment. The attainment plan's strategy for controlling direct $PM_{2.5}$ emissions relies primarily on an episodic wood stove curtailment program and a program to change out uncertified wood stoves.

II. Finding of Attainment by the Attainment Date and Clean Data Determination

Under CAA section 188(b)(2) the EPA is required to determine within six months of the applicable attainment date whether a nonattainment area attained the standard by that date. As discussed above, on July 18, 2016, the EPA granted a 1-year extension of the attainment date from December 31, 2015 to December 31, 2016 (81 FR 46612). Under the EPA regulations at 40 CFR part 50, Appendix N, the 2006 primary and secondary 24-hour $PM_{2.5}$ NAAQS are met within a nonattainment area when the 24-hour $PM_{2.5}$ NAAQS design value at each eligible monitoring site is less than or equal to 35 $\mu g/m^3$. Three years of valid annual $PM_{2.5}$ 98th percentile mass concentrations are required to produce a valid 24-hour $PM_{2.5}$ NAAQS design value.

The EPA's finding of attainment is based upon data that has been collected and quality-assured in accordance with 40 CFR part 58 and recorded in the EPA Air Quality System (AQS) database. Ambient air quality monitoring data for the 3-year period must meet data completeness requirements. The ambient air quality monitoring data completeness requirements are met when quarterly data capture rates for all four quarters in a calendar year are at least 75 percent.

The EPA reviewed the $PM_{2.5}$ ambient air monitoring data from the Willamette Activity Center (WAC) (AQS site 41-039-2013) consistent with the requirements contained in 40 CFR part 50, as recorded in the EPA AQS database for the Oakridge NAA. For purposes of determining attainment by the December 31, 2016 extended attainment date, the EPA determined that the data recorded in the AQS database was certified and complete.

The design value (the metrics calculated in accordance with 40 CFR part 50, appendix N, for determining compliance with the NAAQS) for the 2006 24-hour $PM_{2.5}$ NAAQS for the years 2014–2016 at the WAC was calculated to be 31 $\mu g/m^3$, which is less than the standard of 35 $\mu g/m^3$. See Table 1 below for the annual 98^{th} percentiles and 3-year design value for the 2014-2016 monitoring period. On the basis of this review, we are proposing to determine, based on complete, quality-assured, and certified data for 2014-2016, that the Oakridge NAA attained the 2006 24-hour $PM_{2.5}$ NAAQS by the extended attainment date. This determination of attainment by the attainment date does not constitute a redesignation to attainment. Rather, redesignations require states to meet a number of additional statutory criteria in CAA section 107(d)(3)(E), including EPA approval of a state plan demonstrating maintenance of the air quality standard for 10 years after redesignation. CAA section 107(d)(3)(E)(iv).

Table 1 – 2014-2016 Oakridge Area $PM_{2.5}$ Monitoring Data

Monitor name	AQS site ID	98th percentile (µg/m^3)			2014-2016 24-hour design value (µg/m^3)
		2014	2015	2016	
Willamette Activity Center	41-039-2013	41.1	28.9	21.7	31

Additionally, the EPA is proposing to determine that the area has clean data for demonstrating attainment of the 2006 24-hr $PM_{2.5}$ NAAQS. A clean data determination (CDD) can be made upon a determination by the EPA that a Moderate $PM_{2.5}$ NAA is attaining the $PM_{2.5}$ NAAQS. Under a CDD, the requirements for the area to submit an attainment demonstration, associated RACM, RFP plan, contingency measures, and any other planning SIP requirements related to attainment of the 2006 24-hour $PM_{2.5}$ NAAQS are suspended for so long as the area continues to meet the relevant NAAQS (40 CFR 51.1015, August 24, 2016), and the FIP and sanctions clocks are also tolled for the pendency of the CDD. If the EPA subsequently determines that the area is in violation of the 2006 24-hour $PM_{2.5}$ NAAQS, the EPA would rescind the CDD, the state would again be required to submit the suspended attainment plan elements to the EPA, and the FIP and sanctions clocks would resume. *See* 40 CFR 51.1015(a)(2).

Although a CDD suspends the requirement for submission of certain attainment planning elements, it does not relieve the EPA of its responsibility to take action on a state's SIP submission. Oregon submitted the Oakridge Update to address the previously disapproved elements of the SIP and EPA is proposing to approve the state's revisions. In the event that EPA determines in its final action that the Oakridge Update should not be approved, the Clean Data Determination (if finalized as proposed) would suspend Oregon's obligation to submit a revised

SIP to address the attainment planning requirements related to attainment of the 2006 24-hour $PM_{2.5}$ NAAQS, and as noted above, would toll the FIP and sanctions clocks that were started by the EPA's prior disapprovals as long as the area continues to attain the standard.

Neither the proposed finding of attainment by the attainment date nor CDD is equivalent to the redesignation of the area to attainment. This proposed action, if finalized, will not constitute a redesignation to attainment under section 107(d)(3)(E) of the CAA, because the state must have an approved maintenance plan for the area as required under section 175A of the CAA, and a determination that the area has met the other requirements for redesignation in order to be redesignated to attainment. The designation status of the area will remain nonattainment for the 2006 $PM_{2.5}$ NAAQS until such time as the EPA determines that the area meets the CAA requirements for redesignation to attainment in CAA section 107(d)(3)(E).

III. The EPA's Evaluation of the Oakridge Update

On January 20, 2017, the ODEQ in coordination with LRAPA submitted the Oakridge Update to satisfy the Moderate nonattainment area CAA requirements. In accordance with Sections 172(c) and 189 of the CAA, the Oakridge Update includes emissions inventories, an evaluation of precursors for control in the area, RACM/RACT demonstrations for direct $PM_{2.5}$ and $PM_{2.5}$ precursors, an attainment demonstration, QM and RFP requirements, and contingency measures. The SIP submittal also addresses motor vehicle emissions budgets (MVEBs). Each of these elements is discussed below. The primary control strategy in the Oakridge Update is reducing emissions from residential wood combustion.

The air pollution ordinances adopted by the City of Oakridge from 2012-2016 (ordinances 903, 913, 914 and 920) require emission reductions contributing to the 2015 attainment demonstration and the monitored attainment of the 2006 24-hr $PM_{2.5}$ NAAQS by the

December 31, 2016, extended attainment date. Each ordinance, in succession, provides further strengthening of the control measures and maintains the integrity of the prior ordinance(s). The most recent city ordinance (ordinance 920), passed by the City of Oakridge and adopted by LRAPA on November 21, 2016, supersedes the previous air pollution ordinances and requires the continued implementation of the control strategies in a manner that is both permanent and enforceable.

The EPA has evaluated the Oakridge Update to determine whether it meets the applicable CAA requirements of subpart 1 and subpart 4, as specified in the $PM_{2.5}$ SIP Requirements Rule. Based on this evaluation, the EPA is proposing to approve the following elements of the Oakridge Update.

A. Emissions Inventories

1. Requirements for Emissions Inventories

Section 172(c)(3) of the CAA requires a state with an area designated as nonattainment to submit a "comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant" for the nonattainment area. By requiring an accounting of actual emissions from all sources of the relevant pollutants in the area, this section provides for the base year inventory to include all emissions from sources in the nonattainment area that contribute to the formation of a particular NAAQS pollutant. For the 2006 24-hour $PM_{2.5}$ NAAQS, this includes direct $PM_{2.5}$ (condensable and filterable) as well as the precursors to the formation of secondary $PM_{2.5}$: nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOCs), and ammonia (NH_3) (40 CFR 51.1008; 81 FR 58028). Inclusion of $PM_{2.5}$ and all of the $PM_{2.5}$ precursors in the emissions inventory is necessary in order to inform other aspects of the

attainment plan development process, such as ascertaining which pollutants a state must control in order to attain the NAAQS in the area expeditiously.

In addition to the base year inventory submitted to meet the requirements of CAA section 172(c)(3), the state must also submit an attainment projected inventory for the NAA for the attainment year and each QM year, and any other year of significance for meeting applicable CAA requirements. Projected emission inventories for future years must account for, among other things, the ongoing effects of economic growth and adopted emissions control requirements, and are expected to be the best available representation of future emissions. The SIP submission should include documentation explaining how the state calculated the emissions data for the base year and projected inventories. The specific $PM_{2.5}$ emissions inventory requirements are set forth in 40 CFR 51.1008. The EPA has provided additional guidance for developing $PM_{2.5}$ emissions inventories in *Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze*.[4]

2. Emissions Inventories in the Oakridge Update

The Oakridge Update has two emissions inventories for the area: a 2008 base year inventory for the nonattainment area and the 2015 attainment projected inventory for the nonattainment area. In addition, LRAPA developed a projected emissions inventory for 2016 for informational purposes to demonstrate the further effectiveness of the field compliance improvements and curtailment program for year 2015. Each inventory presents $PM_{2.5}$ emissions and emissions of all $PM_{2.5}$ precursors (NO_x, VOCs, NH_3, and SO_2) to meet the comprehensive emissions inventory requirements of CAA section 172(c) and section 189(a)(1)(B) for the 2006

[4] The EPA's *Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze* is available at *https://www.epa.gov/air-emissions-inventories/emissions-inventory-guidance-documents*

24-hour $PM_{2.5}$ NAAQS. LRAPA provided inventories from all sources in the Oakridge NAA, including stationary point sources, stationary nonpoint (area sources), on-road mobile sources and non-road mobile sources.

The inventories are based on Typical Season Day and Worst Case Day emissions. LRAPA chose to develop a seasonal inventory representing a four-month period in 2008 (January, February, November, and December) during the wood-heating season. The agency examined ambient $PM_{2.5}$ data from the Willamette Activity Center and determined that values approaching the 2006 24-hour $PM_{2.5}$ NAAQS of 35 $\mu g/m^3$ only occur in the four-months when low temperatures spur higher home heating emissions and when stagnant air masses inhibit dispersion of air pollution. Therefore, the Typical Season Day inventory represents a seasonal inventory for the period of the year relevant for attainment planning. The Typical Season Day emissions are the daily rate of emissions for the four-month season. However, stagnant meteorological conditions are highly episodic and only occur for a portion of the season. Outside of these meteorological conditions, $PM_{2.5}$ levels are well below the 2006 24-hour $PM_{2.5}$ NAAQS. To best represent emissions during exceedances of the standard rather than an average of polluted and clean periods, LRAPA developed a "Worst Case Day" emission inventory for weather conditions that represent exceedance days.

Stationary Point Sources: The only operating industrial point sources within the Oakridge NAA are two minor aggregate industry sources (a rock crusher and concrete batch plant which shut down in 2014). These two minor sources together contribute less than 1% to base year and 0% to future year emission inventories. For the base year inventory, actual emissions were based on average actual production rates and calculated emissions during the months of November-February (2008-2011), worst-case day emissions were based on actual production rates and

calculated emissions during the highest production month during November-February (2008-2011). On May 17, 2017, LRAPA submitted a clarification to the future year (2015) emissions reported in the Oakridge Update. The actual point source emissions based on actual production rates calculated for 2015 (January, February, November, and December) are 0% since the concrete batch plant is no longer in operation and the rock crushing operation did not operate in 2015.

Nonpoint/Area Sources: The most significant source category is residential wood combustion (RWC). Emissions from certified and non-certified wood stoves, fireplaces, and pellet stoves account for about 86% of the base year direct $PM_{2.5}$ emissions and 84% of the projected 2015 emissions on worst case winter days. To estimate emissions from RWC, LRAPA conducted a survey for the 2009-2010 heating season. The survey provided LRAPA with information on how many homes use various types of wood-heating devices, the amount of wood burned, and other information on wood-heating practices. The survey report, data, and additional RWC emission calculation details are included in Appendix D-2 of the 2012 Oakridge Attainment Plan. The only other nonpoint area source category with potential emissions is backyard burning which is banned in Oakridge during November-February. These emissions are estimated as 4.7 lb./day on worst-case days.

On-road and Non-road Sources: Road dust and tailpipe emissions from motor vehicles were initially calculated by the Lane Council of Governments (LCOG) by applying emission factors from the EPA MOVES2010a computer program. These were recently updated by the ODEQ in 2016 using the EPA MOVES2014a program using inputs and VMT compiled by LCOG in 2012 and incorporating the effects of three new federal emission control programs. Emissions from railroads were provided by Union Pacific Railroad.

It has been determined that condensable emissions currently are not required to be reported for the mobile source and residential wood combustion portion of the inventory since the EPA's best tools to date do not have a declarative answer for the condensable emissions portion for these sources. In addition, the point source, non-road and the "all other stationary area source" categories, which constitute 0.1%, 1% and 1% respectively of the worst-case day direct $PM_{2.5}$ emissions (2008 base year EI) and 0%, 1% and 1% respectively of the worst-case day emissions (2015 projected year EI), are too small to justify the need to break out condensable emissions. Thus the 2008 and 2015 inventories for the Oakridge NAA do not include separately reported filterable and condensable components of direct $PM_{2.5}$ emissions.

a. 2008 Base Year Emissions Inventory for the Nonattainment Area

LRAPA selected the year 2008 as the base year of the emissions inventory for the nonattainment area. The 2008 base year inventory is one of the three years used to designate the area as nonattainment and was inventoried for the National Emission Inventory. It is also the middle year of the five-year period, 2006-2010, used for determining the base design value. This inventory provides the basis for the control measure analysis and the attainment demonstration in the Oakridge Update.

The 2008 base year emission inventory for the nonattainment area was initially submitted as part of the 2012 Oakridge Attainment Plan and approved in a final rulemaking action completed on October 21, 2016 (81 FR 72714). The Oakridge Update contains a revised 2008 base year emission inventory for the nonattainment area because an updated version of MOVES (2014a) was available for calculating on-road emissions. LRAPA surveyed all source sectors within the nonattainment area and developed accurate, actual emissions for sources as they

existed in 2008 using well established techniques. Table 2 presents a summary of both seasonal inventories and the annual average daily precursor emissions.

Table 2 – 2008 $PM_{2.5}$ Base Year Typical Season Day and Worst-Case Day Emissions; and 2008 Precursor Annual Average Daily Emissions

Source Type Category	Typical Season Day lbs/per day	Worst Case Day lbs/per day	Annual Average Daily Values lbs/day			
	$PM_{2.5}$	$PM_{2.5}$	SO_2	NO_x	VOC	NH_3
Stationary Point (actuals)	0.5	0.9	na*	na*	na*	na*
Nonpoint/Area	479.5	480	2.9	12.8	216.8	5.3
On-road	41.4	64.7	10.6	866.7	434.4	13.8
Non-road	6.0	6.0	1.3	101	18.2	.05
Total	527	552	15	980	670	19.2

*These emissions are accounted for in the 2008 NEI but are grouped into the nonpoint/area source category.

b. Attainment Projected Emissions Inventory for the Nonattainment Area

In addition to developing a 2008 base year inventory, LRAPA developed a projected year inventory for 2015. This inventory is relevant to the December 31, 2015 attainment demonstration. LRAPA developed the 2015 projected year inventory by estimating the impact on emissions from anticipated demographic and economic trends and from adopted federal, state and local control measures in effect through December 31, 2014. A summary of the Oakridge NAA 2015 projected seasonal inventory is provided in Table 3.

Table 3 – 2015 $PM_{2.5}$ Estimated Typical Season Day and Worst-Case Day Emissions; and 2014 Annual Average Precursor Emissions.

Source Type Category	Typical Season Day lbs/per day	Worst Case Day lbs/per day	Annual Average Daily Values lbs/day			
	$PM_{2.5}$	$PM_{2.5}$	SO_2	NO_x	VOC	NH_3
Stationary Point (actuals)	0	0	0	0	0	0
Nonpoint/Area	444.8	334.5	3.0	10.7	120.4	2.1
On-road	24.7	38.5	3.0	598.3	339.8	11.5
Non-road	6.0	6.0	1.1	77.3	14.4	.05

Total	475	379	7	686	475	14

3. The EPA's Evaluation and Proposed Action: Emissions Inventories for the Nonattainment Area

The EPA has reviewed the results, procedures, and methodologies for the Oakridge NAA emissions inventories. The EPA has determined that the 2008 base year inventory for the nonattainment area and the 2015 attainment projected inventory for the nonattainment area are based on the most current and accurate information available to LRAPA at the time the Oakridge Update and its inventories were being developed. The selection of 2008 as a base year is consistent with emissions inventory requirements in 40 CFR 51.1008(a)(1)(i) because it is one of three years used to designate the area as nonattainment and it is also a year already inventoried for the National Emission Inventory. Weather conditions in 2008 were typical and temperature-dependent emissions from home heating and from mobile sources are considered representative for the 2006-2010 period. The selection of 2015 for the attainment projected inventory for the nonattainment area is consistent with 40 CFR 51.1008(2)(2)(i) because 2015 is the attainment year in the attainment demonstration.

The EPA finds the worst case day (episodic) approach that LRAPA used for the 2008 and 2015 inventories to be consistent with the $PM_{2.5}$ SIP Requirements Rule in which the EPA stated that an episodic period developed in order to reflect periods of higher emissions during periods of high ambient $PM_{2.5}$ can help, in some situations, to ensure the nonattainment area inventory reflects the emissions conditions that led to the nonattainment designation for the area (81 FR 58030). This seasonal Worst Case Day inventory is the most relevant and accurate for nonattainment area planning.

Additionally, the 2008 and 2015 inventories sufficiently account for $PM_{2.5}$ emissions as

required in 40 CFR 51.1008(a)(1)(iv) and (a)(2)(iv). The inventories comprehensively address all source categories in the Oakridge NAA, actual emissions are provided, and appropriate procedures were used to develop the inventories. We are therefore proposing to approve the updated 2008 base year worst-case day emissions inventory for the Oakridge NAA as meeting the requirements of CAA section 172(c)(3) and 40 CFR 51.1008(a)(1), and we are proposing to approve the 2015 projected year worst-case day inventory for the Oakridge NAA as meeting the requirements of 40 CFR 51.1008(a)(2). We are also proposing to find that the 2008 base year inventory in the Oakridge Update provides an adequate basis for the control strategy analysis, the attainment demonstration, and demonstrating RFP (discussed in sections II.C, E and F, respectively).

B. Pollutants Addressed

1. Requirements for the Control of Direct $PM_{2.5}$ and Precursors

The composition of $PM_{2.5}$ is complex and highly variable due in part to the large contribution of secondary $PM_{2.5}$ to total fine particle mass in most locations, and to the complexity of secondary particle formation processes. A large number of possible chemical reactions, often non-linear in nature, can convert gaseous SO_2, NO_x, VOCs and NH_3 to $PM_{2.5}$, making them precursors to $PM_{2.5}$.[5] Formation of secondary $PM_{2.5}$ may also depend on atmospheric conditions, including solar radiation, temperature, relative humidity, and the interactions of precursors with preexisting particles and with water and ice cloud or fog droplets.[6]

5 EPA, *Air Quality Criteria for Particulate Matter* (EPA/600/P–99/002aF, October 2004), Chapter 3.
6 EPA, *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter* (EPA–452/R–12–005, December 2012), p. 2–1.

The EPA interprets the CAA to require states to evaluate sources of all four $PM_{2.5}$ precursors for regulation unless it provides a demonstration establishing that it is either not necessary to regulate a particular precursor in the nonattainment area at issue in order to attain by the attainment date, or that emissions of the precursor do not make a significant contribution to $PM_{2.5}$ levels that exceed the standard. 40 CFR 51.1006 and 81 FR 58017. The EPA has identified SO_2, NO_x, VOCs, and NH_3 as precursors to the formation of $PM_{2.5}$. 40 CFR 51.1000. Accordingly, the attainment plan requirements presumptively apply to emissions of direct $PM_{2.5}$ and all four precursor pollutants from all types of stationary, area, and mobile sources, however, the presumption can be rebutted consistent with CAA section 189(e) and the EPA's interpretation of the statute.

Section 189(e) of the CAA requires that the control requirements for major stationary sources of direct PM_{10} also apply to major stationary sources of PM_{10} precursors, except where the Administrator determines that such sources do not contribute significantly to PM_{10} levels that exceed the standard in the area. By definition, PM_{10} includes $PM_{2.5}$. Section 189(e) contains the only express exception to the control requirements under subpart 4 for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursor emissions. Notwithstanding the fact that section 189(e) explicitly addresses only major stationary sources, the EPA interprets the CAA as authorizing it also to determine, under appropriate circumstances, that regulation of specific $PM_{2.5}$ precursors from other source categories in a given nonattainment area are not necessary. *See* 81 FR 58018. If the EPA were to approve a state's precursor demonstration, the state would not need to regulate emissions of the precursor to meet the requirement to control emissions from the inventory to attain as expeditiously as practicable, such as the imposition of RACM/RACT on sources of such precursor emissions.

The state has different options for demonstrating that a particular precursor does not need to be controlled in the nonattainment area for the purposes of the attainment plan: (1) a comprehensive precursor demonstration to establish that the state does not need to address the precursor in the attainment plan for purposes of the control strategy, RFP, QMs and associated reports, contingency measures, MVEB, or regional emissions analyses in transportation conformity determinations, and/or (2) a major stationary source precursor demonstration supporting a conclusion that one or more precursors do not have to be controlled from existing major sources. 40 CFR 51.1006. Both types of precursor demonstrations must include a concentration-based analysis, in which the state evaluates the impact of each precursor on ambient $PM_{2.5}$ levels in the nonattainment area. A concentration-based analysis may be sufficient for the EPA to approve the demonstration, on a precursor-by-precursor basis. 40 CFR 51.1006(a)(1). If an impact of a particular precursor cannot be deemed insignificant based upon the concentration based analysis, the state also has the option of conducting a sensitivity-based analysis to show that changes in the emissions of a particular precursor would not result in significant changes in ambient $PM_{2.5}$ in the area, notwithstanding the fact that the volume of the precursor at issue is large. 40 CFR 51.1006(a)(1)(iii). The EPA's Draft $PM_{2.5}$ Precursor Demonstration Guidance (Draft Precursor Demonstration Guidance) recommends calculating the precursor impact relative to observed ambient data so that the results are applicable to measured $PM_{2.5}$ in the area.[7]

2. Direct $PM_{2.5}$ and Precursors in the Oakridge Update

In the 2012 Oakridge Attainment Plan and the Oakridge Update, LRAPA discusses the five pollutants that contribute to the mass of the ambient $PM_{2.5}$ (*i.e.*, NH_3, NO_x, SO_2, VOCs, and

[7] The Precursor Demonstration Guidance is available at *https://www.epa.gov/sites/production/files/2016-11/documents/transmittal_memo_and_draft_pm25_precursor_demo_guidance_11_17_16.pdf*

direct $PM_{2.5}$). LRAPA developed the 2012 Oakridge Attainment Plan before the EPA proposed a new implementation rule in 2015 (80 FR 15340, March 23, 2015) and before the EPA issued the Draft Precursor Demonstration Guidance in 2016. The 2012 Oakridge Attainment Plan therefore includes a variety of information on precursor impacts on $PM_{2.5}$ concentrations in the Oakridge NAA. However, prior to submitting the Oakridge Update, LRAPA was able to take advantage of the final $PM_{2.5}$ SIP Requirements Rule as well as the recommendations in the Draft Precursor Demonstration Guidance during the public comment period.

The Oakridge Update contains information necessary to evaluate a comprehensive precursor demonstration for all sources of SO_2, NO_x, NH_3, and VOCs. It reports speciated $PM_{2.5}$ data from the WAC monitor that can be compared to the recommended insignificance thresholds in the Draft Precursor Demonstration Guidance as part of a concentration-based analysis. These data are the results of the relative attainment test methodology (speciated model attainment test or "SMAT") and are representative of precursor concentrations for the baseline design value of 39.5 $\mu g/m^3$ (Table 4). Values of 0.43 $\mu g/m^3$, 0.17 $\mu g/m^3$, and 0.17 $\mu g/m^3$ for SO_2, NO_x, and NH_3 respectively were compared to the recommended insignificance threshold of 1.3 $\mu g/m^3$ in the Precursor Demonstration Guidance. LRAPA used the monitored amount of sulfate to assess the contribution from SO_2 and the amount of ammonium + nitrate to assess the contributions from NO_x and NH_3. LRAPA did not remove background concentrations of the $PM_{2.5}$ species for this analysis. More information on how the relative calculations were applied can be found in the Oakridge Update section II.D.

Table 4 – Concentrations of $PM_{2.5}$ species used for the speciated modeled attainment test.

Parameter	Sulfate	Nitrate	Organic Carbon	Elemental Carbon	Water	Ammonium	Other Primary Particulate

Percent	1.1	0.4	88.4	7.6	1.4	0.03	1.1
$\mu g/m^3$	0.43	0.16	34.46	2.95	0.54	0.01	0.44

LRAPA's VOC precursor demonstration examined both ambient and modeled $PM_{2.5}$ species data to help evaluate the formation of secondary organic aerosols (SOA) from VOC emissions in the nonattainment area. In the Oakridge Update, LRAPA did not directly determine the impact of VOCs on $PM_{2.5}$ from speciated monitoring data alone because it is difficult to distinguish organic carbon from direct $PM_{2.5}$ and secondary organic carbon formed from VOC chemistry.

LRAPA presents several analyses involving observed chemical data, a source apportionment analysis, and an independent modeling effort to substantiate the demonstration. The $PM_{2.5}$ data set from 2006-2010 at the WAC, which formed the basis for the baseline design value, shows that exceedances of the standard only occur between October 15 and February 28 (*See* Oakridge Update appendix 3, attachment H). The same conclusion is valid for days with concentrations above 25 $\mu g/m^3$. The results of the concentration-based analysis in Table 4 show that species commonly associated with photochemistry, ammonium sulfate and ammonium nitrate, occur in low concentrations during the polluted days. In addition, LRAPA submitted a positive matrix factorization (PMF) source apportionment study conducted by the EPA Region 10 (*See* Oakridge Update appendix 3.E.2). That report concluded primary emissions of wood smoke was responsible for about 75% of the $PM_{2.5}$ on polluted days above 25 $\mu g/m^3$. Additional analysis was conducted by Portland State University in collaboration with the ODEQ to better understand the secondary organic aerosols in the Klamath Falls, Oregon airshed (*See* Oakridge Update, page 36). The results showed that on wintertime days anthropogenic VOC emissions

were responsible for 3% of the observed $PM_{2.5}$. After calibrating this value to the Oakridge baseline design value of 39.5 $\mu g/m^3$, LRAPA estimated that the anthropogenic VOC contribution to $PM_{2.5}$ is 1.17 $\mu g/m^3$ and asserted that the value is a conservatively high value.

3. The EPA's Evaluation and Proposed Action: Pollutants Addressed

The EPA confirmed that LRAPA performed a contribution-based analysis for SO_2, NO_x, and NH_3 according to section 3.1 of the Draft Precursor Demonstration Guidance, with one exception. The guidance recommends that the NO_x contribution be calculated as the nitrate ion plus the ammonium associated with nitrate, whereas LRAPA appears to have included all ammonium in the calculation. Rounding to the hundredths decimal place, the EPA calculated a contribution of 0.16 $\mu g/m^3$. This difference is immaterial to LRAPA's conclusion, and LRAPA's calculation errs on the conservative side. The contributions for SO_2, NO_x, and NH_3, 0.43 $\mu g/m^3$, 0.17 $\mu g/m^3$, and 0.17 $\mu g/m^3$ respectively, are well below the recommended contribution threshold for the 24-hour $PM_{2.5}$ NAAQS of 1.3 $\mu g/m^3$.

For LRAPA's VOC precursor demonstration, the state agency presented multiple analyses of observed data, source apportionment modeling, and independent modeling. All of the analyses and modeling support the conclusion that VOCs contribute only a small amount to $PM_{2.5}$ in the Oakridge NAA and that this amount is 1.17 $\mu g/m^3$ or less, as indicated by the Portland State University modeling. At the times where there is substantial $PM_{2.5}$ in Oakridge, the temperature is low and the sun is relatively weak, which are less conducive to secondary $PM_{2.5}$ formation from VOCs. This conclusion is supported by the fact that there is little secondary ammonium sulfate and ammonium nitrate in the nonattainment area during periods of high pollution ($PM_{2.5}$ > 25 $\mu g/m^3$).

While the Portland State University modeling was conducted for Klamath Falls, both Klamath Falls and Oakridge were nonattainment for the 24-hour $PM_{2.5}$ standard for mainly wood smoke pollution and with similar meteorology and atmospheric chemistry during periods of high $PM_{2.5}$. They are on opposite sides of the Oregon Cascade Mountains, but they are only 115 miles apart and the modeling used conservative meteorological conditions that would apply to both locations. The modeling used emissions that are valid for 2008 in the Klamath Falls nonattainment area and correspond to the base year emission inventory for the Oakridge Update. The 2008 anthropogenic VOC emissions for the Oakridge nonattainment area are 122 tons per year, about 5% of that in the Klamath Falls nonattainment area. The EPA believes that an analysis with Oakridge emissions would result in a much lower $PM_{2.5}$ contribution from VOCs, as argued by LRAPA in the Oakridge Update (*See* page 36). All of the lines of evidence supplied by LRAPA in the Oakridge Update are consistent with the $PM_{2.5}$ contribution from VOCs being 1.17 $\mu g/m^3$ or less. This conservative value is below the recommended contribution threshold for the 24-hour $PM_{2.5}$ NAAQS of 1.3 $\mu g/m^3$.

The EPA also examined an independent regional air quality modeling effort for $PM_{2.5}$, the Airpact model at Washington State University[8]. For 2015, this model estimates all $PM_{2.5}$, including secondary $PM_{2.5}$ from anthropogenic VOC sources, in 12-km grid cells across the Northwest on a daily basis. For the period of January, February, November, and December, corresponding to the Oakridge $PM_{2.5}$ season, the Airpact model predicts at most 0.16 $\mu g/m^3$ of $PM_{2.5}$ species derived from anthropogenic VOC emissions. While the model is not conducted in a way to be the primary estimate of $PM_{2.5}$ for the Oakridge nonattainment area, its estimate of $PM_{2.5}$ from anthropogenic VOC emissions provides support for the low contribution estimated

[8] http://lar.wsu.edu/airpact/

by Portland State University for Klamath Falls and conservatively applied to Oakridge by LRAPA.

Based on a review of the information provided by LRAPA, the EPA believes LRAPA's methodology is appropriate for the area and that LRAPA's concentration-based analyses are accurate and sufficiently comprehensive to establish a precursor demonstration for SO_2, NO_x, NH_3, and VOCs. The EPA proposes to approve LRAPA's precursor demonstrations for all existing sources of SO_2, NO_x, NH_3, and VOCs within the Oakridge NAA. As a result, the EPA proposes to find it not necessary to evaluate controls on sources of SO_2, NO_x, NH_3, and VOCs in the control strategy for the Oakridge Update. We discuss LRAPA's evaluation of potential control measures for direct $PM_{2.5}$ in the following section.

C. Reasonably Available Control Measures / Reasonably Available Control Technology

1. Requirements for RACM/RACT

The general SIP planning requirements for nonattainment areas under subpart 1 include CAA section 172(c)(1), which requires implementation of all RACM, including RACT. The terms RACM and RACT are not further defined within subpart 1, but past guidance has described "reasonable available" controls as those controls that are technologically and economically feasible, and necessary for attainment in a given area. *See* 57 FR 13560. The provision explicitly requires that such measures must provide for attainment of the NAAQS in the area covered by the attainment plan.

The SIP planning requirements for particulate matter nonattainment areas in CAA subpart 4 require states to develop attainment plans that implement RACM and RACT on appropriate sources within a nonattainment area. Section 189(a)(1)(C) requires that states with areas classified as Moderate nonattainment areas have SIP provisions to assure that RACM and RACT

level controls are implemented by no later than four years after designation of the area. As with subpart 1, the terms RACM and RACT are not specifically defined within subpart 4, and the provisions of subpart 4 do not identify specific control measures that must be implemented to meet the RACM and RACT requirements. However, past policy has described RACM (including RACT) as those measures that are technologically and economically feasible and needed for expeditious attainment of the standard. 81 FR 58034. The $PM_{2.5}$ SIP Requirements Rule provides a process for developing an attainment plan control strategy for purposes of meeting the RACM and RACT requirements.[9] *See* 40 CFR 51.1009.

To meet the Moderate area control strategy requirements, a state first needs to identify all sources of direct $PM_{2.5}$ and precursor emissions in the nonattainment area, consistent with common emission inventory development practices and requirements. 40 CFR 51.1009(a)(1). Next, a state must identify existing and potential control measures for each identified source or source category of emissions. *Id.* at 51.1009(a)(2). The state's compilation of potential control measures must be sufficiently broad to provide a basis for identifying all technologically and economically feasible controls that may be RACM or RACT. The state must identify potential control measures for emissions of direct $PM_{2.5}$ and each precursor from relevant sources unless the state has provided an adequate comprehensive demonstration for the nonattainment area at issue showing that control of a particular precursor is not required, or provided an adequate demonstration with respect to control of precursor emissions from existing major stationary sources. *Id.* at 51.1009(a)(4)(i). For any potential control measure identified, a state must evaluate the technological and economic feasibility of adopting and implementing such measure.

[9] The development of the RACM and RACT requirements in the $PM_{2.5}$ Implementation Rule was informed by the EPA's longstanding guidance in the General Preamble providing recommendations for appropriate considerations for determining what control measures constitute RACM and RACT for purposes of meeting the statutory requirements of subpart 4. *See* 81 FR 58034.

Id. at 51.1009(a)(3). For purposes of evaluating technological feasibility, a state may consider factors including but not limited to operating processes and procedures, raw materials, physical plant layout, and potential environmental impacts from the adoption of controls. For purposes of evaluating economic feasibility, a state may consider factors including but not limited to capital, operating and maintenance costs and the cost effectiveness of a measure (typically expressed in cost per ton of reduction). *Id.* States should also evaluate control measures imposed in other nonattainment areas as RACM and RACT as part of this analysis.

CAA section 110(a)(2)(A) provides generally that each SIP ‘‘shall include enforceable emission limitations and other control measures, means or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirement of the Act.’’ Section 172(c)(6) of the CAA, which applies specifically to nonattainment area plans, imposes comparable requirements. Measures necessary to meet RACM/RACT and the additional control measure requirements under section 172(c)(6) must be adopted by the state in an enforceable form (57 FR 13541) and submitted to the EPA for approval into the SIP under CAA section 110.

2. RACM/RACT Analysis in the Oakridge Update

In the Oakridge Update, LRAPA evaluated and selected control measures consistent with the process set forth in 40 CFR 51.1009 that constitute RACM/RACT in the Oakridge NAA. Based on emissions inventory information and other technical analyses, LRAPA first identified source categories in the Oakridge NAA and associated emissions of $PM_{2.5}$ and its precursors. Based on the comprehensive precursor demonstration for SO_2, NO_x, NH_3, and VOCs, LRAPA limited its RACM/RACT analysis to direct $PM_{2.5}$.

LRAPA, in coordination with the Oakridge $PM_{2.5}$ Advisory Committee, developed a list of potential control measures for relevant sources based on information compiled from various EPA guidance documents, and information regarding controls that other states or the EPA have identified as RACM or RACT in attainment plans in other nonattainment areas. A full discussion of the RACM/RACT analysis and control strategies are presented in the Oakridge Update Attainment Strategies Section and Appendix 3, Attachment 3.3j. Table 5 provides a chart of the RACM/RACT implemented for the Oakridge area and the emission reductions modeled for each control strategy. All measures are currently being implemented.

LRAPA's approach to the RACM/RACT analysis targets emissions that occur during the wintertime when stagnant air episodes occur and concentrations of emissions accumulate, leading to exceedances of the 2006 24-hour $PM_{2.5}$ NAAQS. The dominant source of $PM_{2.5}$ in Oakridge on worst-case winter days is wood combustion in wood stoves and fireplaces (approximately 86% in the 2008 base year emissions inventory). Therefore, LRAPA identified strategies in the Oakridge Update that focused primarily on RWC emission reductions. The long-term permanent RWC strategies consist of a mandatory curtailment program, a wood stove changeout program, the Oregon and the EPA wood stove certification programs, the Oregon Heat Smart Law, and Oregon State and federal transportation and fuel related measures.

LRAPA believes that the implementation of the mandatory curtailment program was key in helping this area attain the 24-hour $PM_{2.5}$ standard. The curtailment program restricts wood burning on red advisory days through Ordinance 920. Specifically, the curtailment restricts combustion in residential solid fuel-fired appliances on red advisory days when the forecast is for daily $PM_{2.5}$ to be greater than or equal to 25 $\mu g/m^3$. On red advisory days the residents within the City of Oakridge are prohibited from emitting visible emissions into the air from solid fuel

burning devices, unless the device is the sole source of heat or an economic need exemption has been granted from the City Administrator. The curtailment program is implemented through advisories forecasted by LRAPA on a daily basis. The mandatory curtailment program was modeled to provide the greatest $PM_{2.5}$ emissions reductions in the NAA of 7.1 $\mu g/m^3$.

The wood stove changeout programs in Oakridge provided incentives for homeowners to replace older uncertified wood stoves with newer, cleaner certified wood stoves. Between 2009 and 2012, the changeout program replaced 90 uncertified wood stoves in the Oakridge NAA. The removal and destruction of the old wood stoves assures emissions reductions are permanent. The changeouts are enforceable because a statewide building code prohibits the installation of any uncertified wood stove in the future. The Heat Smart Program, a statewide mandate requiring removal of uncertified wood stoves at the time of home sale, went into effect in 2010. This statewide rule closely mirrors the existing requirement in the Oakridge ordinance. LRAPA is responsible for the implementation of the Heat Smart Program in the Oakridge NAA, however, the ODEQ is required to confirm residences where owners removed or changed-out uncertified wood stoves upon home sale. Under the rule, all uncertified devices on the property being sold must be removed at the time of home sale. Three Heat Smart removals were recorded and occurred prior to December 31, 2014. The changeout programs described above are modeled to collectively provide $PM_{2.5}$ reductions in the NAA of 2.6 $\mu g/m^3$.

LRAPA applied national and state measures to reduce mobile source emissions, such as fuel economy standards and vehicle emissions standards including Oregon Low Emission Vehicle regulations (LEV II). These mobile measures are modeled to collectively provide direct $PM_{2.5}$ reductions in the NAA of 1.3 $\mu g/m^3$.

There are two existing industrial sources in the Oakridge area that are minor sources of $PM_{2.5}$ emissions (a portable rock crusher and concrete batch plant which shut down in 2014) which together emit less than one ton per year of primary $PM_{2.5}$ emissions. LRAPA explained that the air pollution control technology installed on these sources are standard for the industry and would meet RACT requirements. The rock crusher has water-spray controls and the concrete plant had baghouse controls. Furthermore, the modeled impact of these two sources is much less than 1 $\mu g/m^3$, even if they were to operate at maximum permitted production rates valid in 2014. LRAPA did not include any RACT requirement for these two minor sources in the Oakridge Update because it was determined that RACT was not needed to bring the area into attainment.

Table 5 - RACM/RACT Projected Air Quality Benefit for the Oakridge area

RACM/RACT	Modeled $PM_{2.5}$ Reductions on a Worst-Case Winter Day ($\mu g/m^3$)
Primary Control Measures	
• Mandatory curtailment program	7.1
• Wood stove changeout programs • OR Heat Smart- uncertified wood stove removal upon sale of home • OR and the EPA wood stove certification program	2.6
• Transportation and Fuel Related Measures • Diesel Retrofits of school buses • Oregon's Low Emission Vehicle Program • Increased Fuel Economy	1.3
Total	***11.0***
Total Effective Reductions*	***10.2***
Ancillary Control Measures	
• Expanded public education • Prohibits unseasoned (>20% moisture) firewood • Firewood Seasoning Program • Heating advisory extended from four to eight months • Tighter restrictions on the wood stove curtailment exemption process	0
Supplemental Control Measures	
• Expanded field compliance • Stricter wood stove curtailment program	1.7

*The individual emission reduction estimates in this table are derived from the modeled Future Design Value in 2015. Because the control strategies interact nonlinearly, the total effective reductions value is not a simple addition of the individual measures' benefits. When all control strategies are simulated together, their benefit is less than it would appear because, for instance, the curtailment ordinance has a smaller benefit when stoves have already been changed out to be cleaner.

LRAPA expects the ancillary and supplemental control measures, listed in Table 5, to increase compliance with regulations and encourage behaviors that reduce emissions. The supplemental control measures were implemented when it became clear the Oakridge NAA would not attain the 2006 24-hr $PM_{2.5}$ standard by the December 31, 2015 attainment date. The field compliance improvements were expanded in October of 2015 with the hiring of a city code enforcement officer to primarily focus on enforcing city ordinances during the winter months.

LRAPA asserts that while the expanded education and outreach is not a permanent and enforceable measures in itself, the program to enhance education, outreach, and public awareness is key to supporting the implementation of the mandatory permanent and enforceable curtailment programs, including increasing compliance rates with curtailments on red advisory days. Further discussion of these measures can be found in the Oakridge Update.

3. The EPA's Evaluation and Proposed Action: RACM/RACT

The EPA proposes to approve the primary control measures listed in Table 5 and sections of the City of Oakridge Ordinance 920 identified below in Section IV Proposed Action, regulating wood and other solid fuel burning in the Oakridge NAA. LRAPA appropriately followed a process to analyze control measures and to select RACM/RACT level controls for this specific NAA consistent with the requirement of section 172(c)(1) and the procedures for Moderate NAAs identified at 40 CFR 51.1009. The result of this process was LRAPA's adoption and implementation of a control strategy that includes the identified technologically and economically feasible control measures for sources of direct $PM_{2.5}$ in the Oakridge NAA. Furthermore, consistent with the requirements of 172(c)(6) and the procedures in 40 CFR

51.1009, LRAPA analyzed control measures to determine if there were any other reasonable control measures and found none. The area attained the 2006 24-hr $PM_{2.5}$ standard by the December 31, 2016 extended attainment date, with a corresponding 2014-2016 design value of 31 $\mu g/m^3$ in 2016, so the advancement of attainment by one year, or as expeditiously as possible, is no longer relevant.

The EPA proposes to find that the Oakridge Update provides for the implementation of RACM/RACT as required by CAA sections 189(a)(1)(C) and 172(c)(1). The EPA's evaluation of the Oakridge Update indicates that the control strategy includes permanent and enforceable requirements and takes appropriate credit for emissions reductions from those control measures. The EPA is proposing to approve LRAPA's analysis and selection of RACM/RACT as meeting the requirements of subparts 1 and 4.

D. Modeling

1. Requirements for Air Quality Modeling

CAA section 189(a)(1)(B) requires each state with a Moderate nonattainment area to submit a plan that includes, among other things, either (i) a demonstration (including air quality modeling) that the plan will provide for attainment by the applicable attainment date; or (ii) a demonstration that attainment by such date is impracticable. For model attainment demonstrations, the EPA's modeling requirements are in 40 CFR part 51, appendix W (82 FR 5182, January 17, 2017). The EPA's guidance recommendations for model input preparation, model performance evaluation, use of the model output for the attainment demonstration, and

modeling documentation are described in *Draft Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze* (Modeling Guidance).[10]

Air quality modeling is used to establish emissions targets, the combination of emissions of $PM_{2.5}$ and $PM_{2.5}$ precursors that the area can accommodate and still attain the standard, and to assess whether the proposed control strategy is likely to result in attainment of the relevant NAAQS. Air quality modeling is performed for representative episodes in the past and compared to air quality monitoring data collected during those episodes in order to determine model performance. To project future design values, the model response to emission reductions, in the form of relative response factors, is applied on a chemical species-by-species basis to the baseline design value, as implemented in the relative attainment test methodology and described in the Modeling Guidance. The future year design value is intended to estimate the projected 98^{th} percentile of the 24-hour average $PM_{2.5}$ in the attainment year.

In addition to a modeled attainment demonstration that focuses on locations with an air quality monitor, the $PM_{2.5}$ SIP Requirements Rule recommends an additional test called an "unmonitored area analysis." This analysis is intended to ensure that a control strategy leads to reductions in $PM_{2.5}$ at other locations that have no monitor, but might have base year and/or projected future year ambient $PM_{2.5}$ levels exceeding the standard. This is particularly critical where the state and/or the EPA has reason to believe that potential violations may be occurring in unmonitored areas. Finally, as discussed in the Modeling Guidance, the EPA recommends supplemental air quality analyses. These are used as part of a weight of evidence analysis, in

10 The Modeling Guidance is available on EPA's SCRAM Web site, Web page: *https://www.epa.gov/scram/state-implementation-plan-sip-attainment-demonstration-guidance; direct link: https://www3.epa.gov/scram001/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.*

which the likelihood of attainment is assessed by considering evidence other than the main air quality modeling attainment test.

For an attainment demonstration, a thorough review of all modeling inputs and assumptions is especially important because the modeling must ultimately support a conclusion that the plan (including its control strategy) will provide for timely attainment of the applicable NAAQS. The EPA recommends that states prepare a modeling protocol in order to establish, prior to actual modeling, agreed upon procedures with the appropriate EPA Regional Office for all phases of the modeling analysis.

2. Air Quality Modeling in the Oakridge Update and the EPA's Evaluation

LRAPA used a "linear roll-forward" model as the basis for projecting future design values and the effect of control strategies. In the Oakridge Update, this model is referred to as "a proportional roll-back/roll-forward" and also as a "rollback model". We use the term roll-forward here but are referring to the same model as in the Oakridge Update. A standard roll-forward model assumes all sources contribute to the WAC monitor in proportion to their weight in the emissions inventory on a species-by-species basis. The model does not explicitly treat chemistry leading to secondary $PM_{2.5}$, but as shown earlier, secondary $PM_{2.5}$ is a very small percentage of the total measured $PM_{2.5}$ in Oakridge. As implemented in the Oakridge Update, the roll-forward model assumes that the observed concentrations of secondary species (secondary organic aerosol, sulfate, nitrate, retained water, and ammonium) remain constant over time. For secondary organic aerosol concentrations from VOC precursors, LRAPA took Portland State University's results for Klamath Falls and applied them to Oakridge.

LRAPA developed multiple emission inventories for modeling attainment, one for the 2008 base year and multiple for the 2015 attainment year. The inventories used for modeling are

the worst-case season day as defined in section III.A.2. Because of the simple form of the roll-forward model and the small, homogeneous airshed of the nonattainment area, the planning inventory for the nonattainment area did not need to be expanded or modified for use as an inventory for modeling. The projected 2015 attainment year inventory accounts for all changes (i.e. vehicle fleet turnover, population changes) that were expected to occur from 2008 through December 31, 2014. LRAPA then applied each local control strategy to the projected 2015 modeling inventory in isolation, and several or all strategies jointly, in order to develop emission inventories for various emission control scenarios in the 2015 attainment year. Once the emission inventories were available, they were input into the relative attainment test to estimate the future year design value.

To calculate the projected 2015 $PM_{2.5}$ design value, LRAPA performed the SMAT methodology, as recommended in the EPA modeling guidance. LRAPA used the ratio of attainment year (2015) to base year (2008) modeling results to derive relative response factors for organic carbon, elemental carbon, and "other $PM_{2.5}$" (mainly crustal material). The relative response factor for organic carbon does not account for changes in secondary organic aerosol, as estimated by Portland State University, because secondary organic aerosol is held constant between the base year and the attainment year (2015). The concentration of secondary species sulfate, nitrate, retained water, and ammonium are held constant between the base year and the attainment year (2015), and thus those species have a response factor of 1. These response factors were applied to concentrations of chemical species in the baseline design value to produce an attainment year design value. The results of this process are further discussed in the Attainment Demonstration section E. Details of the analysis are presented in Appendix 3, Attachment H of the Oakridge Update.

LRAPA chose the 2006-2010 period for the baseline to represent conditions before emission controls and calculated a baseline design value of 39.5 $\mu g/m^3$. The concentrations of chemical species used in the baseline design value were drawn from the monitoring data for the top 25 percent most polluted wintertime days (in the first and fourth quarters) when speciated monitoring was collected (between July 2009 and July 2011). Only the top 25 percent was used because there are many cleaner days in the winter when the emission source mix and contributions of $PM_{2.5}$ to the monitor are not relevant for air quality planning to meet the 24-hour $PM_{2.5}$ standard. The top 25 percent most polluted wintertime days best captured the days with weather conditions and emissions patterns that occur when the standard is exceeded. The average of the speciated concentrations of the top 25 percent most polluted days were weighted to the observed $PM_{2.5}$ concentrations from the official regulatory data at the WAC, such that the speciated $PM_{2.5}$ data used for air quality modeling (and for the precursor demonstration) are reflective of the baseline design value of 39.5 $\mu g/m^3$. The technique was not used for the second and third quarters because an examination of the $PM_{2.5}$ data from the baseline period 2006-2010 showed that the data from the second and third quarters were too low to affect the attainment year design value.

The Oakridge Update also contains an unmonitored area analysis and supplemental information as additional support for the modeling demonstration. LRAPA conducted a saturation study in 2002-2003 in the town of Oakridge and in 2009-2010 for the Westfir portion of the nonattainment area (*See* Oakridge Update appendix 3.A). The area around the WAC had the highest concentrations of $PM_{2.5}$ in the winter when the air was polluted. LRAPA submitted a positive matrix factorization (PMF) source apportionment study conducted by the EPA Region 10 (*See* Oakridge Update appendix 3.E.2). That report concluded that primary emissions of wood

smoke was responsible for about 75% of the $PM_{2.5}$ on polluted days above 25 $\mu g/m^3$. In comparison, the base year emission inventory attributes 80% of the primary $PM_{2.5}$ on Worst Case Days to wood smoke.

3. The EPA's Conclusions on Air Quality Modeling

The model inputs, model design, modeling emission inventories, supplemental information, and attainment test methodology are appropriate for nonattainment planning and for an attainment demonstration in the Oakridge NAA. The roll-forward model used by LRAPA is not the standard attainment model used in larger areas and in areas with significant secondary $PM_{2.5}$. However, the roll-forward model is well-suited to a nonattainment area that is on the scale of 5-10 km and to an area where secondary $PM_{2.5}$ is limited. The extra complexity of a gridded photochemical model would add little value and may be less transparent and more difficult to use for testing out RACT/RACM measures. LRAPA's unmonitored area analysis shows that a roll-forward model based on the data and location of the WAC is appropriate because other parts of the nonattainment area experience lower $PM_{2.5}$ concentrations on polluted winter days. By keeping the $PM_{2.5}$ concentration of sulfate, nitrate, retained water, and ammonium the same in 2015 as in 2008, LRAPA is estimating a conservatively high attainment year design value because the emission inventories show that precursor emissions to those secondary species went down between 2008 and 2015, sometimes substantially (*See* Tables 2 and 3 in section III.A.2). If secondary $PM_{2.5}$ reductions were included in the model, the modeled future year design value would be slightly lower.

The EPA is proposing to find that LRAPA's model adequately meets the current EPA modeling requirements, and uses acceptable modeling techniques to demonstrate attainment by December 31, 2015. The EPA also proposes to find that the modeling is adequate for purposes of supporting the control strategy analysis, RFP, and contingency measures.

E. Attainment Demonstration

1. Requirements for Attainment Demonstration

CAA section 189(a)(1)(B) requires that each Moderate area attainment plan include a demonstration that the plan provides for attainment by the latest applicable Moderate area deadline or, alternatively, that attainment by the latest applicable attainment date is impracticable. A demonstration that the plan provides for attainment must be based on air quality modeling consistent with the EPA's modeling regulations (51.1011(a)(2); 51.1011(a)(4)(ii); and 81 FR 58049). In SIP submissions to demonstrate attainment, the state should document that its required control strategy in the plan represents the application of RACM/RACT to existing sources.

CAA section 188(c) states, in relevant part, that the Moderate area attainment date ''shall be as expeditiously as practicable but no later than the end of the sixth calendar year after the area's designation as nonattainment." For the 2006 24-hour $PM_{2.5}$ NAAQS, effective December 14, 2009, the applicable Moderate area attainment date under section 188(c) for the Oakridge NAA is as expeditiously as practicable, but no later than December 31, 2015.

In addition, the EPA's August 24, 2016, $PM_{2.5}$ SIP Requirements Rule provides that a state's modeled attainment demonstration needs to establish that an area will attain the NAAQS

by the projected attainment date. Practically speaking, this is considered satisfied by the modeling showing that the 98th percentile is below the standard for the attainment year (81 FR 58010, at page 58054). The EPA authorizes this approach because of the potential availability of extensions of the attainment date under relevant provisions of the CAA. In other words, if ambient data show attainment-level concentrations in the applicable statutory attainment year, a state may be eligible for up to two 1-year extensions of the attainment date. *See* 40 CFR 51.1005. Using this provision, a state may be able to attain the NAAQS by the December 31, 2016 extended attainment date, even if the measured design value (a 3-year average) for an area does not meet the NAAQS by the end of the 6th calendar year after designation. For this reason, the EPA's $PM_{2.5}$ SIP Requirements Rule indicates that it is acceptable for a state to model air quality levels for the final statutory attainment year in which the area is required to attain the standard (in this case 2015).

2. Attainment Demonstration in the Oakridge Update

In the Attainment Demonstration section of the Oakridge Update, LRAPA described how its chosen control strategies would provide the emissions reductions needed to demonstrate attainment by December 31, 2015. The majority of projected control strategy air quality benefits came from the wood smoke curtailment program, the wood stove changeout program, and the Heat Smart program. A more detailed discussion of these strategies can be found in section III. C. RACT/RACM above.

Table 6 lists the control strategies, the modeled $PM_{2.5}$ benefit in the attainment year from each major control strategy, and the attainment year design value from all control strategies implemented together. LRAPA estimated the total effective emissions reductions from the adopted control strategy in the Oakridge Update would result in a 10.2 $\mu g/m^3$ reduction from the

baseline design value of 39.5 μg/m^3 at the WAC monitor resulting in a 2015 attainment year design value of 29.3 μg/m^3. The design value represents the modeled 98th percentile for 2015 based on controls in place by December 31, 2014.

Table 6 - 2015 Attainment Demonstration Strategies for the Oakridge Area

Control Strategies	Projected Air Quality Benefit (μg/m^3)
Baseline Design Value	**39.5**
Primary Control Measures (Table 5 contains a detailed list of control strategies)	10.2
Future Design Value 2015	29.3

*The individual emission reduction estimates in this table are derived from the modeled Future Design Value in 2015. The air quality benefit for the control measures are presented in Table 5. Because the control strategies interact nonlinearly, the final design value is not a simple subtraction of the individual measures' benefits from the baseline design value. When all control strategies are simulated together, their benefit is less than it would appear because, for instance, the curtailment measure has a smaller benefit when stoves have been changed out to be cleaner.

3. The EPA's Evaluation and Proposed Action: Attainment Demonstration

We have evaluated the Oakridge attainment demonstration, supporting air quality modeling, supplemental analyses, and RACM/RACT control strategy analyses which address the adoption of all reasonable measures. The EPA's evaluation of the Oakridge Update indicates that the control strategy includes permanent and enforceable requirements and takes appropriate credit for emissions reductions from those control measures. We are proposing to approve the Oakridge attainment demonstration for the area. LRAPA showed that emission controls were in place in order to demonstrate attainment by December 31, 2015 for the 2006 $PM_{2.5}$ NAAQS. The requirement to demonstrate that attainment could not be advanced by a year or more by

implementing additional measures as expeditiously as practicable was met in that there were no additional reasonable control measures available for implementation.

The area needed to identify at least 4.1 $\mu g/m^3$ of reductions to get from the baseline design value of 39.5 $\mu g/m^3$ to attain the 2006 $PM_{2.5}$ NAAQS. With a 2014-2016 design value of 31 $\mu g/m^3$, the emissions reductions from the implementation of the adopted permanent and enforceable measures of 10.2 $\mu g/m^3$ are sufficient to provide a buffer below the 35 $\mu g/m^3$ standard and demonstrate attainment. Recent monitoring data demonstrates attainment with the NAAQS and that the plan was effective.

Finally, the unmonitored area analysis confirms that the WAC is the highest neighborhood-scale location in the nonattainment area on polluted winter days. Given the high contribution of wood smoke to high $PM_{2.5}$ levels at the WAC monitor, the relatively uniform distribution of emissions within the nonattainment area, and the focus of control measures on wood burning, it is reasonable to conclude that demonstrating attainment at the WAC monitor assures attainment elsewhere in the nonattainment area.

F. Reasonable Further Progress (RFP) and Quantitative Milestones (QM)

1. Requirements for RFP and QMs

CAA section 172(c)(2) requires nonattainment area plans to provide for RFP. In addition, CAA section 189(c) requires $PM_{2.5}$ nonattainment area SIPs to include QMs to be achieved every 3 years until the area is redesignated to attainment and which demonstrate RFP. CAA section 171(1) defines RFP as ''such annual incremental reductions in emissions of the relevant air pollutant as are required by [Part D] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable [NAAQS] by the applicable date.'' Neither subpart 1 nor subpart 4 require that a set percentage of emissions reductions be achieved in any

given year for purposes of satisfying the RFP requirement for $PM_{2.5}$ NAAQS. Because RFP is an annual emission reduction requirement and the QMs are to be achieved every 3 years, when a state demonstrates compliance with the QM requirement, it provides an objective evaluation of RFP that has been achieved during each of the relevant 3 years. 40 CFR 51.1013(a)(1)(ii).

An attainment plan for a $PM_{2.5}$ nonattainment area must include an RFP analysis that demonstrates that sources in the area will achieve such annual incremental reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors as are necessary to ensure attainment as expeditiously as practicable. 40 CFR 51.1012(a). The RFP analysis must include a schedule for implementation of the control measures and provide projected emissions from these measures for each applicable milestone year. *Id.* at 51.1012(a)(1)-(2). At a minimum, QMs for a Moderate area attainment plan must track progress achieved in implementing RACM/RACT and additional reasonable control measures by each milestone date. Therefore, timely implementation of the control measures that achieve the emissions reductions comprising the RFP plan provides a means for satisfying the QM requirement.

The CAA does not specify the starting point for counting the 3-year periods for QMs under CAA section 189(c). However, the EPA's longstanding interpretation of the CAA is that the first QM should fall 3 years after the latest date on which the state should have submitted the attainment plan. For the 2006 $PM_{2.5}$ NAAQS, the EPA set QMs to be achieved no later than 3 years after December 31, 2014, and every 3 years thereafter until the QM date that falls within 3 years after the applicable attainment date. 40 CFR 51.1013(a)(4). Accordingly, the only QM date for the Oakridge NAA Moderate attainment plan must be met no later than December 31, 2017 (3 years after December 31, 2014), with additional QM dates to be identified in the Serious attainment plan if needed.

2. RFP and QMs in the Oakridge Update

The Oakridge Update identifies direct $PM_{2.5}$ emission reductions achieved as a result of progressively implemented control strategies. These control strategies were implemented from 2008 through 2016 and continue to be in effect. LRAPA provided a table in the Oakridge Update that listed the $PM_{2.5}$ control strategies, the implementation timeframes and direct $PM_{2.5}$ emissions reductions realized. Table 7 summarizes this information.

Table 7 - Summary of $PM_{2.5}$ Air Quality Improvements from RWC Strategies

RWC Strategy	**Reductions on Worst Case Winter Days-Direct $PM_{2.5}$**		**Time Period**
	lb/day	µg/m^3	
Changeouts	38	2.6	2009-2014
Curtailment Program	107	7.1	2009-2014
Strengthened Curtailment Program	25	1.7	2015-2016

LRAPA provided a projected year emissions inventory and modeled concentrations for 2016 which is within the three-year period after the applicable attainment date (3 years after December 31, 2014). The 2016 projected emissions inventory and modeling reflects the contingency measures implemented in 2015 in order to meet the 2006 24-hr $PM_{2.5}$ standard by the December 31, 2016 extended attainment date. The demonstrated impact of these measures (stronger curtailment program and enhanced enforcement on more red advisory days) showed a reduction in $PM_{2.5}$ emissions by an additional 25 lb/day and a reduction in $PM_{2.5}$ concentrations on worst case days by an additional 1.7 µg/m^3. The modeled $PM_{2.5}$ concentration for 2016 was 27.5 µg/m^3 and the actual 98th percentile for 2016 was 21.7 µg/m^3.

In the Oakridge Update, LRAPA outlined their plan to submit to the EPA, by June 30, 2017, a Quantitative Milestone report and an annual RFP update in the event the standard was not attained by December 31, 2016. The QM report would explain ongoing progress in implementing the required control measures in the area until attainment of the 2006 24-hr $PM_{2.5}$ NAAQS was achieved.

3. The EPA's Evaluation and Proposed Action: RFP and QMs

The EPA proposes to find that the Oakridge Update adequately meets both the RFP and QM requirements for this area as specified in the CAA and the $PM_{2.5}$ SIP Requirements Rule. Even though LRAPA did not label the information we relied on to make our determination as RFP and QM, it was clear that attainment was achieved incrementally and the area substantively met the RFP and QM requirements based on other data gathered from their submission.

As of the time the state submitted the Oakridge Update, the area was attaining the 2006 24-hour $PM_{2.5}$ NAAQS. After reviewing the Oakridge Update, the EPA identified that the control strategies were implemented on time and achieved incremental emission reductions that resulted in attainment of the 2006 24-hour $PM_{2.5}$ NAAQS by the extended attainment date. The Oakridge Update provides sufficient data to identify emission reductions necessary for quantifying reasonable progress towards demonstrating attainment. The key control strategies for attainment were implemented and emissions reductions achieved during the period of nonattainment as a result of measures implemented in the area. These measures collectively contributed to the attainment of the 2006 $PM_{2.5}$ NAAQS by December 31, 2016. As a result, the area needs no further annual incremental emissions reductions.

The EPA finds that the adopted measures listed in Table 7 are being implemented and sufficient incremental reductions in emissions occurred over the attainment period to satisfy the RFP requirement. Further, the EPA concludes that the accounting of control measure implementation and the resultant emissions reductions satisfy the QM requirement for the area. For these reasons, the EPA proposes to approve the submitted Oakridge Update as meeting both the RFP and QM requirements.

The requirement to submit and achieve milestones does not continue after attainment of the NAAQS. Although section 189(c) states that revisions shall contain milestones which are to be achieved until the area is redesignated to attainment, such milestones are designed to show reasonable further progress "toward attainment by the applicable attainment date," as defined by section 171. Thus, it is clear that once the area has attained the standard, a demonstration to satisfy the QM requirement is no longer necessary. This interpretation is supported by language in section 189(c)(3), which mandates that a state that fails to achieve a milestone must submit a plan that assures that the state will achieve the next milestone or attain the NAAQS if there is no next milestone.

G. Contingency Measures

1. Requirements for Contingency Measures

Under CAA section 172(c)(9), $PM_{2.5}$ plans must include contingency measures to be implemented if an area fails to meet RFP or fails to attain the $PM_{2.5}$ standards by the applicable attainment date. The purpose of contingency measures is to continue progress in reducing emissions during the period while a state is revising its SIP to address a failure, such as a failure to meet a QM requirement or failure to attain. The principal considerations for evaluating contingency measures are:

- Contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly upon failure to meet RFP or failure of the area to meet the NAAQS by its attainment date.
- The SIP must contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measures will be implemented without further action by the state or by the EPA. In general, we expect all actions needed to affect full implementation of the measures to occur within 60 days after the EPA notifies the state of a failure.
- The contingency measures shall consist of control measures that are not otherwise included in the control strategy or that achieve emissions reductions not otherwise relied upon in the control strategy for the area.
- The measures should provide for emissions reductions equivalent to approximately one year of reductions needed for RFP calculated as the overall level of reductions needed to demonstrate attainment divided by the number of years from the base year to the attainment year. 81 FR 58066.

2. Contingency Measures in the Oakridge Update

In 2014, LRAPA determined the Oakridge NAA was not making reasonable further progress toward attaining the 2006 24-hr $PM_{2.5}$ NAAQS by the December 31, 2015, attainment date. In addition to requesting a 1-year extension of the 2015 attainment date, LRAPA and the City of Oakridge triggered the following contingency measures contained in the 2012 PM2.5 SIP submittal[11].

[11] These contingency measures were previously disapproved by EPA (81 FR 72714) because the regulatory text of the contingency measures (Oakridge Ordinance 914) had not been included as a part of that SIP submission.

- A stricter advisory program, reducing the red advisory threshold by 5 μg/m^3, from 30 μg/m^3 to 25 μg/m^3 thereby potentially increasing the average number of red advisory days by 5 days per year – adopted into Oakridge Ordinance 920.
- Expanding field compliance with a dedicated Oakridge Police Department compliance officer.

The contingency measures for stronger enforcement on more red advisory days were modeled and projected to reduce the future year design value by 1.7 μg/m^3, which is greater than the one year of RFP reductions of 0.7 μg/m^3 needed per year to demonstrate attainment by the attainment year.[12] These contingency measures are fully implemented, submitted as part of the permanent and enforceable control strategy in the Oakridge Update (Oakridge Ordinance 920) and have helped the area achieve attainment by 2016.

In order to address the next potential triggering event, failure to attain the applicable standard, LRAPA identified two additional contingency measures and submitted them as part of the Oakridge Update. In accordance with basic requirements for valid contingency measures, these two measures are not required to meet other attainment plan requirements and are not relied on in the control strategy. The contingency measures in the Oakridge Update are:

- An increase in the number of red advisory days each winter. LRAPA projects that by reducing the red advisory thresholds by 3 μg/m^3, from 25 μg/m^3 to 22 μg/m^3, the average number of potential red advisory days will increase by three to five additional days per year; and

[12] Other provisions were adopted in Ordinance 920, but weren't relied upon as contingency measures to establish the one year of RFP reduction needed per year to demonstrate attainment by the attainment year.

- Prohibition of fireplace use on yellow advisory days (in addition to the existing prohibition on red advisory days).

These contingency measures were adopted as part of the City of Oakridge Ordinance 920. In accordance with basic requirements for valid contingency measures, they will go into effect for the October 1, 2017, wood heating season with minimal further action by the state or the EPA in response to a triggering event; in this case the measures adopted by LRAPA will automatically go into effect if the EPA makes a finding that Oakridge fails to attain by the applicable attainment date. Implementation of the contingency measures are projected to reduce the future year design value by 2.8 $\mu g/m^3$, which is greater than the one year of RFP reductions of 0.7 $\mu g/m^3$ needed per year to demonstrate attainment by the attainment year.

3. The EPA's Evaluation and Proposed Action: Contingency Measures

The Oakridge Update includes contingency measures that would take effect upon failure of the Oakridge NAA to attain by the applicable attainment date, December 31, 2016. The Oakridge NAA monitored attainment of the 2006 24-hour $PM_{2.5}$ NAAQS by the applicable attainment date. In this notice, the EPA is proposing to approve the contingency measures included within the Oakridge Ordinance 920 as meeting the requirements of section 176(c) of the CAA.

H. Motor Vehicle Emissions Budgets

1. Requirements for the Motor Vehicle Emissions Budgets

Section 176(c) of the CAA requires Federal actions in nonattainment and maintenance areas to "conform to" the goals of SIPs. This means that such actions will not cause or contribute to violations of a NAAQS, worsen the severity of an existing violation, or delay timely attainment of any NAAQS or interim milestones. Actions involving Federal Highway

Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the transportation conformity rule (40 CFR part 93, subpart A) as well as the Oregon transportation conformity SIP which cites the national rule (77 FR 60627). Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state air quality and transportation agencies, the EPA, the FHWA and the FTA to demonstrate that their long-range transportation plans and transportation improvement programs (TIPs) conform to applicable SIPs. This demonstration is typically determined by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (MVEB) contained in a SIP.

The emissions inventories should identify MVEB for the attainment year and each RFP milestone year for direct $PM_{2.5}$ and NO_x. The MVEB should also reflect VOC, SO_2, and NH_3, if transportation-related emissions of these precursors have been found to contribute significantly to the $PM_{2.5}$ nonattainment problem (40 CFR 93.102(b)(2)(iv)). All direct $PM_{2.5}$ SIP budgets should include direct $PM_{2.5}$ motor vehicle emissions from tailpipe, brake wear, and tire wear. A state must also consider whether re-entrained paved and unpaved road dust are significant contributors and should be included in the direct $PM_{2.5}$ budget. *See* 40 CFR 93.102(b) and 93.122(f) and the conformity rule at *https://nepis.epa.gov/Exe/ZyPDF.cgi/P100E7CS.PDF?Dockey=P100E7CS.PDF*.

2. Motor Vehicle Emissions Budgets in the Oakridge Update

Oakridge is considered an isolated rural nonattainment area, so transportation conformity under 40 CFR 93.109(g) is only needed when a non-exempt federally-funded project is funded or approved. The Oakridge Update includes budgets for direct $PM_{2.5}$ for 2015. The budget was calculated with the assistance of the ODEQ using the MOVES2014a vehicle emissions model

and was executed with locally developed inputs representative of wintertime calendar year 2015 conditions. The mobile source emissions were modeled to steadily decrease between 2008 and 2015 as a result of cleaner vehicles and cleaner fuels. Secondary particulate is a minor contributor to the Oakridge $PM_{2.5}$ air pollution concentrations on worst winter days as summarized above in section III. B. Therefore, the Oakridge 2015 MVEB of 22.2 lb/day for direct $PM_{2.5}$ is a sum of primary exhaust, brake wear and tire wear.

3. The EPA's Evaluation and Proposed Action: Motor Vehicle Emissions Budgets

For MVEB to be approvable, they must meet, at a minimum, the EPA's adequacy criteria (40 CFR 93.118(e)(4)). In this notice, the EPA is proposing to approve the comprehensive precursor demonstration for SO_2, NO_x, NH_3, and VOCs (*See* section III. B) and proposing to find that the state does not need to address precursors in the Oakridge Update for purposes of the MVEB, or regional emissions analyses in transportation conformity determinations. The EPA has reviewed the MVEB and found it to be consistent with the attainment of the 2006 24-hour $PM_{2.5}$ NAAQS and that it met the criteria for adequacy and approval (82 FR 26090, June 6, 2017). The EPA proposes to approve the 2015 MVEB of 22.2 lb/day for direct $PM_{2.5}$ for the 24-hour $PM_{2.5}$ NAAQS for the Oakridge NAA. As a clarification, only the 2015 MVEB in the submittal is applicable to the attainment plan and only the 24-hour budget will be used for conformity purposes. As such, the EPA believes that these motor vehicle emissions meet applicable requirements for such budgets for purposes of the 2006 24-hour $PM_{2.5}$ NAAQS for transportation conformity purposes. If approved as proposed, this action will lift the conformity freeze put in place as of November 21, 2016 (40 CFR 72714).

IV. Proposed Action

The EPA proposes to:

- Determine that the Oakridge area attained the 2006 24-hour $PM_{2.5}$ NAAQS by the December 31, 2016 attainment date as demonstrated by quality-assured and quality-controlled 2014-2016 ambient air monitoring data.
- Make a clean data determination (CDD) in accordance with the EPA's clean data policy. In the event that EPA determines in its final action that the Oakridge Update should not be approved, the Clean Data Determination would suspend Oregon's obligation to submit a revised SIP to address the attainment planning requirements related to attainment of the 2006 24-hour $PM_{2.5}$ NAAQS, and would toll the FIP and sanctions clocks that were started by the EPA's prior disapprovals as long as the area remains in attainment.
- Fully approve the remaining elements of the Oakridge Update as meeting the requirements section 110(k) of the CAA. Specifically, the EPA has determined the Oakridge Update meets the substantive statutory and regulatory requirements for base year and projected emissions inventories for the nonattainment area, and an attainment demonstration with modeling analysis and imposition of RACM/RACT level emission controls, RFP plan, QMs, and contingency measures. Therefore, the EPA is proposing to approve these elements[13]. The EPA is also proposing to approve a comprehensive precursor demonstration for VOCs, SO_2, NO_x, and NH_3. The EPA is also proposing to approve the 2015 MVEB of 22.2 lb/day for direct $PM_{2.5}$.
- Approve, and incorporate by reference, the following sections in the City of Oakridge Ordinance 920: Section 1 Definitions; Section 2(1) Curtailment; Section 2(2) Prohibited

[13] It is important to note, the 2016 Oakridge Update includes the complete 2012 Oakridge Attainment Plan which was previously partially approved, partially disapproved (81 FR 72714). In this action, the EPA is taking no action on the following elements of 2012 Oakridge Attainment Plan included in Appendix 3 of the 2016 Oakridge Update; the 2012 Oakridge $PM_{2.5}$ Attainment Plan and associated appendices F1, F6 and K. These elements are considered informational elements, not essential for making decisions on the 2016 Oakridge Update. On February 24, 2016, ODEQ withdrew appendices F2 and F3 from the Oakridge $PM_{2.5}$ Attainment Plan submittal and clarified that they were provided for informational purposes only.

materials; Section 3 Solid Fuel Burning Devices Upon Sale of the Property; Section 4 Solid Fuel Burning Devices Prohibited; Section 5 Solid Fuel Burning Devices Exemptions; Section 7 Contingency Measures.

V. Incorporation by Reference

In this rule, we are proposing to include in a final rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, we are proposing to incorporate by reference the provisions described above in Section IV. Proposed Action. The EPA has made, and will continue to make, these documents generally available electronically through *https://www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the ADDRESSES section of this preamble for more information).

VI. Statutory and Executive Order Reviews

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

and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this proposed 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 proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;

- 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 (Public Law 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 CAA; and
- Does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175

(65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

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

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

Dated: November 1, 2017.

Michelle L. Pirzadeh,
Acting Regional Administrator,
Region 10.

[FR Doc. 2017-24539 Filed: 11/13/2017 8:45 am; Publication Date: 11/14/2017]