

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA–R10–OAR–2024–0595; FRL–12391–02–R10]

### Air Plan Approval; AK, Fairbanks North Star Borough; 2006 24-Hour PM<sub>2.5</sub> Serious Area and 189(d) Plan

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

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve the state implementation plan (SIP) revisions submitted by the State of Alaska (Alaska or the State) on December 4, 2024, to address Clean Air Act requirements for the 2006 24-hour fine particulate matter (PM<sub>2.5</sub>) national ambient air quality standards in the Fairbanks North Star Borough Serious PM<sub>2.5</sub> nonattainment area. Alaska's submission includes SIP revisions to meet nonattainment planning requirements for emissions inventories, modeling and sulfur dioxide precursor demonstration for major stationary sources, control measures, attainment projections and progress to attainment and associated motor vehicle emissions budgets, and contingency measures. The EPA is also starting the adequacy process for the budgets.

**DATES:** *Comments.* Written comments must be received on or before February 7, 2025.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA–R10–OAR–2024–0595, 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>.

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

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#### I. Background

In 2009, the EPA designated a portion of the Fairbanks North Star Borough as “nonattainment” for the 2006 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS), which is set at the level of 35 micrograms per cubic meter (µg/m<sup>3</sup>) (Fairbanks PM<sub>2.5</sub> Nonattainment Area) (74 FR 58688, November 13, 2009).<sup>1</sup> Effective July 2, 2014, the EPA classified the area as “Moderate” (79 FR 31566, June 2, 2014). Subsequently, Alaska submitted, and the EPA approved, a plan to meet the Moderate nonattainment area requirements (82 FR 42457, September 8, 2017) (Fairbanks Moderate Plan).

On May 10, 2017, the EPA determined that the Fairbanks PM<sub>2.5</sub> Nonattainment Area failed to attain the 2006 24-hour PM<sub>2.5</sub> NAAQS in the area by the outermost statutory Moderate area attainment date of December 31, 2015 (82 FR 21711). The outermost attainment date is the latest date by which an area can attain the NAAQS per statute. As a result, the Fairbanks PM<sub>2.5</sub> Nonattainment Area was reclassified as a “Serious” nonattainment area by operation of law.

Upon reclassification as a Serious PM<sub>2.5</sub> nonattainment area, the State was required to submit a Serious area attainment plan satisfying the

requirements of Clean Air Act (CAA or Act) sections 172, 189(b), and 189(c) and 40 CFR 51.1003(b). In accordance with CAA section 188(c)(2), the outermost attainment date for a Serious area is no later than the end of the tenth calendar year following designation (*i.e.*, December 31, 2019).

Alaska submitted a plan to address the Serious PM<sub>2.5</sub> nonattainment area requirements on December 13, 2019 (Fairbanks Serious Plan).<sup>2</sup> Along with the required planning elements, the Fairbanks Serious Plan included more stringent performance and operating requirements for residential and commercial heating devices, new regulations for wood sellers, and some requirements for stationary sources in the nonattainment area. The Fairbanks Serious Plan is comprised of revisions to Title 18, Chapter 50, of the Alaska Administrative Code (18 AAC 50) and the State Air Quality Control Plan, adopted and incorporated by reference into State law at 18 AAC 50.030(a).<sup>3</sup> On January 9, 2020, in accordance with CAA section 110(k)(1)(B), the EPA determined that the Fairbanks Serious Plan was administratively and technically complete (85 FR 7760, February 11, 2020).

Within the Fairbanks Serious Plan, the State sought an extension of the otherwise applicable attainment date through CAA section 188(e). On September 2, 2020, the EPA determined that the area failed to attain by the Serious area attainment date and denied the State's Serious area attainment date extension request (85 FR 54509). As a result, Alaska was required to submit a revised SIP submission to meet both the Serious area attainment plan requirements and the additional requirements set forth in CAA section 189(d) by December 31, 2020.<sup>4</sup> Alaska submitted the revised plan on December 15, 2020 (Fairbanks 189(d) Plan). The Fairbanks 189(d) Plan updated a number of chapters of the narrative portion of the State Air Quality Control Plan, adopted and incorporated by reference into State law at 18 AAC 50.030(a).

On September 24, 2021, the EPA approved the 2013 base year emissions inventory and the PM<sub>2.5</sub> precursor

<sup>2</sup> We note that Alaska submitted a SIP revision on October 25, 2018, to address the preconstruction permitting new source review (NSR) requirements for the Fairbanks Serious nonattainment area, among other things. The EPA approved the submission as meeting the nonattainment NSR requirements for the Fairbanks Serious Plan on August 29, 2019 (84 FR 45419).

<sup>3</sup> We note that 18 AAC 50.030(a) is not submitted, rather Alaska submits the adopted provisions separately for EPA approval.

<sup>4</sup> 40 CFR 51.1003(c).

<sup>1</sup> See 40 CFR 81.302.

demonstration elements of the Fairbanks Serious Plan as meeting the Serious area planning requirements (86 FR 52997). In the same action, the EPA approved other plan components as SIP strengthening, including: (1) the updated Fairbanks Emergency Episode Plan<sup>5</sup> that the State adopted on November 18, 2020, and submitted on November 15, 2020; and (2) the regulatory control measures included in the SIP submissions on October 25,

2018, and November 28, 2018 (in addition to the December 13, 2019, submission).<sup>6</sup> The EPA did not determine as part of the September 24, 2021, approval whether these SIP strengthening components met specific nonattainment plan requirements, including control strategy requirements in CAA section 189 and 40 CFR 51.1010 or the contingency measure requirements in CAA section 172(c)(9) and 40 CFR 51.1014.

Finally, on December 5, 2023, the EPA acted on the remaining elements required for a Serious nonattainment area that failed to attain by the Serious area attainment date. Table 1 of this preamble provides a summary of the December 5, 2023, final rule approving in part and disapproving in part the Fairbanks Serious Plan and Fairbanks 189(d) Plan.<sup>7</sup>

TABLE 1—SUMMARY OF THE EPA’S DECEMBER 5, 2023, FINAL RULE

Description of CAA planning requirement	Approval	Disapproval
Base year emissions inventory for Serious areas subject to CAA section 189(b) * (CAA section 172(c)(3); <sup>8</sup> 40 CFR 51.1008(b)(1)).	Approval of the 2013 base year emissions inventory.	
Base year emissions inventory for areas subject to CAA section 189(d) (CAA section 172(c)(3); 40 CFR 51.1008(c)(1)).	Approval of the 2019 base year emissions inventory.	
Attainment projected emissions inventory (CAA section 172(c)(1); <sup>9</sup> 40 CFR 51.1008(c)(2)).	.....	Disapproval.
Serious area nonattainment plan control strategy that ensures that best available control measures (BACM), including best available control technologies (BACT), for the control of direct PM <sub>2.5</sub> and PM <sub>2.5</sub> precursors are implemented in the nonattainment area (CAA section 189(b)(1)(B); <sup>10</sup> 40 CFR 51.1010(a)).	Partial approval of the control strategy as meeting BACM and BACT requirements under CAA section 189(b)(1)(B) <sup>11</sup> and 40 CFR 51.1010(a) for the solid fuel home heating device source category and residential and commercial fuel oil combustion source category; Partial approval of the control strategy approved as meeting BACM and BACT requirements under CAA section 189(b)(1)(B) <sup>12</sup> and 40 CFR 51.1010(a) for the charbroiler, used oil burner, and mobile source categories (except for rejection of vehicle anti-idling requirements); Approval of specific regulations under 18 AAC 50.075 through 077 (except the requirements for dry wood sellers under 18 AAC 50.076(k)), and Fairbanks Emergency Episode Plan (except the contingency measure portion); Partial approval as meeting applicable control strategy BACM and BACT requirements (CAA section 189(b)(1)(B) and 40 CFR 51.1010(a)) for ammonia (NH <sub>3</sub> ) for the Chena Power Plant, Doyon-Fort Wainwright Central Heating and Power Plant, University of Alaska Fairbanks Campus Power Plant, Zehnder Power Plant, and North Pole Power Plant; Partial approval of Alaska’s PM <sub>2.5</sub> and NH <sub>3</sub> BACT determinations for the Doyon-Fort Wainwright Central Heating and Power Plant; PM <sub>2.5</sub> and NH <sub>3</sub> BACT determination for the University of Alaska Fairbanks Campus Power Plant, except for the three small diesel fired engines (EUs 23, 26, and 27); PM <sub>2.5</sub> and NH <sub>3</sub> BACT determinations for the Zehnder Power Plant; PM <sub>2.5</sub> and NH <sub>3</sub> BACT determinations for the North Pole Power Plant.	Disapproval of the control strategy BACM and BACT requirements (CAA section 189(b)(1)(B) <sup>13</sup> and 40 CFR 51.1010(a)) for the following emissions source categories: (1) Requirements for wood sellers; (2) Coal-fired heating devices; (3) Coffee roasters; (4) Weatherization and energy efficiency measures; (5) Mobile source category (disapproving for lack of vehicle anti-idling requirements); Disapproval of the control strategy BACM and BACT requirements (CAA section 189(b)(1)(B) <sup>14</sup> and 40 CFR 51.1010(a)) for PM <sub>2.5</sub> and sulfur dioxide (SO <sub>2</sub> ) for the Doyon-Fort Wainwright Central Heating and Power Plant, University of Alaska Fairbanks Campus Power Plant, Zehnder Power Plant, and North Pole Power Plant.
Additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as RACM/RACT, BACM/BACT, and Most Stringent Measures (MSM) <sup>15</sup> (if applicable)) that provide for attainment of the NAAQS as expeditiously as practicable and, from the date of such submission until attainment, demonstrate that the plan will at a minimum achieve an annual five percent reduction in emissions of direct PM <sub>2.5</sub> or any PM <sub>2.5</sub> plan precursor. (CAA section 189(d); <sup>16</sup> 40 CFR 51.1010(c)).	.....	Disapproval.
Attainment demonstration and modeling (CAA sections 188(c)(2) and 189(b)(1)(A); <sup>17</sup> 40 CFR 51.1003(c) and 51.1011).	.....	Disapproval.
Reasonable further progress (RFP) provisions (CAA section 172(c)(2); <sup>18</sup> 40 CFR 51.1012).	.....	Disapproval.
Quantitative milestones (CAA section 189(c); <sup>19</sup> 40 CFR 51.1013).	.....	Disapproval.

<sup>5</sup> State Air Quality Control Plan, Vol. II, section III.D.7.12 (i.e., Alaska’s planning chapter related to air quality forecasting and curtailment levels).

<sup>6</sup> For a description of the specific control measures addressed across the State’s SIP submissions, see 86 FR 52997, September 24, 2021.

<sup>7</sup> 88 FR 84626, December 5, 2023.

TABLE 1—SUMMARY OF THE EPA’S DECEMBER 5, 2023, FINAL RULE—Continued

Description of CAA planning requirement	Approval	Disapproval
Motor vehicle emission budgets (CAA section 176, 40 CFR 51.1003(d) and 93.118).	.....	Disapproval.
An adequate evaluation by the state of sources of all four PM <sub>2.5</sub> precursors for regulation, and implementation of controls on all such precursors, unless the state 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 <sub>2.5</sub> levels that exceed the standard.* (CAA section 189(e); <sup>20</sup> 40 CFR 51.1006).	Approval of the State’s comprehensive PM <sub>2.5</sub> precursor demonstrations for NO <sub>x</sub> and VOC emissions.	
Contingency measures applicable to Serious areas subject to CAA section 189(b) (CAA section 172(c)(9)); <sup>21</sup> 40 CFR 51.1014).	.....	Disapproval of the contingency measures requirements of CAA section 172(c)(9) <sup>22</sup> and 40 CFR 51.1014 applicable to Serious areas subject to CAA sections 189(b) and 189(d).
Contingency measures applicable to Serious areas subject to CAA section 189(d) (CAA section 172(c)(9); 40 CFR 51.1014).	.....	The EPA finalized a limited disapproval of the Fairbanks 189(d) Plan contingency measure because the contingency measure did not fully meet the contingency measure requirements of CAA section 172(c)(9) and 40 CFR 51.1014 but otherwise strengthened the SIP. <sup>23</sup>
Nonattainment new source review provisions (CAA sections 172(c)(5), 189(b)(3), 189(d), and 189(e), and 40 CFR 51.165, 40 CFR 51.1003(b)(1)(viii), and 40 CFR 51.1003(c)(1)(viii) <sup>24</sup> .	Approval.	

\* The EPA finalized approval of this requirement on September 24, 2021 (86 FR 52997).

On December 4, 2024, Alaska made a SIP submission (Fairbanks Revised 189(d) Plan) intended to address the nonattainment requirements that were disapproved as part of the EPA’s December 5, 2023, final rule. CAA sections 110(a)(1) and (2) and 110(l) require each state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission of a SIP or SIP revision to the EPA. To meet this requirement, every SIP submission must include evidence that the state provided adequate public notice and an opportunity for a public hearing consistent with the EPA’s implementing regulations in 40 CFR 51.102.

On March 11, 2024, Alaska notified the public of the opportunity to review and comment on proposed regulatory changes related to the Fairbanks nonattainment area and announced two formal public hearings on April 10, 2024. The public comment period closed on May 10, 2024. Later, on August 26, 2024, Alaska opened a public comment period to solicit public review of amendments to numerous SIP sections and appendices and to notify the public of two hearings scheduled on September 26, 2024. On September 20 and 23, 2024, Alaska opened comment periods for the public to review each proposed permit revision to implement the State’s proposed regulatory changes. The comment periods closed on October 22 and 25, 2024, respectively. The SIP submission includes evidence of the public notices and copies of written and oral comments received, with the State’s associated responses. Therefore, we find that the submission meets the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l) and 40 CFR 51.102.

CAA section 110(k)(1)(B) requires the EPA to determine whether a SIP submission is complete within 60 days of receipt. This section also provides that any plan that the EPA has not affirmatively determined to be complete or incomplete will become complete by operation of law six months after the date of submission. The EPA reviewed the submission and finds it complete

based on the EPA’s SIP completeness criteria in 40 CFR part 51, appendix V.<sup>25</sup> Section II of this document summarizes the EPA’s review of Alaska’s SIP submission against the relevant CAA requirements. The EPA’s technical analysis is detailed in technical support documents in the docket for this action.

**II. Review of the SIP Revisions to the Fairbanks Serious Plan and Fairbanks 189(d) Plan**

*A. Emissions Inventory*

1. Statutory and Regulatory Requirements

CAA section 172(c)(3) requires that states submit a comprehensive, accurate, and current inventory of actual emissions from all sources of the relevant pollutant or pollutants in the nonattainment area as part of a nonattainment plan for such area. On August 24, 2016, the EPA finalized regulations implementing SIP requirements for states with areas designated as nonattainment for the PM<sub>2.5</sub> NAAQS.<sup>26</sup> This rule is codified at 40 CFR part 51, subpart Z and is referred to herein as the PM<sub>2.5</sub> SIP Requirements Rule. The PM<sub>2.5</sub> SIP Requirements Rule at 40 CFR 51.1008 contains the requirements for emissions

<sup>8</sup> 42 U.S.C. 7502(c)(3).

<sup>9</sup> 42 U.S.C. 7502(c)(1).

<sup>10</sup> 42 U.S.C. 7513a(b)(1)(B).

<sup>11</sup> 42 U.S.C. 7513a(b)(1)(B).

<sup>12</sup> *Id.*

<sup>13</sup> 42 U.S.C. 7513a(b)(1)(B).

<sup>14</sup> 42 U.S.C. 7513a(b)(1)(B).

<sup>15</sup> MSM is applicable if the EPA has previously granted an extension of the attainment date under CAA section 188(e) for the nonattainment area and NAAQS at issue. The EPA denied Alaska’s request to extend the Serious area attainment date for the Fairbanks PM<sub>2.5</sub> Nonattainment Area.

<sup>16</sup> 42 U.S.C. 7513a(d).

<sup>17</sup> 42 U.S.C. 7513(c)(2) and 7513a(b)(1)(A).

<sup>18</sup> 42 U.S.C. 7502(c)(2).

<sup>19</sup> 42 U.S.C. 7513a(c).

<sup>20</sup> 42 U.S.C. 7513a(e).

<sup>21</sup> 42 U.S.C. 7502(c)(9).

<sup>22</sup> 42 U.S.C. 7502(c)(9).

<sup>23</sup> The EPA finalized a limited approval of the Fairbanks Emergency Episode Plan, State Air Quality Control Plan, Vol. II, section III.D.7.12, as SIP-strengthening on September 24, 2021. 86 FR 52997, September 24, 2021, at pp. 52997, 53004.

<sup>24</sup> 42 U.S.C. 7502(c)(5), 7513a(b)(3), 7513a(d), and 7513a(e).

<sup>25</sup> See “SIP Submittal Checklist for the Fairbanks North Star Borough PM<sub>2.5</sub> Nonattainment Area—2024 SIP revision,” EPA Region 10, Air and Radiation Division, included in the docket for this action.

<sup>26</sup> Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements, 81 FR 58010, August 24, 2016, at p. 58149.

inventories.<sup>27</sup> The EPA has also issued additional guidance concerning emissions inventories for PM<sub>2.5</sub> nonattainment areas.<sup>28</sup> In accordance with 40 CFR 51.1008, the attainment plan must include a base year emissions inventory and attainment projected emissions inventory.

The base year emissions inventory for a Serious PM<sub>2.5</sub> nonattainment area must be one of the three years for which the EPA used monitored data to reclassify the area to Serious, or another technically appropriate year justified by the state in its Serious area nonattainment plan SIP submission.<sup>29</sup> Similarly, the base year emissions inventory for a nonattainment area subject to CAA section 189(d) must be one of the three years for which monitored data were used by the EPA to determine the area failed to attain the PM<sub>2.5</sub> NAAQS by the applicable Serious area attainment date, or another technically appropriate year justified by the state in its Serious area nonattainment plan SIP submission.<sup>30</sup> The base year emissions inventory should provide a state's best estimate of actual emissions from all sources, *i.e.*, all emissions that contribute to the formation of PM<sub>2.5</sub>. The emissions must be either annual total emissions, average-season day emissions, or both, as appropriate for the relevant annual versus 24-hour PM<sub>2.5</sub> NAAQS. The state must include a rationale for providing annual or seasonal emissions inventories, and justification for the period used for any seasonal emissions calculations.<sup>31</sup>

According to 40 CFR 51.1008, the Fairbanks Revised 189(d) Plan must include an attainment projected inventory for the nonattainment area. The year of the projected inventory shall be the most expeditious year for which projected emissions show modeled PM<sub>2.5</sub> concentrations below the level of the NAAQS. The emissions values shall be projected emissions of the same sources included in the base year inventory for the nonattainment area (*i.e.*, those only within the nonattainment area) and any new sources. The state shall include in this inventory projected emissions growth

and contraction from both controls and other causes during the relevant period. The temporal period of emissions shall be the same temporal period (annual, average-season-day, or both) as the base year inventory for the nonattainment area. The same sources reported as point sources in the base year inventory for the nonattainment area shall be included as point sources in the attainment projected inventory for the nonattainment area. Stationary nonpoint and mobile source projected emissions shall be provided using the same detail (*e.g.*, state, county, and process codes) as the base year inventory for the nonattainment area. The same detail of the emissions included shall be consistent with the level of detail and data elements as in the base year inventory for the nonattainment area (*i.e.*, as required by 40 CFR part 51, subpart A). Consistent with the base year inventory for the nonattainment area, the inventory shall include direct PM<sub>2.5</sub> emissions, separately reported PM<sub>2.5</sub> filterable and condensable emissions, and emissions of the scientific PM<sub>2.5</sub> precursors, including precursors that are not significant PM<sub>2.5</sub> plan precursors pursuant to a precursor demonstration under 40 CFR 51.1006.

A state's SIP submission must include documentation explaining how it calculated emissions data for the inventory and be consistent with the data elements required by 40 CFR part 51, subpart A.<sup>32</sup> In estimating mobile source emissions, a state must use the latest emissions models and planning assumptions available at the time the SIP is developed.<sup>33</sup> States are also required to use the EPA's "Compilation of Air Pollutant Emission Factors" ("AP-42") road dust method for calculating re-entrained road dust emissions from paved roads.<sup>34 35</sup>

<sup>32</sup> 40 CFR 51.1008(c); (a)(1)(v); 81 FR 58010, August 24, 2016, at pp. 58027–29.

<sup>33</sup> See CAA section 172(c)(3).

<sup>34</sup> The EPA released an update to AP-42 in January 2011 that revised the equation for estimating paved road dust emissions based on an updated data regression that included new emissions tests results. 76 FR 6328 (February 4, 2011).

<sup>35</sup> AP-42 has been published since 1972 as the primary source of the EPA's emission factor information. <https://www.epa.gov/air-emissionsfactors-and-quantification/ap-42-Compilation-Airemissions-factors>. It contains emission factors and process information for more than 200 air pollution source categories. A source category is a specific industry sector or group of similar emitting sources. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates.

## 2. Summary of the EPA's Prior Rulemaking Regarding the Emissions Inventory

On December 5, 2023, the EPA finalized approval of the base year emissions inventory, but the EPA finalized disapproval of the projected attainment year emissions inventory. The EPA stated that, due to the insufficient control strategy, the attainment projected emissions inventory did not necessarily take into consideration all required emissions reductions.

## 3. Summary of the State's Submission Regarding the Emissions Inventory

Based on the EPA's approval of the initial Fairbanks 189(d) Plan's base year emissions inventory, Alaska retained State Air Quality Control Plan, Vol. II, section III.D.7.6.2. However, Alaska has since updated the modeling platform and included a 2020 base year emissions inventory in the Fairbanks Revised 189(d) Plan. The modeling platform includes key elements such as the meteorological modeling, air quality modeling, and model emissions inventories. The base year planning emissions inventory for direct PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors (nitrogen oxides (NO<sub>x</sub>), SO<sub>2</sub>, volatile organic compounds (VOC), and ammonia (NH<sub>3</sub>)) and the documentation for the inventory for the Fairbanks PM<sub>2.5</sub> Nonattainment Area are located in the updated Fairbanks Emissions Inventory section.<sup>36</sup>

For projecting attainment, the 2020 base year emissions inventory incorporates the ambient monitoring data used to establish the baseline design value. Alaska stated that the 2020 base year emissions inventory accounts for emissions reductions from control measures adopted and implemented through December 31, 2019. Projected control measure-driven emissions reductions are then applied to evaluate the appropriate attainment date. Alaska also noted that, for planning purposes, the base year emissions inventory represents a baseline of nonattainment area emissions to demonstrate five percent per year emissions reductions.

Alaska stated that the Fairbanks Revised 189(d) Plan includes an entirely new photochemical modeling platform and, for the emissions inventory, features a new, more current winter 2019–2020 modeling episode. Episodic emissions for the 2020 base year inventory were based on activity collected to represent this 74-day 2019–2020 period.

<sup>36</sup> State Air Quality Control Plan, Vol. II, section III.D.7.6.9.

<sup>27</sup> 81 FR 58010, August 24, 2016, at pp. 58078–58079.

<sup>28</sup> "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA, May 2017 ("Emissions Inventory Guidance"), available at: <https://www.epa.gov/air-emissions-inventories/air-emissions-inventory-guidance-implementation-ozone-and-particulate>.

<sup>29</sup> 40 CFR 51.1008(b)(1).

<sup>30</sup> 40 CFR 51.1008(c)(1).

<sup>31</sup> 40 CFR 51.1008.

For point sources, day- and hour-specific fuel use for the new 2019–2020 modeling episode were obtained by Alaska from each of the point source facilities within the nonattainment area. Alaska noted that unlike the base year emissions inventories from earlier versions of the nonattainment plan, which projected episodic emissions from 2008 to 2013 and 2019, respectively, Alaska stated that the 2020 base year point source emissions inventory was based on the actual data during the modeling episodes.

Alaska stated that, for space heating area sources, space heating energy usage estimates for the 2020 base year emissions inventory were based on a comprehensive new Fairbanks Home Heating survey, conducted in the spring of 2023. Respondents were asked to provide information on fuel usage by device in their household for the most recent two calendar years (2021 and 2022) as well as the six-month winter

period between October 2022 and March 2023. Data from this 2023 survey were used to replace projected space heating emissions developed under previous SIP revisions using earlier 2011–2015 surveys. Alaska noted that decreases in the fraction of wood devices used in the nonattainment area and the amount of wood use per device from the survey respondents tracked well with downward trajectories of wood use expected from existing and on-going control programs such as the Fairbanks North Star Borough’s (FNSB) Wood Stove Change Out Program and the Alaska DEC’s Solid Fuel-Burning Appliance Curtailment Program. Alaska stated that survey results were then back-casted to calendar year 2020 to provide a more realistic estimate of wood-fired heating use for the 2020 base year emissions inventory.<sup>37</sup>

For on-road and non-road mobile sources, Alaska noted that the previous base year emissions inventories

included on-road vehicle populations and age distributions based on 2014 and 2018 department of motor vehicle (DMV) registration data, respectively. For the Fairbanks Revised 189(d) Plan, 2020 DMV registration data were used to align with the 2020 base year emissions inventory year. For on-road mobile sources, these 2020 DMV data were used to develop vehicle population, age distribution, and fuel type/technology inputs to the MOVES3 vehicle emissions model. For aircraft activity specifically, a recent adjustment to aircraft activity in the initial Fairbanks 189(d) Plan was made to reflect lower aircraft activity during the winter months. Otherwise, the estimates of aircraft activity in the Fairbanks Revised 189(d) Plan were unchanged. Table 2 of this preamble includes a summary of the base year emissions inventory.

TABLE 2—2020 BASE YEAR EPISODE AVERAGE DAILY EMISSIONS BY SOURCE SECTOR

Source sector	2020 base year emissions inventory (tons/day)				
	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>	VOC	NH <sub>3</sub>
Point Sources .....	0.58	13.54	6.63	0.04	0.888
Area, Space Heating .....	1.97	2.17	3.61	6.66	0.109
Area, Space Heat, Wood .....	1.89	0.23	0.04	6.55	0.067
Area, Space Heat, Oil .....	0.06	1.72	3.54	0.10	0.003
Area, Space Heat, Coal .....	0.00	0.00	0.00	0.00	0.00
Area, Space Heat, Other .....	0.02	0.22	0.02	0.01	0.039
Area, Other .....	0.11	0.36	0.03	2.21	0.047
Mobile, On-Road .....	0.07	1.18	0.000	1.42	0.040
Mobile, Aircraft .....	0.12	0.43	5.44	0.15	0.000
Mobile, Non-Road excluding aircraft .....	0.09	0.29	0.00	2.64	0.0001
Totals .....	2.95	17.96	15.71	13.04	0.285

Source: State Air Quality Control Plan, Vol. II, section III.D.7.6, Table 7.6–9.

Alaska noted for PM<sub>2.5</sub> overall, the 2020 base year emissions in the Fairbanks Revised 189(d) Plan are nine percent lower than the 2019 base year emissions inventory in the initial Fairbanks 189(d) Plan, with differences coming from space heating and mobile sources that are likely the result of on-going emissions controls.<sup>38</sup>

Alaska stated that NO<sub>x</sub> and SO<sub>2</sub> emissions in the Fairbanks Revised 189(d) Plan are 17 and nine percent higher respectively than in the initial Fairbanks 189(d) Plan. Alaska asserted that these emissions increases are largely driven by changes in the Point (and Other Area) source emissions,

since the new 74-day 2019–2020 modeling episode was based on actual emissions. In addition, the increases in NO<sub>x</sub> and SO<sub>2</sub> emissions for the Other Area source sector under the Fairbanks Revised 189(d) Plan are due to moving stationary source emissions from Eielson AFB to this sector. Under the previous base year emissions inventories, stationary source emissions from Eielson were contained in the Point source portion of the inventory.

The reductions in VOC emissions in the Fairbanks Revised 189(d) Plan are due to mobile source sector reductions in the MOVES3 model. The initial Fairbanks 189(d) Plan inventory was

based on an earlier version of MOVES that reflected higher VOC emission factors. In addition, Alaska stated that VOC reductions in the Space Heating sector are likely the result of differences in the mix of wood use by device between the two inventories. The Fairbanks Revised 189(d) Plan inventory reflects higher usage fractions of certified and pellet-based wood burning devices based on data from new 2023 Home Heating survey, and these devices have lower VOC emission factors.

Finally, Alaska noted that the difference in overall NH<sub>3</sub> emissions between the two base year inventories is very modest (one percent lower under

<sup>37</sup> For a description of the “back-cast” method, see Kotchenruther, Robert. (November 21, 2024). *Technical support document for Alaska Department of Environmental Conservation’s amendments to: State Air Quality Control Plan,*

*Emission Inventory Data (version August 19, 2024).* U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA-R10-OAR-2024-0595, section 1.5.

<sup>38</sup> For more details of the 2019 base year emissions inventory, see 88 FR 1454, January 10, 2023, at p. 1460.

the Fairbanks Revised 189(d) base year emissions inventory). These source sector-specific variations mirror the adjustments made to PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and VOC emissions discussed earlier in this section II.A of this preamble.

Building from Alaska’s new 2020 base year emissions inventory, Alaska developed its attainment projections. As a first step, Alaska constructed a 2027 baseline emissions inventory that reflected projected activity growth factors, previously implemented control measures, and other adjustments to point sources and wood usage.<sup>39</sup>

As a second step, Alaska developed the 2027 projected attainment emissions inventory by adjusting the 2027 baseline inventory to account for projected emissions reductions from the control

strategy included in the Fairbanks Revised 189(d) Plan. For a complete list of measures included in Alaska’s control strategy, see Table 4 in section II.D of this preamble below. Notably, as part of the control strategy, the Wood Stove Change Out Program and the Oil-To-Gas Conversion Program are managed by the local Fairbanks North Star Borough. Direct PM<sub>2.5</sub> reductions from these programs in 2020 through 2026 totaled over 1.3 tons per episode day. The State of Alaska manages the Solid Fuel-Burning Appliance Curtailment Program as well as seven other control measures for which emissions benefits were quantified and incorporated into the 2027 attainment projected inventory. Notably, the State recently increased the stringency of the

curtailment program by lowering the alert stages to 20 µg/m<sup>3</sup> and 30 µg/m<sup>3</sup>, respectively. Alaska also utilized funding from the 2019–2020 Targeted Airshed Grant (TAG) to purchase three dynamic message highway signs and an infrared camera and to expand staffing to increase compliance. For details of these projected emissions reductions, see the spreadsheet calculations in the State Air Quality Control Plan, Vol. III, Appendix III.D.7.6.

Alaska concluded that, after considering the emissions reductions from these control measures, the Fairbanks PM<sub>2.5</sub> Nonattainment Area could demonstrate attainment by 2027, based on the 2027 attainment year emissions inventory, as summarized in Table 3 of this preamble.

TABLE 3—2027 PROJECTED ATTAINMENT EMISSIONS INVENTORY, AVERAGE DAILY EMISSIONS BY SOURCE SECTOR

Source sector	2027 Projected attainment emissions inventory (tons/day)				
	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>	VOC	NH <sub>3</sub>
Point Sources .....	0.62	14.60	7.15	0.04	0.095
Area, Space Heating .....	0.74	2.34	1.98	8.01	0.124
Area, Space Heat, Wood .....	0.70	0.28	0.04	7.90	0.081
Area, Space Heat, Oil .....	0.02	1.83	1.91	0.10	0.004
Area, Space Heat, Coal .....	0.00	0.00	0.00	0.00	0.00
Area, Space Heat, Other .....	0.02	0.22	0.02	0.01	0.039
Area, Other .....	0.13	0.40	0.03	2.33	0.051
Mobile, On-Road .....	0.05	0.65	0.00	1.08	0.038
Mobile, Aircraft .....	0.12	0.45	5.70	0.17	0.000
Mobile, Nonroad excluding aircraft .....	0.08	0.32	0.00	2.22	0.002
<b>Totals .....</b>	<b>1.74</b>	<b>18.75</b>	<b>14.86</b>	<b>13.85</b>	<b>0.310</b>

Source: State Air Quality Control Plan, Vol. II, section III.D.7.6, Table 7.6–19.

Alaska observed that the 2027 projected attainment emissions inventory provides reductions in total PM<sub>2.5</sub> and SO<sub>2</sub> emissions within the nonattainment area of 41 percent and five percent respectively. Within the space heating sector, which has a proportionally higher impact on ambient PM<sub>2.5</sub>, Alaska noted that the 2027 projected attainment emissions inventory reductions were 63 percent and 45 percent for direct PM<sub>2.5</sub> and SO<sub>2</sub>, respectively.

4. EPA Evaluation and Proposed Action Regarding the Emissions Inventory

a. 2020 Base Year Emissions Inventory

The EPA proposes to approve the 2020 base year emissions inventory as meeting the requirements of CAA section 172(c)(3) and 40 CFR 51.1008. The EPA is proposing to determine that

Alaska has justified that 2020 is a technically appropriate inventory year consistent with 40 CFR 51.1008(c)(1). The base year emissions inventory includes actual emissions of all sources within the nonattainment area. The EPA proposes to determine that a seasonal episode daily average inventory is appropriate for the Fairbanks PM<sub>2.5</sub> Nonattainment Area because the area experiences episodic elevated concentrations of PM<sub>2.5</sub> during wintertime cold weather events. The emissions inventory includes direct PM<sub>2.5</sub> emissions, separately reported as filterable and condensable emissions, as well as all scientific PM<sub>2.5</sub> precursors (SO<sub>2</sub>, NO<sub>x</sub>, VOC, and NH<sub>3</sub>). Alaska reported emissions for point sources according to the point source emissions thresholds of the Air Emissions Reporting Rule in 40 CFR part 51, subpart A. Finally, the emissions

inventory is consistent with the detail and data elements required by 40 CFR part 51, subpart A. For the EPA’s full evaluation, see the EPA’s technical evaluation of Alaska’s emissions inventory included in the docket for this action.<sup>40</sup>

b. 2027 Projected Attainment Emissions Inventory

The EPA proposes to approve the 2027 projected attainment emissions inventory as meeting the requirements of CAA section 172(c)(3) and 40 CFR 51.1008. The EPA is proposing to determine that 2027 is the most expeditious year for which projected emissions show modeled PM<sub>2.5</sub> concentrations below the level of the NAAQS. As discussed in section II.D of this preamble, Alaska included a model output for 2026 that resulted in emissions levels exceeding the 2006 24-

<sup>39</sup> State Air Quality Control Plan, Vol. II, section III.D.7.6, Table 7.6–11.

<sup>40</sup> Kotchenruther, Robert. (November 21, 2024). *Technical support document for Alaska*

*Department of Environmental Conservation’s amendments to: State Air Quality Control Plan, Emission Inventory Data (version August 19, 2024).* U.S. Environmental Protection Agency, Region 10,

Laboratory Services and Applied Science Division, EPA–R10–OAR–2024–0595.

hour PM<sub>2.5</sub> NAAQS. The attainment projected inventory includes the sources in the base year emissions inventory and accounts for growth and contraction from both controls and other causes. Consistent with the base year emissions inventory, the attainment projected emissions inventory is based on episode average daily emissions. The attainment projected emissions inventory includes direct PM<sub>2.5</sub> emissions, separately reported as filterable and condensable emissions, as well as all scientific precursors. The attainment projected emissions inventory includes the same level of emissions detail for the same point sources and for mobile sources reported in the base year emissions inventory. For the EPA's full evaluation, see the EPA's technical evaluation of Alaska's emissions inventory, included in the docket for this action.<sup>41</sup>

### B. Pollutants Addressed

#### 1. Statutory and Regulatory Requirements Regarding the Pollutants Addressed

Under subpart 4 of part D, title I of the CAA and the PM<sub>2.5</sub> SIP Requirements Rule, each state containing a PM<sub>2.5</sub> nonattainment area must evaluate all PM<sub>2.5</sub> precursors for regulation unless, for any given PM<sub>2.5</sub> precursor, the state demonstrates to the Administrator's satisfaction that such precursor does not contribute significantly to PM<sub>2.5</sub> levels that exceed the NAAQS in the nonattainment area.<sup>42</sup> The provisions of subpart 4 do not define the term "precursor" for purposes of PM<sub>2.5</sub>, nor do they explicitly require the control of any specifically identified PM<sub>2.5</sub> precursor. The statutory definition of "air pollutant," however, provides that the term "includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used."<sup>43</sup> The EPA has identified SO<sub>2</sub>, NO<sub>x</sub>, VOCs, and NH<sub>3</sub> as precursors to the formation of PM<sub>2.5</sub>.<sup>44</sup> Accordingly, the attainment plan requirements of part D, title I of the CAA and the PM<sub>2.5</sub> SIP Requirements Rule apply to emissions of all four precursors and direct PM<sub>2.5</sub> from all

types of stationary, area, and mobile sources, except as otherwise provided in CAA section 189(e).

As noted in the EPA's Final Policy Assessment for the reconsideration of the PM<sub>2.5</sub> NAAQS, secondary particulate matter is formed in the atmosphere by photochemical oxidation reactions of both inorganic and organic gas-phase precursors. Precursor gases include SO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub>, and VOC gases of anthropogenic or natural origin. Anthropogenic SO<sub>2</sub> and NO<sub>x</sub> are the predominant precursor gases in the formation of secondary PM<sub>2.5</sub> sulfate and nitrate, and NH<sub>3</sub> is the gas-phase precursor for PM<sub>2.5</sub> ammonium. PM<sub>2.5</sub> ammonium formation is enhanced by particle acidity resulting from sulfuric acid and nitric acid condensation onto particles. Atmospheric oxidation of VOCs, both anthropogenic and biogenic, is an important source of organic aerosols, particularly in summer. The semi-volatile and nonvolatile products of VOC oxidation reactions can condense onto existing particles or can form new particles.<sup>45</sup>

According to the State, total wintertime PM<sub>2.5</sub> concentrations in the Fairbanks PM<sub>2.5</sub> Nonattainment Area are a function of both primary PM<sub>2.5</sub> emissions and secondary PM<sub>2.5</sub> formed from precursors (see State Air Quality Control Plan, Vol. II, section III.D.7.8.1).

CAA section 189(e) requires that the control requirements for major stationary sources of direct PM<sub>10</sub><sup>46</sup> and PM<sub>2.5</sub><sup>47</sup> also apply to major stationary sources of PM<sub>10</sub> and PM<sub>2.5</sub> precursors, except where the Administrator determines that such sources do not contribute significantly to PM<sub>10</sub> or PM<sub>2.5</sub> levels that exceed the standard in the area. CAA section 189(e) contains the only express exception to the control requirements under subpart 4 (e.g., requirements for reasonably available control measures (RACM) and reasonably available control technology (RACT), BACM and BACT, Most Stringent Measures (MSM), and New Source Review (NSR) for sources of direct PM<sub>2.5</sub> and PM<sub>2.5</sub> precursor

emissions). Although CAA section 189(e) explicitly addresses only major stationary sources, the EPA interprets this provision as authorizing it also to determine, under appropriate circumstances, that regulation of specific PM<sub>10</sub> or PM<sub>2.5</sub> precursors from other source categories in a given nonattainment area is not necessary.<sup>48</sup> For example, under the EPA's longstanding interpretation of the control requirements that apply to stationary, area, and mobile sources of PM<sub>10</sub> precursors in the nonattainment area under CAA section 172(c)(1) and subpart 4,<sup>49</sup> a state may demonstrate in a SIP submission that control of a certain precursor pollutant is not necessary in light of its insignificant contribution to ambient PM<sub>10</sub> or PM<sub>2.5</sub> levels in the nonattainment area.<sup>50</sup>

Under the PM<sub>2.5</sub> SIP Requirements Rule, a state may elect to submit to the EPA a "comprehensive precursor demonstration" for a specific nonattainment area to show that emissions of a particular precursor from all existing sources located in the nonattainment area do not contribute significantly to PM<sub>2.5</sub> levels that exceed the NAAQS at issue in the nonattainment area.<sup>51</sup> If the EPA determines that the contribution of the precursor to PM<sub>2.5</sub> levels in the area is not significant and approves the demonstration, then the state is not required to control emissions of the relevant precursor from existing sources in the attainment plan.<sup>52</sup>

Relatedly, under the PM<sub>2.5</sub> SIP Requirements Rule, a state may submit to the EPA a "major stationary source precursor demonstration" for a specific nonattainment area that shows that emissions of a particular precursor from all existing major stationary sources located in the nonattainment area do not contribute significantly to PM<sub>2.5</sub> levels that exceed the standard in the area.<sup>53</sup> If the EPA approves a major stationary source precursor demonstration, then the state is not required to control emissions of the relevant precursor from existing major stationary sources in the current attainment plan.<sup>54</sup>

<sup>45</sup> "Policy Assessment for the Reconsideration of the National Ambient Air Quality Standards for Particulate Matter" (EPA/452/R-22-004), EPA, May 2022), p. 2–10.

<sup>46</sup> The requirements for attainment plans for the 2006 24-hour PM<sub>2.5</sub> NAAQS include the general nonattainment area planning requirements in CAA section 172 of title I, part D, subpart 1 and the additional planning requirements specific to particulate matter in CAA sections 188 and 189 of title I, part D, subpart 4. 81 FR 58010, August 24, 2016, at pp. 58012–58014.

<sup>47</sup> The general attainment plan requirements of subpart 1, part D, of title I of the CAA in addition to the specific requirements in subpart 4, part D, of Title I of the CAA apply to both PM<sub>10</sub> and PM<sub>2.5</sub>. See 81 FR 58010, August 24, 2016, at pp. 58013.

<sup>48</sup> 81 FR 58010, August 24, 2016, at pp. 58018–58019.

<sup>49</sup> State Implementation Plan; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 ("General Preamble"), 57 FR 13498, April 16, 1992, at pp. 13539–42.

<sup>50</sup> 40 CFR 51.1006. See also 81 FR 58010, 58033. Courts have upheld this approach to the requirements of subpart 4 for PM<sub>10</sub>. See, e.g., *Assoc. of Irrigated Residents v. EPA*, et al., 423 F.3d 989 (9th Cir. 2005).

<sup>51</sup> 40 CFR 51.1006(a)(1).

<sup>52</sup> 40 CFR 51.1006(a)(1).

<sup>53</sup> 40 CFR 51.1006(a)(2).

<sup>54</sup> 40 CFR 51.1006(a)(2)(iii).

<sup>41</sup> Kotchenruther, Robert. (November 21, 2024). *Technical support document for Alaska Department of Environmental Conservation's amendments to: State Air Quality Control Plan, Emission Inventory Data (version August 19, 2024)*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA-R10-OAR-2024-0595.

<sup>42</sup> 40 CFR 51.1006, 51.1010; See 81 FR 58010, August 24, 2016, at pp. 58017–58020.

<sup>43</sup> CAA section 302(g).

<sup>44</sup> 81 FR 58010, August 24, 2016, at p. 58015.

In addition, in May 2019, the EPA issued the “PM<sub>2.5</sub> Precursor Demonstration Guidance” (“PM<sub>2.5</sub> Precursor Guidance”), which provides recommendations to states for analyzing nonattainment area PM<sub>2.5</sub> emissions and developing such optional precursor demonstrations, consistent with the PM<sub>2.5</sub> SIP Requirements Rule.<sup>55</sup>

The EPA evaluated the Fairbanks Revised 189(d) Plan in accordance with the presumption embodied within subpart 4 that the State must address all PM<sub>2.5</sub> precursors in the evaluation and implementation of potential control measures, unless the State adequately demonstrates that emissions of a particular precursor or precursors do not contribute significantly to ambient PM<sub>2.5</sub> levels that exceed the PM<sub>2.5</sub> NAAQS in the nonattainment area. In reviewing any determination by the state to exclude a PM<sub>2.5</sub> precursor from the required evaluation of potential control measures, we consider both the magnitude of the precursor’s contribution to ambient PM<sub>2.5</sub> concentrations in the nonattainment area and the sensitivity of ambient PM<sub>2.5</sub> concentrations in the area to reductions in emissions of that precursor.<sup>56</sup>

## 2. Summary of the EPA’s Prior Rulemaking Regarding the Pollutants Addressed

On December 5, 2023, the EPA finalized approval of Alaska’s precursor demonstration that NO<sub>x</sub> and VOCs are not significant precursors to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area.<sup>57</sup>

## 3. Summary of the State’s Submission Regarding the Pollutants Addressed

In the Fairbanks Revised 189(d) Plan, in accordance with 40 CFR 51.1006(a)(2), Alaska included a demonstration that SO<sub>2</sub> emissions from major stationary sources do not significantly contribute to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area. As discussed in the State Air Quality Control Plan, Vol. II, section III.D.7.8.15, Alaska stated that it utilized a new model platform that accurately simulated the formation of precursors into PM<sub>2.5</sub> in the Fairbanks environment. The new model platform also demonstrated marked improvement in the simulation of sulfate formation

from SO<sub>2</sub> emissions as compared to prior platforms used by Alaska. Using the new model platform, Alaska performed a concentration-based contribution analysis using air quality modeling with “zero-out” model runs. Alaska’s analysis showed that major stationary sources contributed 0.21 µg/m<sup>3</sup> PM<sub>2.5</sub> at regulatory monitoring sites in Fairbanks including the North Pole monitor (Hurst Road), which is below the 1.5 µg/m<sup>3</sup> PM<sub>2.5</sub> threshold included in the EPA’s guidance.<sup>58</sup>

According to Alaska, the updated analysis of precursor impacts on PM<sub>2.5</sub> utilized a photochemical grid model (PGM) that accounted for the non-linear secondary effects of precursor gases. PGMs account for the atmospheric chemistry, transport, and deposition of pollutants using local emissions and meteorological data. The zero-out approach compared a baseline model run with a model run where a precursor’s emissions are set to zero to determine the influence of that precursor on PM<sub>2.5</sub> formation.

Alaska noted that a concentration-based analysis was completed that excluded all sources of SO<sub>2</sub>. The monitored filter sulfate and the concentrations from the 5-year design value showed total sulfate from all sectors was 5.9 µg/m<sup>3</sup> or 21 percent of the PM<sub>2.5</sub> at an air quality monitor located in the City of Fairbanks (NCore) and 5.9 µg/m<sup>3</sup> or nine percent of the PM<sub>2.5</sub> at the North Pole air quality monitor (Hurst Road). When accounting for all emissions sources, SO<sub>2</sub> remained a significant precursor to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area.

After completing the first step, the major stationary source sector SO<sub>2</sub> precursor model runs were then performed based on the emissions for the 2020 base year and a model run that excluded SO<sub>2</sub> emissions. The difference in sulfate for a model simulation using base year emissions and a second model simulation with major stationary-source SO<sub>2</sub> emissions set to zero was compared with the 1.5 µg/m<sup>3</sup> threshold. Alaska stated that this concentration-based modeling demonstrated the insignificance of SO<sub>2</sub> from major stationary sources when compared with the 1.5 µg/m<sup>3</sup> threshold in the EPA’s guidance, and therefore, a sensitivity-based contribution analysis was not needed, in accordance with 40 CFR 51.1006(a)(2)(ii).

## 4. The EPA’s Evaluation and Proposed Action Regarding the Pollutants Addressed

The EPA evaluated the State’s precursor demonstration included in the Fairbanks Revised 189(d) Plan. The EPA proposes to determine that Alaska’s submission meets the requirements of 40 CFR 51.1006(a)(2) and is consistent with the EPA guidance.<sup>59</sup> Regarding the State’s analytical approach, the EPA proposes to find that the State used appropriate methods and data to evaluate PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area from precursor emissions. Consistent with 40 CFR 51.1006(a)(2), Alaska’s submission includes a concentration-based contribution analysis. The concentration-based analysis shows that the SO<sub>2</sub> emissions from major stationary sources do not significantly contribute to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area. Specifically, Alaska’s analysis shows that SO<sub>2</sub> emissions from major stationary sources contribute 0.21 µg/m<sup>3</sup> of PM<sub>2.5</sub> at the North Pole Hurst Road air quality monitor—far below the 1.5 µg/m<sup>3</sup> threshold included in the EPA guidance. For the EPA’s full evaluation, see EPA’s Technical Support Document.<sup>60</sup> Therefore, the EPA proposes to approve Alaska’s precursor demonstration submitted as part of the Fairbanks Revised 189(d) Plan as demonstrating that the contribution of SO<sub>2</sub> from existing major stationary sources to PM<sub>2.5</sub> levels in the Fairbanks PM<sub>2.5</sub> Nonattainment Area is not significant in accordance with 40 CFR 51.1006(a)(2)(i). If the EPA finalizes approval as proposed, Alaska will not be required to control SO<sub>2</sub> emissions from existing major stationary sources in the Fairbanks PM<sub>2.5</sub> Nonattainment Area, pursuant to CAA section 189 and 40 CFR 51.1010. For purposes of the Fairbanks Revised 189(d) Plan, the PM<sub>2.5</sub> plan precursors are: NH<sub>3</sub> and SO<sub>2</sub> for all sources except for major stationary sources.

Consistent with its past actions, if finalized, the EPA’s approval of Alaska’s

<sup>55</sup> “PM<sub>2.5</sub> Precursor Demonstration Guidance,” EPA-454/R-19-004, May 2019, including Memo dated May 30, 2019, from Scott Mathias, Acting Director, Air Quality Policy Division and Richard Wayland, Director, Air Quality Assessment Division, Office of Air Quality Planning and Standards (OAQPS), EPA to Regional Air Division Directors, Regions 1–10, EPA.

<sup>56</sup> 40 CFR 51.1006(a)(1)(i) and (ii).

<sup>57</sup> 88 FR 84626, December 5, 2023, at p. 84675.

<sup>58</sup> See State Air Quality Control Plan, Vol. II., section III.D.7.8.15, Table 7.8.18–1.

<sup>59</sup> “PM<sub>2.5</sub> Precursor Demonstration Guidance,” EPA-454/R-19-004, May 2019, including Memo dated May 30, 2019, from Scott Mathias, Acting Director, Air Quality Policy Division and Richard Wayland, Director, Air Quality Assessment Division, Office of Air Quality Planning and Standards (OAQPS), EPA to Regional Air Division Directors, Regions 1–10, EPA.

<sup>60</sup> Briggs, Nicole. (December 2, 2024). *Review of Attainment Demonstration Modeling and SO<sub>2</sub> Precursor Demonstration in the 2024 State Implementation Plan Submission for the Fairbanks 24-hour PM<sub>2.5</sub> Nonattainment Area*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA-R10-OAR-2024-0595.



precursor demonstration would not extend to nonattainment NSR requirements for the area. Alaska previously determined that it was appropriate to regulate NO<sub>x</sub>, SO<sub>2</sub>, VOCs, and NH<sub>3</sub> as precursors to PM<sub>2.5</sub> with respect to nonattainment NSR and submitted rule changes to that effect on October 25, 2018. The EPA approved the submitted revised program as meeting nonattainment NSR requirements triggered upon reclassification of the Fairbanks PM<sub>2.5</sub> Nonattainment Area to Serious (84 FR 45419, August 29, 2019).

### C. Control Strategy

#### 1. Statutory and Regulatory Requirements Regarding the Control Strategy

CAA section 189(b) and 40 CFR 51.1010(a) contain the control measure requirements for Serious areas. CAA section 189(d) and 40 CFR 51.1010(c) contain the control measure requirements for Serious areas that fail to attain.

Pursuant to CAA section 189(b) and 40 CFR 51.1010(a), the state must identify, adopt, and implement best available control measures, including best available control technologies, on sources of direct PM<sub>2.5</sub> emissions and sources of emissions of PM<sub>2.5</sub> plan precursors located in any Serious PM<sub>2.5</sub> nonattainment area or portion thereof located within the state. This level of control stringency is commonly called “BACM” and “BACT.” The regulation at 40 CFR 51.1010(a) specifies the requirements states must meet to identify potential control measures and in determining the measures states must include in the control strategy as BACM or BACT for the nonattainment area:

The state must identify all sources of direct PM<sub>2.5</sub> emissions and sources of emissions of PM<sub>2.5</sub> precursors in the nonattainment area, in accordance with the emissions inventory requirements in 40 CFR 51.1008(b).

The state must identify all potential control measures to reduce emissions from all sources of direct PM<sub>2.5</sub> emissions and sources of emissions of PM<sub>2.5</sub> plan precursors in the nonattainment area. The state must survey other NAAQS nonattainment areas in the U.S. and identify any measures for direct PM<sub>2.5</sub> and PM<sub>2.5</sub> plan precursors not previously identified by the state during the development of the Moderate area or Serious area attainment plan for the area.

The state must identify, adopt, and implement the best available control measures for each emission source.

However, the state may demonstrate that any measure identified under 40 CFR 51.1010(a)(2) is not technologically or economically feasible to implement in whole or in part by the end of the tenth calendar year following the effective date of designation of the area and may eliminate such whole or partial measure from further consideration. Overall, economic feasibility is a less significant factor in the BACM and BACT determination process.<sup>61</sup> There are considerations for technological feasibility of a potential control measure, where a state may consider factors including but not limited to a source’s processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements.<sup>62</sup> There are also considerations for economic feasibility of a potential control measure where a state may consider capital costs, operating and maintenance costs, and cost effectiveness of the measure.<sup>63</sup> In assessing whether a control measure or technology is BACM or BACT, the state must consider emissions reduction measures with higher costs per ton compared to the economic feasibility criteria applied in their RACM or RACT analysis.<sup>64</sup> With respect to determining BACT pursuant to CAA section 189(b), the EPA expects that states use the top-down BACT analysis process used in the Prevention of Significant Deterioration (PSD) Program.<sup>65</sup>

Pursuant to CAA section 189(b), a state with a Serious nonattainment area must include provisions to assure the implementation of BACM and BACT-level controls on sources of direct PM<sub>2.5</sub> and PM<sub>2.5</sub> plan precursors no later than 4 years after the date the area is classified (or reclassified) as a Serious area.

In the preamble to the final PM<sub>2.5</sub> SIP Requirements Rule, the EPA recommended the following the 5-Step BACM/BACT selection process that states should follow to satisfy the analytical and substantive requirements of 40 CFR 51.1010(a) and CAA section 189(b):<sup>66</sup>

<sup>61</sup> *Id.*

<sup>62</sup> 40 CFR 51.1010(a)(3)(i); 81 FR 58010, August 24, 2016, at p. 58084.

<sup>63</sup> 40 CFR 51.1010(a)(3)(ii); 81 FR 58010, August 24, 2016, at p. 58085.

<sup>64</sup> 81 FR 58010, August 24, 2016, at p. 58085.

<sup>65</sup> *Id.* at p. 58080 (“Consistent with past policy, BACT determinations for PM<sub>2.5</sub> NAAQS implementation are to follow the same process and criteria that are applied to the BACT determination process for the PSD program.”).

<sup>66</sup> *Id.* at pp. 58084–85.

*Step 1:* Develop a comprehensive inventory of sources and source categories of directly emitted PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors.

*Step 2:* Identify potential control measures for all such sources.

*Step 3:* Determine whether an available control measure or technology is technologically feasible.

*Step 4:* Determine whether an available control measure or technology is economically feasible.

*Step 5:* Determine the earliest date by which a control measure or technology can be implemented in whole or in part in the area.

The EPA interprets CAA section 189(b) to require the state to determine what is BACM or BACT for a particular source or source category.<sup>67</sup> The EPA’s longstanding interpretation of the CAA is that BACM and BACT determinations are to be generally independent of attainment for purposes of implementing the PM<sub>2.5</sub> NAAQS.<sup>68</sup> The EPA interprets the CAA requirement to impose BACM/BACT level control as requiring more emphasis on what controls are the best for the relevant source and whether those controls are feasible rather than on the attainment needs of the area.<sup>69</sup> States also may not decline to evaluate, or to control as necessary, sources or source categories on the basis that they are de minimis.<sup>70</sup>

Subsequently, for a state with a Serious PM<sub>2.5</sub> nonattainment area that has failed to attain by the applicable attainment date, the state must submit a revised attainment plan with a control strategy that demonstrates that each year the area will achieve at least a five percent reduction in emissions of direct PM<sub>2.5</sub> or a five percent reduction in emissions of a PM<sub>2.5</sub> plan precursor based on the most recent emissions inventory for the area; and that the area will attain the standard as expeditiously as practicable consistent with the attainment date requirements under 40 CFR 51.1004(a)(3).<sup>71</sup> The regulation at 40 CFR 51.1010(c) specifies the following process the state must follow in determining which measures must be included in the control strategy:

The state shall identify all sources of direct PM<sub>2.5</sub> emissions and sources of

<sup>67</sup> *Id.* at p. 58081.

<sup>68</sup> State Implementation Plans for Serious PM–10 Nonattainment Areas, and Attainment Date Waivers for PM–10 Nonattainment Areas Generally; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 (“Addendum to the General Preamble”), 59 FR 41998, at p. 42011 (August 16, 1994); 81 FR 58010, August 24, 2016, at p. 58081.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.* at p. 58082.

<sup>71</sup> CAA section 189(d), 42 U.S.C. 7513a(d), and 40 CFR 51.1010(c).

emissions of PM<sub>2.5</sub> precursors in the nonattainment area in accordance with the emissions inventory requirements in 40 CFR 51.1008(b).

The state shall identify all potential control measures to reduce emissions from all sources of direct PM<sub>2.5</sub> emissions and sources of emissions of PM<sub>2.5</sub> plan precursors in the nonattainment area. For the sources and source categories represented in the emissions inventory for the nonattainment area, the state shall identify the most stringent measures (MSM) for reducing direct PM<sub>2.5</sub> and PM<sub>2.5</sub> plan precursors adopted into any SIP or used in practice to control emissions in any state, as applicable.

The state shall also reconsider and reassess any measures previously rejected by the state during the development of any Moderate area or Serious area attainment plan control strategy for the area. Similar to the requirements for Serious area plans, the state may make a demonstration for a 189(d) plan that a measure is not technologically or economically feasible to implement in whole or in part within 5 years or such longer period as the EPA may determine is appropriate after the EPA's determination that the area failed to attain by the Serious area attainment date and may eliminate such whole or partial measure from further consideration. There are considerations for technological feasibility of a potential control measure, as described under 40 CFR 51.1010(c)(3)(i), where a state may consider factors including but not limited to a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements. There are also considerations for economic feasibility of a potential control measure, under 40 CFR 51.1010(c)(3)(ii), where a state may consider capital costs, operating and maintenance costs, and cost effectiveness of the measure. Unless the state has demonstrated that the measure is not technologically or economically feasible, the state shall adopt and implement all potential control measures identified.

Finally, control measures adopted as part of the state's control strategy must be permanent, enforceable as a practical matter, and quantifiable.<sup>72</sup> In order to be

<sup>72</sup> Control measures must be incorporated by reference into the regulatory portion of the SIP (52.70(c) and (d)) with appropriate monitoring and reporting requirements. See CAA section 110(a)(2)(A); 42 U.S.C. 7410(a)(2)(A); 81 FR 58010, August 24, 2016, at pp. 58046–47; 57 FR 13498, April 16, 1992, at pp. 13567–68.

enforceable as a practical matter, the state must adopt into the SIP not only the control measure or emissions limit itself but also appropriate monitoring, recordkeeping, and reporting requirements to ensure compliance with the control measure.<sup>73</sup> Without appropriate monitoring, recordkeeping, and reporting requirements, violations of the control measure could go undetected.<sup>74</sup>

## 2. Summary of the EPA's Prior Rulemaking Regarding the Control Strategy

On December 5, 2023, the EPA finalized an approval in part and disapproval in part of the BACM requirements for the Fairbanks PM<sub>2.5</sub> Nonattainment Area. The EPA's action for each emissions source category is described in the following paragraphs.

### a. Alaska's Identification and Adoption of BACM for Home Heating and Other Area Sources

#### i. Solid Fuel-Burning

The EPA approved in part and disapproved in part Alaska's analysis and adoption of control measures for this source category as meeting the BACM requirements for PM<sub>2.5</sub> and SO<sub>2</sub> emissions.<sup>75</sup> The EPA approved Alaska's analysis that found no NH<sub>3</sub>-specific emissions controls for this source category. The EPA also previously approved as SIP strengthening and federally enforceable many of the control measures submitted as part of the Fairbanks Serious Plan and prior SIP submissions in 2018 as part of a separate action (86 FR 52997, September 24, 2021).

Alaska identified a number of solid fuel-burning control measures that have been adopted by other states and local authorities to identify the full range of potential BACM/BACT measures for this source category. This analysis took into account technical and economic feasibility and other considerations included in the PM<sub>2.5</sub> SIP Requirements Rule.

Alaska's two-stage Solid Fuel-Burning Appliance Curtailment Program, included in the Fairbanks Emergency Episode Plan, adopts air quality thresholds that are at least as stringent as comparable curtailment programs in

<sup>73</sup> 81 FR 58010, August 24, 2016, at pp. 58046–47; 57 FR 13498, April 16, 1992, at pp. 13567–68; 67 FR 22168, May 2, 2002, at p. 22170; 80 FR 33840, June 12, 2015, at pp. 33843, 33865; *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174, at pp. 1189–1190 (9th Cir. 2012).

<sup>74</sup> 67 FR 22168, May 2, 2002, at p. 22170; *Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174, at pp. 1189–1190 (9th Cir. 2012).

<sup>75</sup> 88 FR 84626, December 5, 2023, at p. 84674.

Idaho, Utah, and California. Alaska accounted for the differences in natural gas availability, seasonal climate conditions, and wood stove change-out incentives in establishing the two-stage thresholds at 20 µg/m<sup>3</sup> (Stage 1) and 30 µg/m<sup>3</sup> (Stage 2), respectively. Alaska also had an advisory level set at 15 µg/m<sup>3</sup> as part of the curtailment program. Alaska placed further limitations on the “No Other Adequate Source of Heat” (NOASH) waiver (available to households as a temporary waiver from certain curtailment requirements), limiting applicability to those that have economic needs based on objective criteria and limiting the number of years NOASH waivers are available.

Therefore, the EPA approved the Solid Fuel-Burning Appliance Curtailment Program and associated updates to the NOASH waivers and temporary exemption as BACM for the solid-fuel burning source category (*i.e.*, Alaska state regulations 18 AAC 50.075 (e)(3), (f)(2)) for PM<sub>2.5</sub> and SO<sub>2</sub> emissions.<sup>76</sup>

Alaska identified and evaluated as BACM the heating device performance standards adopted previously by Missoula County, Montana. Alaska adopted a regulation modeled after the rule in Missoula County. Under 18 AAC 50.077(c), Alaska's regulations require that wood stoves meet emissions standards that are more stringent than the EPA's New Source Performance Standards (NSPS) requirement for residential wood heaters at 40 CFR part 60 and also include one-hour testing requirements to ensure only the lowest-emitting wood stoves are allowed to be sold and installed in the nonattainment area. The EPA approved these measures as BACM for the solid-fuel burning source category (*i.e.*, 18 AAC 50.077 (a–j)) for PM<sub>2.5</sub> and SO<sub>2</sub> emissions.<sup>77</sup>

Alaska's regulation 18 AAC 50.075(f), applicable to the Fairbanks PM<sub>2.5</sub> Nonattainment Area, prohibits the operation of a solid fuel-fired heating device emissions when visible emissions exceed 20 percent opacity for more than six minutes in any one hour, except during the first 15 minutes after initial firing of the device, when the opacity limit must be less than 50 percent. The rule also prohibits visible emissions from crossing property lines. These opacity limits provide a visual indicator for the proper operation of a solid-fuel heating device. The EPA approved this measure as BACM.<sup>78</sup>

The EPA approved as BACM the additional removal or render inoperable

<sup>76</sup> 88 FR 84626, December 5, 2023, at pp. 84699, 84673–84675.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

restrictions placed on non-certified EPA wood stoves, non-pellet outdoor hydronic heaters, coal-fired heating devices, and EPA-certified wood stoves greater than 25 years-old meet BACM requirements for PM<sub>2.5</sub> and SO<sub>2</sub> emissions.<sup>79</sup> These devices are to be removed or rendered inoperable by December 31, 2024, or if a building or residence with such a device is sold prior to that date (or if a wood-fired heating device is 25 years old prior to that date). These include Alaska state regulations 18 AAC 50.077 (l–m). The EPA approved the other solid-fuel burning regulations adopted by Alaska, including device registration under 18 AAC 50.077(h) and dry wood requirements for wood sellers 18 AAC 50.076, which are at least as stringent as similar regulations adopted by other states and local authorities, and therefore represent BACM for PM<sub>2.5</sub> and SO<sub>2</sub> emissions for the solid-fuel burning source category.<sup>80</sup> These include Alaska state regulations 18 AAC 50.076 (d–e), (g), (j–l).

However, the EPA partially disapproved as BACM Alaska's measures regarding dry wood seller requirements and coal-fired heating devices.<sup>81</sup> The EPA recommended Alaska revise 18 AAC 50.076(k)(3) to require a specific frequency wood sellers are required to measure the moisture content of the seller's wood stock. Likewise, the EPA also recommended Alaska revise the regulations at 18 AAC 50.079(d), (e) and (f) to remove (or revise to BACM and BACT-level stringency) the testing exemption in (d), remove or properly bound the waiver provision in (e), and add requirements to verify compliance with the requirement for the owner and operator to render the device inoperative.

#### ii. Residential and Commercial Fuel Oil Combustion

Alaska adopted the regulation at 18 AAC 50.078(b) that imposed a limit of 1,000 parts per million sulfur (diesel no. 1) for residential and commercial heating. This was a switch from diesel no. 2 (approximately 2,000 parts per million sulfur) to diesel no. 1. Alaska also evaluated the potential for adopting ULSD for fuel oil combustion, but the State determined that this measure is economically infeasible. The EPA approved 18 AAC 50.078(b) as meeting the SO<sub>2</sub> BACM and BACT requirements

for the space heating area source category.<sup>82</sup>

#### iii. Small Commercial Area Sources

The EPA approved Alaska's determination that there were no incinerators in the nonattainment area. Therefore, Alaska need not identify, adopt, or implement controls for the incinerator source category. The EPA also approved Alaska's BACM infeasibility demonstrations for add-on control for charbroilers and restrictions on used oil burners. By extension, the EPA approved 18 AAC 50.055 as BACM/BACT for the charbroiler source category.<sup>83</sup>

However, the EPA disapproved Alaska's BACM requirements for coffee roasters. The EPA cited a number of deficiencies with Alaska's adopted control measure for coffee roasters at 18 AAC 50.078(d).<sup>84</sup>

#### iv. Weatherization and Energy Efficiency

The EPA disapproved Alaska's BACM analysis with respect to potential energy efficiency and weatherization measures. The State provided a number of reasons for declining to adopt and implement any such measures, each of which the EPA rejected as bases to not adopt weatherization and energy efficiency measures.<sup>85</sup>

#### v. Emissions From Mobile Sources

The EPA approved Alaska's rejection of the CARB vehicle standards as economically infeasible. The EPA likewise finalized approval of Alaska's rejection of school bus retrofits, road paving, and controls on road sanding and salting as technologically infeasible. The EPA approved Alaska's rejection of a motor vehicle inspection and maintenance (I/M) program. The EPA approved Alaska's determination that no NH<sub>3</sub>-specific emissions controls exist for this source category.<sup>86</sup>

The EPA approved Alaska's rejection of other transportation measures as either technologically infeasible (HOV lanes) or economically infeasible (traffic flow improvements, diesel retrofit projects, and ridesharing programs).<sup>87</sup>

However, the EPA approved in part and disapproved in part Alaska's rejection of vehicle idling restrictions

<sup>82</sup> 88 FR 84626, December 5, 2023, at p. 84674–75.

<sup>83</sup> *Id.*

<sup>84</sup> 88 FR 84626, December 5, 2023, at p. 84676; *See also* 81 FR 58010, August 24, 2016, at p. 58047.

<sup>85</sup> 88 FR 84626, December 5, 2023, at pp. 84641, 84676; *See also* 81 FR 58010, August 24, 2016, at p. p. 58085.

<sup>86</sup> 88 FR 84626, December 5, 2023, at p. 84675–76.

<sup>87</sup> *Id.*

and other transportation measures.<sup>88</sup> Specifically, the EPA approved Alaska's rejection of vehicle idling restrictions for heavy-duty diesel vehicles as economically infeasible. However, the EPA disapproved Alaska's rejection of vehicle idling restrictions for light-duty vehicles at schools and commercial establishments. The EPA determined that Alaska had not demonstrated that vehicle anti-idling restrictions for light-duty passenger vehicles are infeasible.

#### b. Alaska's Identification and Adoption of BACT for Major Stationary Sources

In its December 5, 2023, action, the EPA partially approved and partially disapproved the Fairbanks Serious Plan as meeting the BACM and BACT requirements for major stationary sources.

##### i. Chena Power Plant

The EPA partially approved and partially disapproved Alaska's BACM/BACT evaluation for the Chena Power Plant. The EPA partially disapproved the BACT determination because Alaska did not identify, adopt, and implement BACT for PM<sub>2.5</sub> and SO<sub>2</sub>. The EPA approved Alaska's BACT analysis for NH<sub>3</sub> emissions controls for the Chena Power Plant.<sup>89</sup>

##### ii. Doyon-Fort Wainwright Central Heating and Power Plant

The EPA partially approved and partially disapproved Alaska's BACM/BACT determinations for PM<sub>2.5</sub> controls for each of the emission sources at Doyon-Fort Wainwright Central Heating and Power Plant. The EPA partially approved the BACT determinations because Alaska's BACT findings for PM<sub>2.5</sub> (embodied in State Air Quality Control Plan, Vol. II, section III.D.7.7, Tables 7.7–11 and 7.7–13 and section III.D.7.7.8.3.4) were consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA partially disapproved the BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan lacked provisions necessary to ensure the BACT determinations for PM<sub>2.5</sub> are enforceable as a practical matter as required by CAA sections 110(a)(2)(A) and 172(c)(7).<sup>90</sup>

On September 25, 2023, Alaska withdrew its SO<sub>2</sub> BACT determinations for Doyon-Fort Wainwright Central Heating and Power Plant. Therefore, the EPA finalized disapproval of Alaska's SO<sub>2</sub> BACT determinations because the

<sup>88</sup> *Id.*

<sup>89</sup> 88 FR 84626, December 5, 2023, at pp. 84670–71, 84675–76.

<sup>90</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> 88 FR 84626, December 5, 2023, at pp. 84670, 84675–76.

Fairbanks Serious Plan and initial Fairbanks 189(d) Plan did not identify, adopt, and implement BACT for SO<sub>2</sub> at the Doyon-Fort Wainwright Central Heating and Power Plant. The EPA approved Alaska's analysis that found no NH<sub>3</sub>-specific emissions controls for the sources at this facility.<sup>91</sup>

iii. University of Alaska Fairbanks Campus Power Plant

The EPA disapproved Alaska's BACM/BACT determination for PM<sub>2.5</sub> controls for the Small Diesel-Fired Engines (EU IDs 23, 26, and 27). The EPA partially approved and partially disapproved the Alaska's BACT determinations for PM<sub>2.5</sub> controls for the remaining emission units. The EPA partially approved the PM<sub>2.5</sub> BACT determinations because Alaska's BACT determinations embodied in State Air Quality Control Plan, Vol. II, section III.D.7.7, Table 7.7–16 and section III.D.7.7.8.6 were consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA partially disapproved Alaska's BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan lacked provisions necessary to ensure the BACT determinations are enforceable as a practical matter as required by CAA sections 110(a)(2)(A) and 172(c)(7).<sup>92</sup>

On September 25, 2023, Alaska withdrew its SO<sub>2</sub> BACT determinations for the Fairbanks Campus Power Plant. Therefore, the EPA disapproved Alaska's SO<sub>2</sub> BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan did not identify, adopt, and implement BACT for SO<sub>2</sub> at the Fairbanks Campus Power Plant. The EPA approved Alaska's analysis that found no NH<sub>3</sub>-specific emissions controls for the sources at this facility.<sup>93</sup>

iv. Zehnder Power Plant

The EPA partially approved and partially disapproved Alaska's BACM/BACT provisions for PM<sub>2.5</sub> controls for all emission units at the Zehnder Power Plant. The EPA partially approved the PM<sub>2.5</sub> BACT determination because Alaska's BACT determinations embodied in the State Air Quality Control Plan, Vol. II, section III.D.7.7, Table 7.7–14 and Appendix III.D.7.7.8.4 are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA partially disapproved Alaska's PM<sub>2.5</sub> BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan lacked provisions

necessary to ensure the PM<sub>2.5</sub> BACT determinations are enforceable as a practical matter as required by CAA sections 110(a)(2)(A) and 172(c)(7).<sup>94</sup>

On September 25, 2023, Alaska withdrew its SO<sub>2</sub> BACT determinations for the Zehnder Power Plant. Therefore, the EPA partially disapproved the SO<sub>2</sub> BACT determinations because Fairbanks Serious Plan and initial Fairbanks 189(d) Plan did not identify, adopt, and implement BACT for SO<sub>2</sub> at the Zehnder Power Plant. The EPA approved Alaska's analysis that found no NH<sub>3</sub>-specific emissions controls for the sources at this facility.<sup>95</sup>

v. North Pole Power Plant

The EPA partially approved and partially disapproved Alaska's BACM/BACT provisions for PM<sub>2.5</sub> controls for all emission units at the North Pole Power Plant. The EPA partially approved Alaska's PM<sub>2.5</sub> BACT determinations because these findings embodied in State Air Quality Control Plan, Vol. II, section III.D.7.7, Table 7.7–14 and Appendix III.D.7.7.8.5 are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA partially disapproved Alaska's PM<sub>2.5</sub> BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan lacked provisions necessary to ensure the BACT determinations are enforceable as a practical matter as required by CAA sections 110(a)(2)(A) and 172(c)(7).<sup>96</sup>

On September 25, 2023, Alaska withdrew its SO<sub>2</sub> BACT determinations for the North Pole Power Plant. Therefore, the EPA partially disapproved Alaska's SO<sub>2</sub> BACT determinations because the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan did not identify, adopt, and implement BACT for SO<sub>2</sub> at the North Pole Power Plant. The EPA approved Alaska's analysis that found no NH<sub>3</sub>-specific emissions controls for the sources at this facility.

c. NH<sub>3</sub> Emissions Controls

With respect to NH<sub>3</sub> controls, for residential and commercial area sources, the EPA approved certain measures as meeting the BACM/BACT requirement for NH<sub>3</sub> emissions. In other cases, the EPA approved Alaska's BACM/BACT analysis that concluded there are no NH<sub>3</sub>-specific controls for the emission source categories contributing to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area, but that there are likely to be NH<sub>3</sub>

emissions co-benefits of measures designed to reduce emissions of direct PM<sub>2.5</sub>.<sup>97</sup>

3. Summary of the State's Submission and the EPA's Evaluation and Proposed Action Regarding the Control Strategy

a. Updates to the Identification and Adoption of BACM

Below is a summary of the regulations and SIP revisions adopted as part of the Fairbanks Revised 189(d) Plan, organized by source category, responding to EPA's December 5, 2023, disapproval.<sup>98</sup>

i. Solid-Fuel Burning

Alaska revised the dry wood seller measure, adopted as regulation 18 AAC 50.076(k)(3), by setting a frequency at monthly intervals to measure the moisture content. Alaska also revised regulation 18 AAC 50.076(k)(1) by improving the labeling to indicate "dry wood."

Regarding the EPA's disapproval of coal-fired heating device requirements, Alaska revised 18 AAC 50.079 by lowering the emissions threshold to test out of the mandatory removal requirements in 18 AAC 50.079(d) from 18 grams per hour to 0.10 pounds per million British thermal units (Btu) which is equivalent to the pellet hydronic heater limit in 18 AAC 50.077. Alaska amended 18 AAC 50.079(d) to require a testing protocol be approved by the department prior to any test attempting to exempt a coal device from the mandatory removal requirement. Alaska revised 18 AAC 50.079(e) limit the duration of the waiver to one calendar year.

The EPA previously approved 18 AAC 50.079(f), which requires the owner of a coal-fired heating device to render it inoperable not later than December 31, 2024. As a consequence of Alaska's revisions to 18 AAC 50.079(f), the latest an individual with a coal-fired heating device could remove that device is December 31, 2025—provided the individual meets the eligibility requirements in 18 AAC 50.079(e). Alaska stated that 18 AAC 50.079(f) is revised for clarity by adding section (3), which requires coal-fired heating devices to be rendered inoperable after the expiration of a waiver granted under subsection (e) of 18 AAC 50.079. Alaska stated that newly adopted section 18 AAC 50.079(h) requires documentation on the removal and rendering of the device inoperable and submitting an affidavit that the coal stove will not be

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at p. 84657

<sup>93</sup> *Id.* at pp. 84670–71, 84675–76.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> State Air Quality Control Plan, Vol. II, section III.D.7.7.13.

reinstalled in the Fairbanks PM<sub>2.5</sub> Nonattainment Area.

Based on these updates, the EPA proposes to approve the submitted revisions to 18 AAC 50.076 and 18 AAC 50.079 as meeting the requirements of CAA sections 110(a)(2)(A), 172(c)(7), and 189(b) and 40 CFR 51.1010(a). Accordingly, the EPA proposes to determine that the Fairbanks Revised 189(d) Plan rectifies the disapproved portions of the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan for the solid fuel-burning source category.

ii. Residential and Commercial Fuel Oil Combustion

In the EPA's December 5, 2023, rule, the EPA approved as BACM Alaska's regulation under 18 AAC 50.078(b) that imposes a limit of 1,000 parts per million sulfur content in fuel limit (diesel no. 1) for residential and commercial heating.<sup>99</sup> This was a switch from diesel no. 2 (approximately 2,000 parts per million sulfur content in fuel limit) to diesel no. 1. The EPA agreed with Alaska's demonstration that further strengthening this requirement to 15 parts per million sulfur (*i.e.*, Ultra-low sulfur diesel) was economically infeasible.

iii. Small Commercial Area Sources

Alaska revised its regulations for coffee roasters, under 18 AAC 50.078(d). These updated regulations clarify the specific emission limit required for this source category and ensures the limit is enforceable as a practical matter. The EPA proposes to approve the submitted revisions to 18 AAC 50.078(d) as meeting the requirements of CAA section 110(a)(2), 172(c)(7), and 189(b) and 40 CFR 51.1010(a) for this source category. Accordingly, the EPA proposes to determine that the Fairbanks Revised 189(d) Plan rectifies the disapproved portions of the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan for coffee roasters.

iv. Energy Efficiency and Weatherization

To address the EPA's disapproval, Alaska reviewed weatherization and energy efficiency measures adopted by other jurisdictions. Based on this review, Alaska adopted a weatherization and energy efficiency measure at 18 AAC 50.081. The measure mandates that a building owner have an energy rating completed on the building before listing it for sale. The rule requires that the seller provide the energy rating

report to the buyer. Alaska also committed to a robust advertising and education program that includes best practices to improve efficiency in an arctic environment and available economic and practical mechanisms that can assist homeowners in improving both efficiency and regulatory compliance. Alaska asserted that these components will improve the compliance rate for other control measures, including the solid fuel-fired heating device curtailment program and the requirement to remove older, uncertified heating appliances. Alaska noted that any improvements identified by the energy rater will be voluntary.

Alaska evaluated adopting building energy efficiency codes or mandatory weatherization requirements and dismissed them as technologically infeasible. According to Alaska, there is a lack of technical expertise and resources to implement (lack of energy auditors and training resources), enforce, and ensure code compliance. Alaska further contended that the earliest date Alaska can implement building codes exceeded not only the statutory requirement for the implementation of BACM by December 31, 2024, but also beyond the 2027 attainment date identified in the Fairbanks Revised 189(d) Plan.

The EPA proposes to approve the submitted revisions to 18 AAC 50.081 as meeting the requirements of CAA sections 110(a)(2), 172(c)(7), and 189(b) and 40 CFR 51.1010(a) with respect to weatherization and energy efficiency. Accordingly, the EPA proposes to determine that the Fairbanks Revised 189(d) Plan rectifies the disapproved portions of the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan for weatherization and energy efficiency.

v. Emissions From Mobile Sources

The EPA previously approved as part of Fairbanks Moderate Plan, a requirement that businesses with 275 or more parking spaces provide power to electrical outlets at temperatures of 20 degrees Fahrenheit or lower for engine block heaters.<sup>100</sup> In addition, Alaska continues to install new plug-ins throughout the Fairbanks PM<sub>2.5</sub> Nonattainment Area.<sup>101</sup>

As part of the Fairbanks Revised 189(d) Plan, Alaska re-evaluated anti-

idling for light-duty vehicles as a potential control measure. Alaska provided additional analysis demonstrating that such a measure is technologically and economically infeasible in the Fairbanks PM<sub>2.5</sub> Nonattainment Area. In particular, Alaska noted that other jurisdictions that implement this measure include a temperature threshold, below which restrictions do not apply. These temperature cut offs range from 40 degrees Fahrenheit to 10 degrees Fahrenheit. These thresholds are intended to protect human health and safety.

Accordingly, Alaska evaluated implementing idling restrictions during the winter months of October through March at temperatures above 21 degrees Fahrenheit. Given that episodic emissions contributing to PM<sub>2.5</sub> concentrations occur at sub-zero temperatures, Alaska's evaluation indicates that the measure would not achieve any emissions reductions.

The EPA notes that in order to achieve emissions reductions in the extreme Fairbanks environment, Alaska would have to prohibit idling regardless of ambient temperature, which presents unacceptable risks to human health. In light of these concerns, rather than regulate the vehicle users, Alaska requires owners of parking areas to provide electricity for engine-block heaters. Alaska and the EPA have previously determined that expanding plug-in availability is economically infeasible.<sup>102</sup> Therefore, the EPA proposes to approve Alaska's current plug-in program as meeting BACM and BACT requirements for light-duty vehicles.

Accordingly, the EPA proposes to determine that Alaska has rectified the EPA's December 5, 2023, disapproval of the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan with respect to control strategy requirements for mobile sources.

b. Alaska's Identification and Adoption of BACT for Major Stationary Sources

Alaska submitted revisions to its BACM/BACT determinations for the five major stationary sources in the Fairbanks PM<sub>2.5</sub> Nonattainment Area, as described in the following paragraphs.<sup>103</sup> Alaska also submitted permits for each of the five major

<sup>100</sup> 82 FR 42457, September 8, 2017; State Air Quality Control Plan, Vol. III, Appendix III.D.5.7, adopted December 24, 2014, at p. 43; State Air Quality Control Plan, Vol. III, Appendix III.D.5.12, adopted December 24, 2014, at p. 43.

<sup>101</sup> There are nearly 10,000 plug-ins available in the nonattainment area. See State Air Quality Control Plan, Appendix III.D.7.7 (adopted November 19, 2019), at p. 17.

<sup>102</sup> 88 FR 84626, December 5, 2023, at pp. 84649, 84652 (determining that anti-idling restrictions on heavy-duty vehicles had a cost effectiveness of over \$400,000 per ton of SO<sub>2</sub> reduced).

<sup>103</sup> State Air Quality Control Plan Vol. II, Appendix III.D.7.7 (adopted November 5, 2024).

<sup>99</sup> 88 FR 84626, December 5, 2023, at pp. 84669, 84674.

stationary sources that adopt and implement BACT for direct PM<sub>2.5</sub>.

i. Chena Power Plant

Chena Power Plant is an existing stationary source owned and operated by Aurora Energy, LLC, which consists of four existing coal-fired boilers: three 76 million British Thermal Units (MMBtu) per hour overfeed traveling grate stoker type boilers and one 269 MMBtu per hour spreader-stoker type boiler that burn coal to produce steam for heating and power (497 MMBtu per hour combined). The source also includes a coal preparation plant, coal stockpile, ash vacuum pump exhaust, and truck bay ash loadout.

Alaska revised its State Air Quality Control Plan to include its BACT determinations for PM<sub>2.5</sub> and SO<sub>2</sub> for each of the emission units at the Chena Power Plant.<sup>104</sup> We note that Alaska removed its BACT evaluation and determinations for NO<sub>x</sub> because the EPA approved a comprehensive NO<sub>x</sub> precursor demonstration. Alaska also submitted conditions from Air Quality Control Minor Permit AQ0315MSS02 Revision 1 for the Aurora Energy, LLC—Chena Power Plant (Aurora Permit). The Aurora Permit conditions include enforceable PM<sub>2.5</sub> BACT emissions limitations for the emission units at the Chena Power Plant comprised of numerical emissions limits and work practice standards and associated monitoring, recordkeeping and reporting requirements. The permits are included in the docket for this action.<sup>105</sup>

The EPA previously reviewed Alaska's BACM/BACT evaluation for the Chena Power Plant.<sup>106</sup> Alaska has since clarified that PM<sub>2.5</sub> BACT for the coal-fired boilers is operating and maintaining fabric filters (full steam baghouse) during operation.<sup>107</sup> Thus, in this action, the EPA is proposing to approve Alaska's PM<sub>2.5</sub> BACT determinations for the Chena Power Plant, the submitted revisions to State Air Quality Control Plan, Vol. III, Appendix III.D.7.7, related to direct PM<sub>2.5</sub> emissions and the submitted

Aurora Permit conditions<sup>108</sup> as satisfying CAA section 189(b) and 40 CFR 51.1010.

The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7, at this time. As discussed in the preceding paragraphs, the EPA is proposing to approve Alaska's SO<sub>2</sub> precursor demonstration for major stationary sources. If approved, Alaska will not be required to identify, adopt, or implement SO<sub>2</sub> BACT for the Chena Power Plant. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations in a separate, future action.

ii. Doyon-Fort Wainwright Central Heating and Power Plant

Fort Wainwright is an existing U.S. Army installation. Emission units located within the military installation include units such as boilers and generators that are owned and operated by the U.S. Army Garrison Alaska (referred to as FWA). The Central Heating and Power Plant (CHPP), also located within the installation footprint, is owned and operated by Doyon Utilities, LLC (DU), the regional Alaska Native corporation for Interior Alaska. The two entities, DU and FWA, comprise a single stationary source operating under two permits.

The CHPP is comprised of six spreader-stoker type coal-fired boilers, each rated at 230 MMBtu per hour, that burn coal to produce steam for stationary source-wide heating and power. In addition to the CHPP, the source contains emission units comprised of small and large emergency engines, fire pumps, and generators, diesel-fired boilers, and material handling equipment. Alaska's BACM/BACT analysis in the Fairbanks Serious Plan for the stationary source evaluated potential controls to reduce NO<sub>x</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> emissions from each of these emissions units at the stationary source.<sup>109</sup>

As part of the Fairbanks Revised 189(d) Plan, Alaska revised its Air Quality Control Plan sections related to the Doyon-Fort Wainwright CHPP to reflect new engines powering lift pumps

and generators, correct typographical errors, improve clarity, and to include updated SO<sub>2</sub> BACT determinations.<sup>110</sup> With respect to the new engines, all are EPA-certified engines ranging in size from 74 horsepower to 324 horsepower. Alaska updated its PM<sub>2.5</sub> BACT determinations for these new engines. Alaska removed its BACT evaluation and determinations for NO<sub>x</sub> because the EPA approved a comprehensive NO<sub>x</sub> precursor demonstration.

Alaska also submitted conditions from two Air Quality Control Minor Permits: AQ0236MSS03 Revision 2 (U.S. Army Garrison—USAG Alaska Fort Wainwright) and AQ1121MSS04 Revision 1 (Doyon Utilities, LLC—Fort Wainwright) (collectively referred to as the Fort Wainwright Permits). The Fort Wainwright Permits include enforceable PM<sub>2.5</sub> BACT emissions limitations for the emission units at Fort Wainwright comprised of numerical emissions limits and work practice standards and associated monitoring, recordkeeping and reporting requirements. The permits are included in the docket for this action.<sup>111</sup>

The EPA previously reviewed Alaska's BACM/BACT evaluation for the Doyon-Fort Wainwright Central Heating and Power Plant.<sup>112</sup> In addition to the submitted conditions discussed in this section x.x.ii of this preamble, Alaska's updated BACT determination clarified the maintenance and testing requirements for the diesel-fired boilers and added enclosed conveying system requirements.<sup>113</sup> The EPA previously approved Alaska's BACT determinations for older pump engines and generator engines. Alaska updated its BACT determinations and associated permit limits to reflect grams per hour emission limits appropriate to the size and model year of the engine. Alaska also imposed limits on the hours of operations of these engines. Thus, in this action, the EPA is proposing to approve Alaska's updated PM<sub>2.5</sub> BACT determinations for the emissions units

<sup>104</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–164. Note, Alaska's prior SIP submissions only evaluated BACT for the coal-fired boilers.

<sup>105</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–187.

<sup>106</sup> See Hedgpeth and Sorrels. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for the Aurora Energy, LLC Chena Power Plant as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

<sup>107</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–173.

<sup>108</sup> See section III.A of this preamble for the specific permit conditions proposed for approval.

<sup>109</sup> Alaska evaluated potential NO<sub>x</sub> controls for each emission unit, but because Alaska determined and the EPA approved that NO<sub>x</sub> emissions are not significant for PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area, Alaska does not plan to require implementation of BACT for NO<sub>x</sub>. See 88 FR 84626, December 5, 2023. Thus, EPA is not discussing Alaska's BACT analysis for NO<sub>x</sub> here.

<sup>110</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–202.

<sup>111</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–248.

<sup>112</sup> See Hedgpeth, Z. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for Fort Wainwright-US Army Garrison Alaska (FWA) and Doyon Utilities, LLC (DU) as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

<sup>113</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–217; State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–225.

at Doyon-Fort Wainwright CHPP,<sup>114</sup> the submitted revisions to State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 related to direct PM<sub>2.5</sub> emissions from the Doyon-Fort Wainwright CHPP,<sup>115</sup> and the submitted conditions from the Fort Wainwright Permits<sup>116</sup> as satisfying CAA section 189(b) and 40 CFR 51.1010.

The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at this time for the same reasons discussed in the preceding paragraphs regarding the Chena Power Plant. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations in a separate, future action.

### iii. University of Alaska Fairbanks Campus Power Plant

The Fairbanks Campus Power Plant is an existing stationary source owned and operated by the University of Alaska Fairbanks, which consists of two coal-fired boilers installed in 1962 that were later replaced by a circulating fluidized bed (CFB) dual fuel-fired boiler (coal and biomass) rated at 295.6 MMBtu per hour. Other emission units at the source include a backup diesel generator, diesel-fired boilers, engines, and a coal handling system for the new dual-fuel fired boiler.

In the Fairbanks Revised 189(d) Plan, Alaska updated its Air Quality Control Plan regarding the Fairbanks Campus Power Plant to reflect permanently removed emission units, add new diesel boilers and engines, update the PM<sub>2.5</sub> BACT determinations for small diesel-fired boilers and large and small engines, correct typographical errors, and improve clarity.<sup>117</sup> Alaska also added updated SO<sub>2</sub> BACT determinations for the Fairbanks Campus Power Plant.

With respect to the small diesel-fired boilers (EUs 17 through 22), Alaska updated its BACT determination for PM<sub>2.5</sub> to consist of a partial limit on hours of operation, an emission limit of 0.016 lb/MMBtu,<sup>118</sup> compliance with 40

CFR part 63, subpart JJJJJ, and work practice standards. Alaska evaluated whether installation of a scrubber was feasible for these boilers and determined that it was economically infeasible.<sup>119</sup> Alaska noted that taking into consideration the enforceable limit on operation, the combined potential to emit of PM<sub>2.5</sub> for the six boilers is two tons per year.

With respect to large diesel fired engines (EUs 8 and 35) and small diesel fired engines (EUs 24, 26, 27, 29, and 34),<sup>120</sup> Alaska reevaluated the feasibility of add-on PM<sub>2.5</sub> controls, namely a diesel particulate filter (DPF).<sup>121</sup> EUs 24, 29, and 34 are limited to 100 hours per year of non-emergency operation, so additional BACT controls were not evaluated for these units. Alaska determined that a DPF is not technologically feasible for EU 8 due to an unacceptable increase in back pressure. Alaska determined that DPFs were technologically feasible for the other engines, but Alaska determined that the high cost per unit of emissions reductions rendered them economically infeasible. Updating the cost-effectiveness analysis to reflect comments from the EPA's Technical Support Document,<sup>122</sup> Alaska determined that the cost-effectiveness ranged from over \$17,000 at EU 26 to over \$20,000 per ton of PM<sub>2.5</sub> reduced at EU 27. Alaska stated that EU 35 has potential PM<sub>2.5</sub> emissions of 0.03 tons per year, which is an order of magnitude lower than the two other diesel engines, EUs 26 and 27. Therefore, Alaska did not perform a cost analysis for installing and operating a DPF on EU 35 as it would have an even higher cost per ton estimate than EUs 26 and 27. Furthermore, Alaska noted that EU 35 is limited to 100 hours per calendar year of non-emergency operation and required to combust ULSD under the

associated with industrial boilers while the boilers at the Fairbanks Campus Power Plant are commercial boilers.

<sup>119</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–369.

<sup>120</sup> In comments, the University of Alaska Fairbanks clarified that EU 23 has been permanently removed from service and are no longer permitted EUs at the facility. See Comments on Proposed Rule—Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-Hour PM<sub>2.5</sub> Serious Area and 189(d) Plan, at p. 9, Docket ID No. EPA–R10–OAR–2022–0115.

<sup>121</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–372.

<sup>122</sup> See Hedgpeth and Sorrels. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for the University of Alaska, Fairbanks as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

existing Federal NSPS Subpart III requirements.<sup>123</sup>

Alaska removed its BACT evaluation and determinations for NO<sub>x</sub> because the EPA approved a comprehensive NO<sub>x</sub> precursor demonstration.<sup>124</sup>

Alaska also submitted conditions from Air Quality Control Minor Permit AQ0316MSS08 Revision 1 (University of Alaska Fairbanks (UAF)—University of Alaska Fairbanks Campus) (UAF Permit). The UAF Permit conditions include enforceable PM<sub>2.5</sub> BACT emissions limitations comprised of numerical emissions limits and work practice standards with associated monitoring, recordkeeping, and reporting. The permits are included in the docket for this action.<sup>125</sup>

The EPA previously reviewed Alaska's BACT evaluation for the Fairbanks Campus Power Plant.<sup>126</sup> In this action, the EPA is proposing to approve Alaska's updated PM<sub>2.5</sub> BACT determinations for the small diesel-fired boilers (EUs 17 through 22), large diesel-fired engines (EUs 8 and 35), and small diesel-fired engines (EUs 24, 26, 27, 29, and 34) at the Fairbanks Campus Power Plant. The EPA previously approved Alaska's PM<sub>2.5</sub> BACT determinations for EUs 8, 17–19, 24, and 29. Alaska's updates are consistent with these past approvals. With respect to EUs 26, 27, and 35, the EPA proposes to approve Alaska's economic infeasibility demonstrations for DPFs. The EPA is proposing to approve Alaska's PM<sub>2.5</sub> BACT emissions limits for small diesel-fired boilers (EUs 17 through 22), large diesel-fired engines (EUs 8 and 35), and small diesel-fired engines (EUs 24, 26, 27, 29, and 34) at the Fairbanks Campus Power Plant, which consist of numerical emissions limits, limits on operation, fuel requirements, and work practice standards.

Therefore, the EPA proposes to approve the submitted revisions to State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 related to direct PM<sub>2.5</sub> emissions and NO<sub>x</sub> emissions<sup>127</sup> from the Fairbanks Campus Power Plant

<sup>123</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–374.

<sup>124</sup> 88 FR 84626, December 5, 2023.

<sup>125</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–414.

<sup>126</sup> See Hedgpeth and Sorrels. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for the University of Alaska, Fairbanks as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

<sup>127</sup> The EPA is not proposing to approve the NO<sub>x</sub> related emissions limits as meeting BACT for NO<sub>x</sub>. For some emission units, Alaska imposed NO<sub>x</sub> emissions limits as surrogates for direct PM<sub>2.5</sub> emissions.

<sup>114</sup> Industrial coal-fired boilers; diesel-fired boilers; diesel-fired engines, fire pumps, and generators; and material handling equipment.

<sup>115</sup> The EPA is not proposing to approve the NO<sub>x</sub> related emissions limits as meeting BACT for NO<sub>x</sub>. For some emission units, Alaska imposed NO<sub>x</sub> emissions limits as surrogates for direct PM<sub>2.5</sub> emissions.

<sup>116</sup> See section III.A of this preamble for the specific permit conditions proposed to be approved.

<sup>117</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–356.

<sup>118</sup> Alaska noted that it previously selected a 0.012 lb/MMBtu limit erroneously. This limit is

and the submitted conditions from the UAF Permit<sup>128</sup> as satisfying CAA section 189(b) and 40 CFR 51.1010.

The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at this time for the same reasons discussed in the preceding paragraphs regarding the Chena Power Plant. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations in a separate, future action.

#### iv. Zehnder Facility

The Zehnder Facility (Zehnder) is an electric generating facility that combusts distillate fuel in combustion turbines to provide power to the Golden Valley Electric Association (GVEA) grid. The power plant contains two fuel oil-fired simple cycle gas combustion turbines (each unit rated at 268 MMBtu per hour) and two diesel-fired generators (electromotive diesels) used for emergency power and to serve as black start engines for the GVEA generation system. The primary fuel is stored in two 50,000 gallon above-ground storage tanks. Turbine startup fuel and electromotive diesels primary fuel is stored in a 12,000 gallon above ground storage tank.

In the Fairbanks Revised 189(d) Plan, Alaska revised its Air Quality Control Plan for the Zehnder Facility to correct errors and improve clarity.<sup>129</sup> Alaska also submitted conditions from Air Quality Control Minor Permit AQ0109MSS01 Revision 1 (Golden Valley Electric Association—Zehnder Facility) (Zehnder Permit). The Zehnder Permit contains enforceable PM<sub>2.5</sub> BACT emissions limitations for the emission units at the Zehnder Facility comprised of numerical emissions limits and work practice standards with associated monitoring, recordkeeping, and reporting. The permits are included in the docket for this action.<sup>130</sup>

Similar to the small diesel-fired boilers (EUs 17 through 22) at the Fairbanks Campus Power Plant discussed in the preceding paragraphs of section II.C of this preamble, Alaska imposed, in the Fairbanks Serious Plan and Fairbanks 189(d) Plan, an erroneous emissions limit on the small diesel fired boilers at the Zehnder Facility. The revised Air Quality Control Plan and

associated conditions in the Zehnder Permit reflect the corrected limit.<sup>131</sup>

The EPA previously reviewed Alaska's BACT evaluation for the Zehnder Facility.<sup>132</sup> In EPA's prior analysis, the EPA agreed with Alaska's BACT determinations for PM<sub>2.5</sub>. For the turbines, no technologically feasible add-on control options exist to reduce PM<sub>2.5</sub> emissions. For the emergency generators, the EPA agreed that the limits on annual hours of operation of 100 hours per year or less will result in add-on control equipment such as DPF being cost prohibitive. Further, the EPA stated that similar to the turbines, no technologically feasible add-on control options exist to reduce PM<sub>2.5</sub> emissions from the small diesel and propane fired boilers.<sup>133</sup>

Thus, in this action, the EPA proposes to approve the submitted revisions to State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 related to direct PM<sub>2.5</sub> emissions and NO<sub>x</sub><sup>134</sup> emissions from Zehnder and the submitted Zehnder Permit conditions as satisfying CAA section 189(b) and 40 CFR 51.1010.

The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at this time for the same reasons discussed in the preceding paragraphs regarding the Chena Power Plant. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations in a separate, future action.

#### v. North Pole Power Plant

The North Pole Power Plant is an electric generating facility that combusts distillate fuel in combustion turbines to provide power to the Golden Valley Electric Association (GVEA) grid. The power plant contains two fuel oil-fired simple cycle gas combustion turbines (each unit rated at 672 MMBtu per hour), two fuel oil-fired combined cycle gas combustion turbines (each unit rated at 455 MMBtu per hour), one fuel oil-

fired emergency generator, and two propane-fired boilers.

In the Fairbanks Revised 189(d) Plan, Alaska revised its Air Quality Control Plan for the North Pole Power Plant to correct errors and improve clarity.<sup>135</sup> Alaska also submitted conditions from Air Quality Control Minor Permit AQ0110MSS01 Revision 1 (Golden Valley Electric Association—North Pole Power Plant) (NPPP Permit). The NPPP Permit conditions include enforceable PM<sub>2.5</sub> BACT emissions limitations for the emission units at the North Pole Power Plant comprised of numerical emissions limits and work practice standards with associated monitoring, recordkeeping, and reporting. The permits are included in the docket for this action.<sup>136</sup>

The EPA previously reviewed Alaska's BACT evaluation for the North Pole Power Plant.<sup>137</sup> Similar to the Zehnder facility discussion in the preceding paragraphs in this section II.C, the EPA agreed with Alaska that no additional PM<sub>2.5</sub> BACT controls are feasible for emissions units at the North Pole Power Plant.<sup>138</sup> Thus, in this action, the EPA proposes to approve the submitted revisions to State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 related to direct PM<sub>2.5</sub> emissions and NO<sub>x</sub><sup>139</sup> emissions from the North Pole Power Plant and the submitted NPPP Permit conditions<sup>140</sup> as satisfying CAA section 189(b) and 40 CFR 51.1010.

The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at this time for the same reasons discussed in the preceding paragraphs regarding the Chena Power Plant. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations separately.

<sup>128</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–267.

<sup>129</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–300.

<sup>130</sup> See Hedgpeth, Z. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for the Golden Valley Electric Association (GVEA) Zehnder and North Pole Power Plants as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

<sup>131</sup> *Id.* at p. 11.

<sup>132</sup> The EPA is not proposing to approve the NO<sub>x</sub> related emissions limits as meeting BACT for NO<sub>x</sub>. For some emission units, Alaska imposed NO<sub>x</sub> emissions limits as surrogates for direct PM<sub>2.5</sub> emissions.

<sup>133</sup> See section III.A of this preamble for the specific permit conditions proposed to be approved.

<sup>128</sup> See section III.A of this preamble for the specific permit conditions proposed to be approved.

<sup>129</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–316.

<sup>130</sup> See State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–342.

<sup>131</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.7–327.

<sup>132</sup> See Hedgpeth, Z. (August 24, 2022). *Review of Best Available Control Technology analyses submitted for the Golden Valley Electric Association (GVEA) Zehnder and North Pole Power Plants as part of the Fairbanks PM<sub>2.5</sub> Nonattainment SIP*. U.S. Environmental Protection Agency, Region 10, Laboratory Services and Applied Science Division, EPA–R10–OAR–2022–0115.

<sup>133</sup> *Id.* at p. 11.

<sup>134</sup> The EPA is not proposing to approve the NO<sub>x</sub> related emissions limits as meeting BACT for NO<sub>x</sub>. For some emission units, Alaska imposed NO<sub>x</sub> emissions limits as surrogates for direct PM<sub>2.5</sub> emissions.



c. Alaska's Identification and Adoption of Additional Measures and Demonstration of Five Percent Reduction in Emissions Pursuant to CAA Section 189(d)

The Fairbanks Revised 189(d) Plan retained the identification of all sources of direct PM<sub>2.5</sub> emissions and PM<sub>2.5</sub> plan precursors, identification of all potential controls to reduce direct PM<sub>2.5</sub> emissions and PM<sub>2.5</sub> plan precursors, and reevaluation of previously rejected control measures included in the initial Fairbanks 189(d) Plan, as well as identification of the MSMs adopted into any SIP or used in practice to control emissions in any state.

As part of its reevaluation of control measures, Alaska provided additional information for many of the control measures considered in the BACM analysis. The Fairbanks Revised 189(d) Plan includes additional consideration of banning installation of solid-fuel devices in new construction, limiting heating oil to ultra-low sulfur diesel, dry wood requirements, emissions controls for small area sources, mobile sources, and MSMs.<sup>141</sup>

Alaska identified a burn-down period as part of other jurisdictions' solid fuel-fired heating device curtailment program. Accordingly, Alaska adopted a burn down period of three hours for solid-fuel heating devices that begins upon the effective date and time of a curtailment announcement. In addition, Alaska added specific requirements to document economic hardship as part of a NOASH curtailment program waiver for solid-fuel devices.

Regarding the requirement to demonstrate five percent annual reductions, Alaska included in the Fairbanks Revised 189(d) Plan a control strategy analysis that demonstrates annual reductions of PM<sub>2.5</sub> are greater than five percent through 2027, Alaska's projected attainment year.<sup>142</sup> Alaska noted that the State can demonstrate either five percent annual reductions in emissions of direct PM<sub>2.5</sub> or a five percent annual reductions in emissions of a PM<sub>2.5</sub> plan precursor. Alaska elected to demonstrate five percent annual reductions in direct PM<sub>2.5</sub> emissions. Thus, the EPA is proposing to approve the control strategy included in the Fairbanks Revised 189(d) Plan as meeting the requirements of CAA section 189(d) and 40 CFR 51.1010(c).

<sup>141</sup> State Air Quality Control Plan, Vol. II, section III.D.7.7.12 (adopted November 5, 2024).

<sup>142</sup> State Air Quality Control Plan, Vol. II, section III.D.7.9.2.3, Table 7.9–9.

D. Attainment Demonstration and Modeling

1. Statutory and Regulatory Requirements Regarding the Attainment Demonstration and Modeling

Pursuant to CAA sections 188(c) and 189(b) and 40 CFR 51.1003(b) and 51.1011(b), for nonattainment areas reclassified as Serious, the state must submit an attainment demonstration as part of the Serious Plan that meets the requirements of 40 CFR 51.1011. Similarly, pursuant to 40 CFR 51.1003(c), for Serious areas subject to CAA section 189(d) for failing to attain by the Serious area attainment date, the state must submit an attainment demonstration as part of the 189(d) plan that meets the requirements of 40 CFR 51.1011. On September 2, 2020, the EPA determined that the Fairbanks PM<sub>2.5</sub> Nonattainment Area failed to attain the 2006 24-hour PM<sub>2.5</sub> NAAQS by the December 31, 2019, Serious area attainment date. Therefore, the EPA is proposing to evaluate any previously unmet Serious area planning obligations based on the current, applicable attainment date appropriate under CAA section 189(d) and not the original Serious area attainment date.<sup>143</sup> In accordance with CAA section 172(a)(2)(A) and 40 CFR 51.1004(a)(3), the projected attainment date for Serious nonattainment areas subject to CAA section 189(d) shall be as expeditious as practicable, but no later than five years following the effective date of the EPA's finding that the area failed to attain by the original Serious area attainment date, except that the Administrator may extend the attainment date to the extent the Administrator deems appropriate, for a period no greater than 10 years from the effective date of the EPA's determination that the area failed to attain, considering the severity of nonattainment and the availability and feasibility of pollution control measures. In accordance with 40 CFR 51.1011, the attainment demonstration must meet four requirements:

- a. Identify the projected attainment date for the Serious nonattainment area that is as expeditious as practicable;
- b. Meet the requirements of 40 CFR part 51, appendix W and include

<sup>143</sup> The term "applicable attainment date" is defined at 40 CFR 51.1000 to mean: "the latest statutory date by which an area is required to attain a particular PM<sub>2.5</sub> NAAQS, unless EPA has approved an attainment plan for the area to attain such NAAQS, in which case the applicable attainment date is the date approved under such attainment plan. If EPA grants an extension of an approved attainment date, then the applicable attainment date for the area shall be the extended date."

inventory data, modeling results, and emissions reduction analyses on which the state has based its projected attainment date;

c. The base year for the emissions inventories shall be one of the 3 years used for designations or another technically appropriate inventory year if justified by the state in the plan submission; and

d. The control strategies modeled as part of a Serious area attainment demonstration shall be consistent with the control strategies required pursuant to 40 CFR 51.1003 and 51.1010 (including the specific requirements in 40 CFR 51.1010(c)) for Serious areas that fail to attain.

Further, in accordance with 40 CFR 51.1011(b)(5), the attainment plan must provide for implementation of all control measures needed for attainment as expeditiously as practicable. Additionally, all control measures must be implemented no later than the beginning of the year containing the applicable attainment date, notwithstanding the BACM implementation deadline requirements in 40 CFR 51.1010.<sup>144</sup>

2. Summary of the EPA's Prior Rulemaking Regarding Attainment Demonstration and Modeling

The EPA disapproved Alaska's attainment demonstration in the initial Fairbanks 189(d) Plan because it did not fully meet CAA requirements.<sup>145</sup> As part of the attainment demonstration, the state must identify the projected attainment date that is as expeditious as practicable. Alaska did not adopt and implement all available control measures. The correct identification of the most expeditious attainment date requires an evaluation based upon expeditious implementation of the required emissions controls. Therefore, the EPA could not assess whether Alaska identified the expeditious attainment date for modeling purposes.

3. Summary of the State's Submission Regarding Attainment Demonstration and Modeling

The State included an updated attainment demonstration in the Fairbanks Revised 189(d) Plan.<sup>146</sup> In the plan, Alaska asserted that calendar year 2027 reflects attainment "as expeditiously as practicable," based on air quality improvements from the base year to attainment year, as measured by the quantified emissions reductions

<sup>144</sup> 40 CFR 51.1011(b)(5).

<sup>145</sup> 88 FR 84626, December 5, 2023, at p. 84676.

<sup>146</sup> State Air Quality Plan, Vol. II, section III.D.7.9 (adopted November 5, 2024).

associated with the implementation of control measures.<sup>147</sup>

Alaska noted that for attainment modeling, five-year design values are generally recommended. For the earlier Fairbanks Serious Plan, the base year modeling design value was 131.6 µg/m<sup>3</sup>. However, the latest five-year (2017–2021) design value is 64.9 µg/m<sup>3</sup> at the North Pole air quality monitor (Hurst Road), the area of expected highest PM<sub>2.5</sub> concentrations in the Fairbanks PM<sub>2.5</sub> Nonattainment Area. As part of updating its attainment analysis, Alaska identified this five-year design value of 64.9 µg/m<sup>3</sup> as the base year modeling design value for the Fairbanks Revised 189(d) Plan.

Building on the 2020 base year emissions inventory, Alaska developed a series of future year emissions inventories for each calendar year from 2020 through 2029. Alaska noted that

each of these future year inventories accounted for growth in source activity over time (e.g., increases in residential heating emissions resulting from forecasted housing growth). The emissions inventory also accounted for emissions reductions associated with both on-going state and local control programs (such as the Wood Stove Change Out and Solid Fuel-Burning Appliance Curtailment programs), along with other control measures included in the SIP that were adopted since the area was classified as a Serious area.

Alaska stated that source activity growth rates used to project the 2020 base year inventory emissions in calendar years 2021 through 2029 were generally based on the 2020–2024 and 2024–2035 annualized growth rates by source sector included in the Fairbanks Revised 189(d) Plan.<sup>148</sup> However,

Alaska noted that the source activity growth rate for space heating was capped after model year 2027, and claimed this is due to the difficulty in reliably forecasting long-term energy prices and the likely peak in energy costs in 2024. Alaska also stated that the effects of the Federal mobile source and fuel control programs in projecting mobile source emissions from 2021 through 2029 were accounted for using the EPA’s MOVES3 vehicle emissions model.

Alaska included a list of the state and local control measures for which emissions benefits were quantified and included in the attainment date analysis.<sup>149</sup> Further, Alaska included a phase-in forecast for each control measure for 2020–2027 inventory years. See Table 4 of this preamble for a summary of these control measures:

TABLE 4—ALASKA CONTROL MEASURES AND PHASE-IN SCHEDULE

Control measure	Percent compliance		2027 Projected emissions (tons per episodic day)		Details
	2020 Base year	2027 Attainment year	PM <sub>2.5</sub>	SO <sub>2</sub>	
Fairbanks Wood Stove Change Out Program.	2,791	5,628	1.09	0.11	Based on funding from the 2016, 2017, 2018, 2019–2020, 2021, and 2022 Targeted Airshed Grants.
Solid Fuel-Burning Appliance Curtailment Program.	30%	38%	Stage 1: 0.02; Stage 2: 0.12	Stage 1:—0.000; Stage 2:—0.02.	In winter 2022–2023, Alaska conducted an observational field study from which compliance was estimated to be 38.1%.
Shift to diesel no. 1 fuel oil	n/a	50%	0.02	1.73	This measure required a one-time shift from the current mix of diesel no. 2 and diesel no. 1 heating oil refined and sold in the nonattainment area by September 2022.
Requires commercially sold wood to be dry before sale.	n/a	50%	0.06	Less than 0.01	Requires commercially sold wood after October 1, 2021, to be dry, or if sold as 8-ft length rounds, requires proof of proper/adequate storage for drying by the buyer.
Removal of all uncertified devices & cordwood outdoor hydronic heaters.	0%	30%	0.25	–0.01	2024 is first year of implementation. Compliance rate estimates based on existing and on-going public education and outreach efforts.
2.0 g/hr and 0.10 lb/MMBtu certified emission rates for new or re-conveyed wood devices.	22%	35%	0.09	Less than 0.01	The compliance rate estimated for this measure reflect the volume of home sales (projected from historical data) coupled with the requirement to register wood-fired heating devices upon sale or conveyance of a property.
Removal of coal heaters	n/a	25%	Less than 0.01	Less than 0.01.	

<sup>147</sup> State Air Quality Plan, Vol. II, section III.D.7.9.

<sup>148</sup> State Air Quality Plan, Vol. II, section III.D.7.6, Table 7.6–10.

<sup>149</sup> State Air Quality Plan, Vol. II, section III.D.7.9, Table 7.9–1.

TABLE 4—ALASKA CONTROL MEASURES AND PHASE-IN SCHEDULE—Continued

Control measure	Percent compliance		2027 Projected emissions (tons per episodic day)		Details
	2020 Base year	2027 Attainment year	PM <sub>2.5</sub>	SO <sub>2</sub>	
Wood-fired devices may not be primary or only heating source.	0%	20% (existing homes); 40% (new homes)	0.09 .....	Less than 0.01 .....	Beginning in 2024, compliance rates of 20% for new home sales (discounted for large lot, 2-acre cabin exemption) and 40% for home resales. The new home sale compliance rate is discounted from 40% to 20% to account for the estimated portion of large lot (greater than 2 acre) cabins which are exempted from this requirement.
NOASH/Exemption requirements.	0%	50%	Less than 0.01 .....	Less than 0.01 .....	Compliance rates reflect projected penetration rate increases associated with annual renewal and device registration requirements, proper installation and maintenance determinations from third-party verifiers, and requirements for catalyst replacement when manufacturer-recommended catalyst useful life is reached (estimated at six years averaged across manufacturers). These elements are also coupled with projected impacts from the NOASH reduction program funded under currently secured TAGs.

Alaska noted that, based on these phase-in forecasts, a detailed spreadsheet was developed to calculate PM<sub>2.5</sub> and SO<sub>2</sub> emissions reductions within the space heating sector for each measure in each inventory year.<sup>150</sup> The source activity data includes device and fuel splits, emission factors, and methods used to calculate control measure emissions benefits to support the control inventories developed for the attainment date analysis. Alaska further stated that the control measure emissions benefits calculations also account for the effects of overlap between measures that impact the same source category, properly eliminating double counting.

Alaska stated that projected emissions control inventories for each year from 2020 through 2029 were prepared to support the analysis of expeditious attainment. Full modeling runs were completed for 2029, 2027, and 2026 in that order. After the 2029 modeling results demonstrated attainment of the

PM<sub>2.5</sub> NAAQS, 2027 was selected as the next year to evaluate expeditious attainment.

To begin analyzing the 2027 attainment year, Alaska noted that the 2027 episodic modeling inventory was incorporated into the CMAQ air quality model. Modeled concentration outputs for this 2027 control inventory run were post-processed for each grid cell corresponding to ambient air quality monitors for which design values could be computed and processed through Alaska’s Speciated Modeled Attainment Test (SMAT) tool (see State Air Quality Control Plan, Vol. II, section III.D.7.8.9). Alaska stated that the modeled design value at the controlling North Pole (Hurst Road) air quality monitor was found to be 31.9 µg/m<sup>3</sup>, below the 35 µg/m<sup>3</sup> NAAQS for 24-hour PM<sub>2.5</sub> and thus demonstrating modeled attainment by 2027.

To evaluate whether attainment could be advanced any sooner than 2027, Alaska compiled another emissions inventory for the 2026 model year. The

2026 CMAQ gridded outputs were then post-processed for the key monitor-based grid cells through the SMAT tool to develop modeled design values that reflected penetration of the State’s control strategy package in 2026. Alaska stated that the 2026 modeled design value at the North Pole (Hurst Road) monitor was found to be 38.1 µg/m<sup>3</sup>, which exceeds the 35 µg/m<sup>3</sup> NAAQS.

As shown in Table 5 of this preamble, modeled design values in 2027 at all three regulatory air quality monitor locations in the Fairbanks PM<sub>2.5</sub> Nonattainment Area are below the 35 µg/m<sup>3</sup> 24-hour PM<sub>2.5</sub> NAAQS. Alaska noted that the modeled design value at the controlling North Pole (Hurst Road) monitor is 31.9 µg/m<sup>3</sup>, more than 3 µg/m<sup>3</sup> below the NAAQS, which provides a “buffer” to account for concentrations in unmonitored grid cells across the nonattainment area. Modeled 2027 design values at the other two monitors near downtown Fairbanks are well below the PM<sub>2.5</sub> NAAQS.

<sup>150</sup> See State Air Quality Plan, Vol. III, Appendix III.D.7.9.

TABLE 5—FAIRBANKS MODELED ATTAINMENT SUMMARY

Fairbanks PM <sub>2.5</sub> air quality monitor	Base year 2020 5-year PM <sub>2.5</sub> modeling design value (µg/m <sup>3</sup> ), 2017–2021	Future 5-year PM <sub>2.5</sub> modeling design value (µg/m <sup>3</sup> ), 2026	Future 5-year PM <sub>2.5</sub> modeling design value (µg/m <sup>3</sup> ), 2027
North Pole (Hurst Road) .....	64.9	38.1	31.9
NCORE .....	27.7	19.8	18.4
A Street .....	34.8	24.5	22.7

Source: State Air Quality Plan, Vol. II, section III.D.7.9, Table 7.9–12.

Alaska noted that even if emission controls were applied for precursor pollutants within applicable source sectors for which precursor significance determinations have been made (*i.e.*, SO<sub>2</sub> emissions from major stationary sources in the Fairbanks PM<sub>2.5</sub> Nonattainment Area), the reduction in secondary PM<sub>2.5</sub> from such controls would not be sufficient to advance attainment sooner than 2027.<sup>151</sup>

Therefore, Alaska asserted that this evaluation demonstrates that 2027 is the most expeditious attainment date based on currently available data and demonstrate attainment “as expeditiously as practicable.”

#### 4. The EPA’s Evaluation and Proposed Action Regarding the Attainment Demonstration and Modeling

The EPA proposes to approve Alaska’s attainment demonstration as meeting the requirements under 40 CFR 51.1011(b). Alaska demonstrated that the 2027 projected attainment date for the Serious nonattainment area is as expeditious as practicable. The attainment demonstration meets the requirements of Appendix W and includes inventory data, modeling results, and emissions reduction analyses on which the state has based its projected attainment date. As discussed in section II.A of this preamble, the base year for the emissions inventories for Alaska was 2020, which the EPA is proposing to determine is the technically appropriate inventory year. The EPA is proposing to determine that the control strategies in Alaska’s SIP as rectified by the Fairbanks Revised 189(d) Plan satisfy the requirements of 40 CFR 51.1010. Therefore, the control strategies modeled as part of the attainment demonstration are consistent with the control strategies required pursuant to 40 CFR 51.1003 and 51.1010. With respect to the required timeframe for obtaining emissions reductions, all control measures needed for attainment will be implemented as expeditiously as

practicable and implemented to attain the PM<sub>2.5</sub> NAAQS by 2027.

Pursuant to CAA section 172(a)(2)(A) and 40 CFR 51.1004(a)(3), the EPA is proposing to extend the attainment date for the Fairbanks PM<sub>2.5</sub> Nonattainment Area to December 31, 2027. As shown in Table 5 of this preamble, the 2020 base year design value at the Hurst Road monitoring station is 64.9 µg/m<sup>3</sup>. This design value is well above the PM<sub>2.5</sub> 24-hour NAAQS of 35 µg/m<sup>3</sup>, indicating the air quality problem in the Fairbanks PM<sub>2.5</sub> Nonattainment Area remains severe. However, Alaska has demonstrated that attainment earlier than 2027 is not feasible. Moreover, the EPA has reviewed Alaska’s evaluations (and re-evaluations) of available control measures and proposes to determine that Alaska’s control strategy meets the requirements of CAA section 189(b) and 189(d) and 40 CFR 51.1010. By extension, the EPA proposes to determine that there are no other feasible measures that Alaska could implement that would advance attainment to a date earlier than December 31, 2027.

As discussed in section II.E of this preamble regarding Reasonable Further Progress, the primary drivers of emissions reductions will be continued implementation of the wood stove change out program, the Solid Fuel-Burning Appliance Curtailment Program, and the switch from diesel no. 2 fuel oil to diesel no. 1 fuel oil. The rate of wood stove change-outs in a single season is constrained based on the availability of certified installers and residential demand. Similarly, higher sulfur fuel cannot feasibly be eliminated from the Fairbanks PM<sub>2.5</sub> Nonattainment Area until 2026<sup>152</sup> due to the time necessary to expend all residual diesel no. 2 fuel oil and for diesel no. 1 to fully flush out any remaining higher sulfur residue. Finally, Alaska conducted a recent assessment of compliance with the Solid Fuel-Burning Appliance Curtailment Program that indicated a

compliance rate of 38 percent.<sup>153</sup> Given the variability of compliance with this program in past, Alaska does not project a near-term improvement in the compliance rate. Therefore, the EPA has considered the severity of nonattainment and the availability and feasibility of control measures as required under CAA section 172(a)(2)(A) and 40 CFR 51.1004(a)(3).

#### E. Reasonable Further Progress

##### 1. Statutory and Regulatory Requirements Regarding Reasonable Further Progress

Pursuant to CAA section 172(c) and 40 CFR 51.1012, each attainment plan for a PM<sub>2.5</sub> nonattainment area shall include Reasonable Further Progress (RFP) provisions that demonstrate that control measures in the area will achieve such annual incremental reductions in emissions of direct PM<sub>2.5</sub> and PM<sub>2.5</sub> plan precursors as are necessary to ensure attainment of the applicable PM<sub>2.5</sub> NAAQS as expeditiously as practicable. As discussed in section I of this preamble, on September 2, 2020, the EPA determined that the Fairbanks PM<sub>2.5</sub> Nonattainment Area failed to attain the 2006 24-hour PM<sub>2.5</sub> NAAQS by the applicable December 31, 2019, Serious area attainment date. Therefore, the EPA is proposing to evaluate any previously unmet Serious area planning obligations, including RFP and quantitative milestone requirements, based on the current, applicable attainment date appropriate under CAA section 189(d) and not the original Serious area attainment date. In accordance with 40 CFR 51.1012, the RFP plan shall include all of the following:

a. A schedule describing the implementation of control measures during each year of the applicable attainment plan. Control measures for Moderate area attainment plans are required in 40 CFR 51.1009, and control

<sup>151</sup> State Air Quality Control Plan, Vol. II, section III.D.7.9.3

<sup>152</sup> State Air Quality Control Plan, Vol. II, section III.D.7.10, Table 7.10–4.

<sup>153</sup> State Air Quality Control Plan, Vol. III, Appendix III.D.7.9, at p. Appendix III.D.7.14–12.

measures for Serious area attainment plans are required in 40 CFR 51.1010.

b. RFP projected emissions for direct PM<sub>2.5</sub> and all PM<sub>2.5</sub> plan precursors for each applicable milestone year, based on the anticipated implementation schedule for control measures required by 40 CFR 51.1009 and 51.1010. For purposes of establishing motor vehicle emissions budgets for transportation conformity purposes (as required in 40 CFR part 93, subpart A) for a PM<sub>2.5</sub> nonattainment area, the state shall include in its RFP submission an inventory of on-road mobile source emissions in the nonattainment area for each milestone year.<sup>154</sup>

c. An analysis that presents the schedule of control measures and estimated emissions changes to be achieved by each milestone year, and that demonstrates that the control strategy will achieve reasonable progress toward attainment between the applicable base year and the attainment year. The analysis shall rely on information from the base year inventory for the nonattainment area required in 40 CFR 51.1008(a)(1) and the attainment projected inventory for the nonattainment area required in 40 CFR 51.1008(a)(2), in addition to the RFP projected emissions required in 40 CFR 51.1012(a)(2).

d. An analysis that demonstrates that by the end of the calendar year for each milestone date for the area determined in accordance with 40 CFR 51.1013(a), pollutant emissions will be at levels that reflect either generally linear progress or stepwise progress in reducing emissions on an annual basis between the base year and the attainment year. A demonstration of stepwise progress must be accompanied by appropriate justification for the selected implementation schedule.

## 2. Summary of the EPA's Prior Rulemaking Regarding Reasonable Further Progress

The EPA disapproved the RFP provisions in the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the control strategies in those prior plans did not include all required control measures.<sup>155</sup> This caused uncertainty as to whether the RFP provisions of those plans accurately projected progress towards the most expeditious attainment year, per CAA section 172(c)(2) and 40 CFR 51.1012.

<sup>154</sup> For an evaluation of motor vehicle emission budgets, see section II.H of this preamble.

<sup>155</sup> 88 FR 84626, December 5, 2023, at p. 84676.

## 3. Summary of the State's Submission Regarding Reasonable Further Progress

The Fairbanks Revised 189(d) Plan includes updated RFP provisions at State Air Quality Control Plan, Vol. II, section III.D.7.10.<sup>156</sup> Consistent with the attainment demonstration provisions discussed in the preceding paragraphs, these updated RFP provisions reflect the attainment year of 2027.<sup>157</sup> The updated RFP analysis includes a schedule that includes 2020 as the base year, 2027 as the attainment year, and the following years as RFP and quantitative milestone analysis years: 2023, 2026, and 2029.<sup>158</sup>

Alaska included an analysis of implementation of all control measures that establishes the scheduled phase-in of each measure adopted and estimation of emissions reductions for each significant pollutant (also accounting for the overlapping of measures to eliminate double counting) for each milestone year based on the phase-in schedule. Alaska calculated the RFP and quantitative milestone (QM) milestone year emissions reduction targets based on linear progress towards attainment by 2027. Based on the control measure phase-in schedule, Alaska calculated projected emissions reductions for each pollutant in each milestone year and compared these emissions reductions to their targets to evaluate linear progress toward attainment.

Alaska has continued to assess the appropriate compliance rate estimate. As Alaska noted in the Fairbanks Revised 189(d) Plan, the State is currently utilizing funding from the 2019–2020 TAG to purchase three dynamic message highway signs and an infrared camera and to expand staffing to increase compliance.<sup>159</sup> Alaska continues to conduct field studies during the wintertime to observe compliance rates. Based on the recent 2022–2023 wintertime field study, Alaska determined that the combined compliance rate in Fairbanks and the North Pole is 38.1 percent. Based on these observations and the increased use of TAG funding to improve compliance, Alaska increased its compliance estimate with the curtailment program to 38 percent for the 2023 model year,

<sup>156</sup> Adopted November 5, 2024.

<sup>157</sup> RFP provisions in prior SIP submissions for the Fairbanks PM<sub>2.5</sub> Nonattainment Area reflected varying projected attainment dates. Initially Alaska submitted an RFP plan in the Fairbanks Serious Plan based on the projected attainment year of 2029. Alaska withdrew and replaced the RFP plan in the Fairbanks 189(d) plan based on the revised 2024 attainment projection.

<sup>158</sup> See State Air Quality Plan, Vol. II, section III.D.7.10.2.

<sup>159</sup> State Air Quality Plan, Vol. II, section III.D.7.9.1.1.

an increase from 30 percent in 2020. Alaska plans to conduct additional wintertime curtailment program compliance observations to inform anticipated improvements in compliance beyond 2023. For the attainment year projected emissions inventory, Alaska stated that it conservatively assumed no further compliance rate increases pending further evaluation of additional wintertime compliance observations.<sup>160</sup>

Alaska stated that direct PM<sub>2.5</sub> emissions reductions achieved within the first two milestone years (2023 and 2026) achieve stepwise progress.<sup>161</sup> However, reductions in direct PM<sub>2.5</sub> emissions in the attainment year of 2027 reflect linear progress. According to Alaska's submission, this is attributable to a spike in participation in the wood stove change out program anticipated by 2027 (based on increased incentives and deadlines for older device turnover) and gradual improvements in household compliance with control strategies impacting solid fuel-burning devices.

With respect to SO<sub>2</sub>, Alaska stated that SO<sub>2</sub> emissions reductions are expected to be non-linear but includes early year (2023 and 2026) progress that significantly exceeds the linear progress trajectory.<sup>162</sup> Alaska stated that this non-linearity in control measure reductions for SO<sub>2</sub> is due to two causes. First, most of the measures designed to reduce direct PM<sub>2.5</sub> through removal, curtailment, or replacement of solid-fuel devices trigger a shift from space heating devices that emit high levels of direct PM<sub>2.5</sub> to oil-fired devices that emit very low levels of direct PM<sub>2.5</sub> (but can lead to higher levels of SO<sub>2</sub> emissions depending on the fuel sulfur content). Second, initial reductions in SO<sub>2</sub> emissions are the result of Alaska implementing an SO<sub>2</sub>-specific control measure in 2022 mandating a shift from diesel no. 2 to diesel no. 1 heating oil. Thus, emissions reductions for SO<sub>2</sub> exhibit stepwise rather than linear progress.

Regarding NH<sub>3</sub>, Alaska stated that linearly established targets for NH<sub>3</sub> will not be met until the forecasted 2027 attainment year.<sup>163</sup> Alaska noted that the increases in NH<sub>3</sub> emissions are not due to control measure benefits or lack thereof. Although Alaska adopted and implemented control measures to reduce NH<sub>3</sub>, Alaska did not calculate any NH<sub>3</sub> emissions reductions for these measures for the purposes of RFP due to

<sup>160</sup> *Id.*

<sup>161</sup> State Air Quality Plan, Vol. II, section III.D.7.10.3.3.

<sup>162</sup> *Id.*

<sup>163</sup> *Id.*

the large uncertainty in NH<sub>3</sub> emissions factors for key sources.

#### 4. The EPA's Evaluation and Proposed Action Regarding Reasonable Further Progress

The EPA is proposing to approve the Fairbanks Revised 189(d) Plan as meeting the RFP requirements in CAA section 172(c)(2) and 40 CFR 51.1012. The RFP provisions in the Fairbanks Revised 189(d) Plan meet each of the requirements in 40 CFR 51.1012(a)(1)–(4). First, the RFP provisions include a schedule describing the implementation of control measures during each year of the applicable attainment plan.<sup>164</sup> Second, the Fairbanks Revised 189(d) Plan includes RFP projected emissions for direct PM<sub>2.5</sub> and all PM<sub>2.5</sub> plan precursors for each applicable milestone year based on the phase-in schedule.<sup>165</sup> Third, the Fairbanks Revised 189(d) Plan includes an analysis that presents the schedule of control measures and estimated emissions changes to be achieved by each milestone year: 2023, 2026, and 2029.<sup>166</sup> This analysis relies on information from the base year inventory and attainment projected inventories in State Air Quality Control Plan, Vol. II, section III.D.7.8, as well as the RFP projected emissions. The analysis demonstrates that the control strategy will achieve reasonable progress toward attainment between the applicable base year and the attainment year.<sup>167</sup>

Finally, the Fairbanks Revised 189(d) Plan includes an analysis that demonstrates that by the end of the calendar year for each milestone date, pollutant emissions will be at levels that reflect either linear progress or stepwise progress in reducing emissions on an annual basis between the base year and attainment year. As discussed in section II.E.3 of this preamble, Alaska's projections for reductions in direct PM<sub>2.5</sub> reductions closely track linear progress. The EPA proposes to determine that the slight deviations from linear progress in the initial years of implementation are justified. The EPA recognizes the episodic nature of

wood-stove change outs and the time lag between state enforcement and deterrence.

With respect to SO<sub>2</sub> emissions reductions, Alaska projects emissions well below linear progress in 2023 and 2026 milestone years. As discussed in section II.E.3 of this preamble, the early-year reductions are due to near-term implementation of the control strategy requirement to switch to lower sulfur fuels. These early reductions are consistent with the overall goal of achieving attainment as expeditiously as practicable.<sup>168</sup> The EPA proposes to determine that Alaska adequately justified the leveling off of SO<sub>2</sub> emissions reductions in 2027 as due to the near-term implementation of the fuel switch as well as the increase in SO<sub>2</sub> emissions from residents switching from solid fuel-fired heating devices to liquid fuel-fired heating devices to comply with other measures in the control strategy targeting sources of direct PM<sub>2.5</sub>.

Finally, with respect to NH<sub>3</sub>, the EPA proposes to determine that Alaska adequately justified the increase in emissions. The EPA has previously approved Alaska control strategy for NH<sub>3</sub>, noting that sources in the Fairbanks PM<sub>2.5</sub> Nonattainment Area emit a negligible amount of NH<sub>3</sub> and there are no specific controls for the types of sources in the area.<sup>169</sup> Therefore, the EPA is proposing to approve the Fairbanks Revised 189(d) Plan as meeting the RFP requirements in CAA section 172(c)(2) and 40 CFR 51.1012.

#### F. Quantitative Milestones

##### 1. Statutory and Regulatory Requirements Regarding the Quantitative Milestones

In accordance with CAA section 189(c)(1) and 40 CFR 51.1013, the state must submit in each attainment plan for a PM<sub>2.5</sub> nonattainment area specific quantitative milestones that provide for objective evaluation of RFP toward timely attainment of the applicable PM<sub>2.5</sub> NAAQS in the area.

For an attainment plan submission for a Serious area subject to the requirements of CAA section 189(d) and 40 CFR 51.1003(c), each plan shall contain quantitative milestones that provide for objective evaluation of RFP toward timely attainment of the applicable PM<sub>2.5</sub> NAAQS in the area.<sup>170</sup> At a

minimum, each plan for an area subject to CAA section 189(d) must include QMs for tracking progress achieved in implementing the SIP control measures by each milestone date.<sup>171</sup>

In the preamble to the PM<sub>2.5</sub> SIP Requirements Rule, the EPA stated that it interprets the CAA as allowing states to identify milestones that are suitable for the specific facts and circumstances of the attainment area.<sup>172</sup> The EPA suggested possible metrics, including tracking air quality improvement, tracking emissions reductions, percentage implementation of control strategies, or percent compliance with implemented control measures.<sup>173</sup> Finally, the EPA stated in the preamble that quantitative milestones will be met by showing that emissions reductions scheduled to be made between the SIP due date and the attainment date were actually achieved.<sup>174</sup>

Regarding the specific timeframe for the Fairbanks PM<sub>2.5</sub> Nonattainment Area, per 40 CFR 51.1013(a)(4), each attainment plan submission for an area designated nonattainment for the 1997 and/or 2006 PM<sub>2.5</sub> NAAQS before January 15, 2015, shall contain quantitative milestones to be achieved no later than 3 years after December 31, 2014, and every 3 years thereafter until the milestone date that falls within 3 years after the applicable attainment date.

##### 2. Summary of the EPA's Prior Action Regarding the Quantitative Milestones

The EPA disapproved the quantitative milestones in the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the control strategies in those prior plans did not include all required control measures.<sup>175</sup> This caused uncertainty as to whether the quantitative milestones were based on progress towards the most expeditious attainment year.

##### 3. Summary of the State's Submission Regarding the Quantitative Milestones

Alaska submitted revised quantitative milestones in the Fairbanks Revised 189(d) Plan. As noted in section II.E of this preamble, Alaska's updated RFP analysis is based on a schedule that includes 2020 as the base year, 2027 as the attainment year, and the following years as quantitative milestone years:

<sup>171</sup> 40 CFR 51.1013(a)(3)(ii).

<sup>172</sup> *Id.*

<sup>173</sup> 81 FR 58010, Aug. 24, 2016, at pp. 58064, 58104.

<sup>174</sup> *Id.*

<sup>175</sup> 88 FR 84626, December 5, 2023, at p. 84676.

<sup>164</sup> *Id.* at section III.D.7.10.3.2; *See also* State Air Quality Control Plan, Vol. III, Appendix III.D.7.10.

<sup>165</sup> *Id.* at section III.D.7.10.3.3, Table 7.10–5.

<sup>166</sup> *Id.* at section III.D.7.10.3.2, Table 7.10–4.

<sup>167</sup> *Id.* at section III.D.7.10.3, Tables 7.10–4–7.10–5; Figures 7.10–3–7.10–5. Note that NH<sub>3</sub> emissions are projected to increase from base year to the projected attainment year. As discussed in the preceding paragraphs regarding the control strategy, the EPA either has previously approved Alaska's control strategy as meet planning requirements for sources of NH<sub>3</sub>. This is primarily because there are either no controls for sources of NH<sub>3</sub> emissions in the Fairbanks PM<sub>2.5</sub> Nonattainment Area or the direct PM<sub>2.5</sub> emissions controls are sufficient to control NH<sub>3</sub> emissions.

<sup>168</sup> *See* CAA section 189, 42 U.S.C. 7513a, Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at p. 42016.

<sup>169</sup> 88 FR 84626, December 5, 2023, at p. 84636

<sup>170</sup> 40 CFR 51.1013(a)(3).

2023, 2026, and 2029.<sup>176</sup> Alaska used emissions reductions achieved compared to projected emissions reductions as the metric to objectively evaluate progress toward attainment.<sup>177</sup> Alaska calculated expected emissions reductions based on the control measure phase-in schedule.<sup>178</sup> In its Quantitative Milestone Reports required by CAA section 189(c) and 40 CFR 51.1013(b), Alaska reported the emissions reductions achieved by the end of the milestone year compared to the projected emissions reductions included in the quantitative milestone provisions in the Fairbanks Revised 189(d) Plan, specifically, State Air Control Quality Plan, Vol. II, section III.D.7.10.3. Alaska made clear that the state will include in its QM reports completion statistics and phase-in percentages for each measure included in the Fairbanks Revised 189(d) Plan.<sup>179</sup>

According to the Fairbanks Revised 189(d) Plan, one of Alaska's reasons for selecting emissions reductions achieved compared to projected emissions reductions as the objective metric is because doing so allows Alaska to take credit for emissions reductions from voluntary measures that are not part of its control strategy.<sup>180</sup> Alaska provided the example of emissions reductions attributable to natural gas expansion. As discussed further below in section II.F.4 of this preamble, the EPA disagrees with this specific rationale for allowing the state to take credit for emissions reductions from voluntary measures that are not part of its control strategy.

#### 4. The EPA's Evaluation and Proposed Action Regarding the Quantitative Milestones

The EPA is proposing to approve the Fairbanks Revised 189(d) Plan as meeting the quantitative milestone requirements of CAA section 189(c)(1) and 40 CFR 51.1013. First, in accordance with 40 CFR 51.1013(a)(3)(ii) and (4), the Fairbanks Revised 189(d) Plan includes quantitative milestones for the years 2023, 2026, and 2029. Second, the Fairbanks Revised 189(d) Plan includes phase-in metrics for each measure in the control strategy, including measures necessary to meet the BACM and BACT requirements in CAA section 189(b) and 40 CFR 51.1010(a) and the requirements of CAA section 189(d) and 40 CFR 51.1010(c).

<sup>176</sup> See State Air Quality Control Plan, Vol. II, section III.D.7.10.2.

<sup>177</sup> *Id.*

<sup>178</sup> *Id.* at section III.D.7.10.3.3, Table 7.10–5.

<sup>179</sup> *Id.* at section III.D.7.10.2.

<sup>180</sup> *Id.*

Finally, the measures allow for objective evaluation of RFP. As stated in the preceding paragraphs, the EPA interprets the CAA as allowing states to identify milestones that are suitable for the specific facts and circumstances of the attainment area. The EPA proposes to determine that Alaska's quantitative milestones provide objective evaluation of RFP and are suitable for the specific facts and circumstances for the Fairbanks PM<sub>2.5</sub> Nonattainment Area. Although the EPA agrees that comparing emissions reductions achieved to projected emissions reductions allows for objective evaluation of RFP for the Fairbanks PM<sub>2.5</sub> Nonattainment Area, the EPA disagrees with Alaska's stated rationale for selecting this metric. The purpose of QMs is to provide an objective evaluation of the state's implementation of the SIP control measures.<sup>181</sup> Therefore, crediting emissions reductions attributable to non-SIP measures toward achieving a QM is inconsistent with CAA section 189(c) and 40 CFR 51.1013.

Nevertheless, using emissions reductions as the metric is appropriate for the Fairbanks Revised 189(d) Plan because of the overlapping nature of control measures and associated emissions reductions, particularly those focused on the space heating area source sector. Specifically, the implementation of specific measures designed to reduce emissions from solid fuel-fired burning devices impacts nearly all other area-source controls measures. For example, the wood stove change out program removes wood stoves from the emissions inventory. This reduces direct PM<sub>2.5</sub> emissions, but also impacts the emissions reductions achieved by the Solid Fuel-Burning Appliance Curtailment Program and dry wood requirements.

Alaska could achieve more wood stove change-outs than it projects in a milestone year and, thus, achieve more emissions reductions attributable to that measure. However, that measure, by its nature, changes the makeup of the remaining wood stove users and their collective compliance with dry wood requirements and the curtailment program. Thus, there could be an instance where Alaska overperforms on one wood stove control measure, and that overperformance causes an underperformance on one or more other similar measures, but that collectively the measures achieve RFP.

<sup>181</sup> See 40 CFR 51.1013(a)(3)(ii) (“At a minimum, each quantitative milestone plan must include a milestone for tracking progress *achieved in implementing the SIP control measures* by each milestone date.”) (emphasis added).

Relatedly, the wood stove change out program has the potential to moderate the benefits of measures designed to reduce SO<sub>2</sub> emissions by increasing the number of residences using oil fuel-fired heating devices. Comparing emissions reductions achieved to projected emissions reductions as the milestone metric allows Alaska to take into consideration these complex interactions and ultimately provides a more meaningful assessment of whether Alaska's plan is achieving RFP.

In addition to the emissions reduction metric, the Fairbanks Revised 189(d) Plan includes several other objective metrics for RFP, including the number of wood stoves changed out, compliance percentage for tracking the progress of the solid-fuel burning device change out program, and percent implementation as metrics for the fuel sulfur content shift mandate, dry wood requirements, mandatory wood device removal, and more stringent no other adequate source of heat requirements.

Alaska has demonstrated its ability to include emissions reduction statistics in its quantitative milestone reports. On March 29, 2024, Alaska submitted its quantitative milestone report for quantitative milestone year 2023 (“2023 QM Report”). The EPA determined the 2023 QM Report was adequate on November 14, 2024. Both the 2023 QM Report and the EPA's adequacy determination are included in the docket for this action.

The 2023 QM Report included a certification from the Governor's designee that the control strategy in the Fairbanks Revised 189(d) Plan is being implemented consistent with the RFP provisions in the Fairbanks Revised 189(d) Plan. The 2023 QM Report also included calculations and associated technical support for emissions reductions attributable to the measures in the control strategy. The report compared emissions reductions achieved to date to those projected based on the control measure phase-in schedule. The report also included, for example, the number of wood stoves changed out as of 2023 as well as the basis for implementation percentages and compliance rates for each control measure. Finally, the 2023 QM Report included a discussion as to whether the area will attain the PM<sub>2.5</sub> NAAQS by 2027. Therefore, the EPA proposes to approve the Fairbanks Revised 189(d) Plan as meeting the quantitative milestone requirements of CAA section 189(c)(1) and 40 CFR 51.1013.

### G. Contingency Measures

#### 1. Statutory and Regulatory Requirements Regarding the Contingency Measures

Under CAA section 172(c)(9), states required to make an attainment plan SIP submission must include contingency measures to be implemented if the area fails to meet RFP or fails to attain the NAAQS by the applicable attainment date. Under the PM<sub>2.5</sub> SIP Requirements Rule, states must include contingency measures that the state will implement following a determination by the EPA that the state has failed: (1) to meet any RFP requirement in the approved SIP; (2) to meet any QM in the approved SIP; (3) to submit a required QM report; or (4) to attain the applicable PM<sub>2.5</sub> NAAQS by the applicable attainment date.<sup>182</sup>

In accordance with the statute, contingency measures must be fully adopted rules or control measures that are ready to be implemented upon the EPA determination of a failure of any of the four types specified by statute and regulation for purposes of the PM<sub>2.5</sub> NAAQS at issue.<sup>183</sup> The contingency measures must be included in the state's SIP and explicitly provide that they will take effect in the case of any such finding of failure, without further significant action by the State or the EPA. In general, the EPA expects all actions needed to effect full implementation of the measures to occur within 60 days after the EPA notifies the state of a failure to meet RFP or of a failure to attain.<sup>184</sup> The EPA has historically recommended that the additional emissions reductions from the contingency measures should be achieved within a year of the triggering event.<sup>185</sup> The EPA has recently revised its guidance concerning the period of time during which contingency measures should provide emissions reductions, and now recommends that it may be appropriate for contingency measures to achieve emissions reductions within two years under certain circumstances.<sup>186</sup> The purpose

of contingency measures is to continue progress toward attainment, as the state develops and submits, and the EPA acts on, a SIP submission to address the underlying deficiency.

Neither the CAA nor the EPA's implementing regulations establish a specific level of emissions reductions that implementation of contingency measures must achieve, but the EPA has historically recommended that contingency measures should provide for emissions reductions equivalent to approximately one year of reductions needed for RFP in the nonattainment area.<sup>187</sup> For PM<sub>2.5</sub> NAAQS SIP planning purposes, prior to issuing the recent contingency measure guidance, the EPA has recommended that RFP should be 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.<sup>188</sup> As part of the attainment plan SIP submission, the EPA expects states to explain the amount of anticipated emissions reductions that the contingency measures will achieve. In the event that a state is unable to identify and adopt contingency measures that will provide for approximately one year's worth of emissions reductions, then the EPA recommends that the state provide a reasoned justification why the smaller amount of emissions reductions is appropriate.<sup>189</sup> As further described below, the EPA revised and updated its guidance concerning the amount of emissions reductions that contingency measures should achieve and expanded its recommendations concerning how states may justify having contingency measures that achieve fewer reductions, in light of recent court decisions and the changed factual circumstances.

To satisfy the contingency measure requirements of 40 CFR 51.1014, the contingency measures adopted as part of a PM<sub>2.5</sub> NAAQS attainment plan must consist of control measures for sources in the area that are not otherwise required to meet other attainment plan requirements (e.g., BACM or BACT requirements). By definition, contingency measures are measures that are over and above what a state must adopt and impose to meet RFP and to provide for attainment by the applicable attainment date. Contingency measures serve the purpose of providing

Agency, Assistant Administrator, Office of Air and Radiation, December 3, 2024.

<sup>187</sup> 81 FR 58010, August 24, 2016, at p. 58066; *see also* General Preamble, at pp. 13511, 13543–13544, and General Preamble Addendum, at pp. 42014–42015.

<sup>188</sup> 81 FR 58010, August 24, 2016, at p. 58066.

<sup>189</sup> *Id.* at p. 58067.

additional emissions reductions during the period after a failure to meet RFP or failure to attain as the state prepares a new SIP submission to rectify the problem. Accordingly, contingency measures must provide such additional emissions reductions during an appropriate period and must specify the timeframe by which their requirements would become effective following any of the EPA determinations specified in 40 CFR 51.1014(a).

To comply with CAA section 172(c)(9), contingency measures must be both conditional and prospective, so that they will go into effect and achieve emissions reductions only in the event of a future triggering event such as a failure to meet RFP or a failure to attain. In the 2016 *Bahr v. EPA* decision,<sup>190</sup> the Ninth Circuit Court of Appeals held that CAA section 172(c)(9) does not allow EPA approval of already-implemented control measures as contingency measures. Thus, already-implemented measures cannot serve as contingency measures under CAA section 172(c)(9). For purposes of the PM<sub>2.5</sub> NAAQS, a state must develop, adopt, and submit one or more contingency measures to be triggered upon a failure to meet any RFP requirement, failure to meet a quantitative milestone requirement, or failure to attain the NAAQS by the applicable attainment date, regardless of the extent to which already implemented measures would achieve surplus emissions reductions beyond those necessary to meet RFP or quantitative milestone requirements and beyond those predicted to achieve attainment of the NAAQS.

In another recent decision concerning contingency measures for the ozone NAAQS, the Ninth Circuit Court of Appeals held that the surplus emissions reductions from already-implemented measures cannot be relied upon to justify the approval of a contingency measure that would achieve far less than one year's worth of RFP as sufficient by itself to meet the contingency measure requirements of CAA sections 172(c)(9) and 182(c)(9) for the nonattainment area.<sup>191</sup>

#### a. Revised Contingency Measure Guidance

On December 3, 2024, the EPA issued new guidance addressing the contingency measures requirement of CAA section 172(c)(9), herein referred to as the "Contingency Measure

<sup>190</sup> *Bahr v. EPA*, 836 F.3d 1218, 1235–1237 (9th Cir. 2016). *See also* *Sierra Club v. EPA*, 21 F.4th 815, 827–28 (D.C. Cir. 2021).

<sup>191</sup> *Assoc. of Irrigated Residents v. EPA*, 10 F.4th 937, 946–47 (9th Cir. 2021) ("AIR v. EPA" or "AIR").

<sup>182</sup> 40 CFR 51.1014(a).

<sup>183</sup> 81 FR 58010, August 24, 2016, at p. 58066; *see also* Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 59 FR 41998, August 16, 1994, at 42015 ("General Preamble Addendum").

<sup>184</sup> 81 FR 58010, August 24, 2016, at p. 58066; *see also* General Preamble at pp. 13512, 13543–13544, and General Preamble Addendum, at pp. 42014–42015.

<sup>185</sup> General Preamble, at p. 13511.

<sup>186</sup> "Guidance on the Preparation of State Implementation Plans Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter," Joseph Goffman, U.S. Environmental Protection



Guidance.”<sup>192</sup> The principal differences between the latest Contingency Measure Guidance and prior guidance on contingency measures relate to the EPA’s recommendations concerning the specific amount of emissions reductions that implementation of contingency measures should achieve and to the timing for when the emissions reductions from the contingency measures should occur. The Contingency Measure Guidance also provides recommended procedures for developing a demonstration, if applicable, that the area lacks sufficient feasible measures to achieve one year’s worth of reductions, building on existing guidance that the state may provide a reasoned justification why the smaller amount of emissions reductions is appropriate.<sup>193</sup>

The EPA has historically recommended that contingency measures should achieve approximately one year’s worth of RFP, calculated based upon the initial emissions inventory of the attainment plan for the area in question. As explained in the updated guidance, however, the EPA is revising its interpretation of the requirements of CAA section 172(c)(9). Under the Contingency Measure Guidance, the EPA recommends that the amount of emissions reductions that contingency measures should achieve should be one year’s worth of “progress,” as opposed to one year’s worth of RFP.<sup>194</sup> One year’s worth of “progress” is calculated by determining the average annual reductions between the base year emissions inventory and the projected attainment year emissions inventory, determining what percentage of the base year emissions inventory this amount represents, then applying that percentage to the projected attainment year emissions inventory to determine the amount of reductions appropriate from contingency measures to ensure ongoing progress if the measures are triggered.

With respect to the time period that reductions from contingency measures should occur, the EPA previously recommended that contingency measures take effect within 60 days of being triggered, and that the resulting emissions reductions generally occur within one year of the triggering event. Under the Contingency Measure

Guidance, in instances where there are insufficient contingency measures available to achieve the recommended amount of emissions reductions within one year of the triggering event, the EPA is recommending that contingency measures that provide reductions within two years of the triggering event would be appropriate to consider towards achieving the recommended amount of emissions reductions.<sup>195</sup> The Contingency Measure Guidance does not alter the 60-day recommendation for the contingency measures to take initial effect.<sup>196</sup>

If, after adequately evaluating additional control measures, the state is unable to identify contingency measures that would provide a sufficient amount of emissions reductions, the EPA recommends that the state provide an analysis to establish that there are no additional feasible contingency measures. The EPA has recommended this approach for attainment plans for the PM<sub>2.5</sub> NAAQS since promulgating the PM<sub>2.5</sub> SIP Requirements Rule.<sup>197</sup> In the Contingency Measure Guidance, the EPA provides additional guidance to states for establishing that there are no additional feasible contingency measures. The EPA recommends that the state should provide a reasoned justification that explains and documents how it has evaluated all existing and potential control measures relevant to the appropriate source categories and pollutants in the nonattainment area, and has reached reasonable conclusions regarding whether such measures are feasible as contingency measures.<sup>198</sup>

As explained in the Contingency Measure Guidance, while the EPA notes that CAA section 172(c)(9) and section 182(c)(9) do not explicitly provide for consideration of whether specific measures are feasible, the Agency believes that the best reading of these provisions is that they do not require states to adopt contingency measures regardless of any technological or cost constraints whatsoever.<sup>199</sup> Thus, the EPA views the contingency measure requirements as not to require air agencies to adopt and impose infeasible measures. The statutory provisions applicable to other nonattainment area plan control measure requirements, including RACM/RACT (for ozone and PM), BACM/BACT (for PM), and MSM (for PM), allow air agencies to exclude certain control measures that are

deemed unreasonable or infeasible (depending on the requirement). For example, the MSM provision in CAA section 188(e) requires plans to include “the most stringent measures that are included in the implementation plan of any state or are achieved in practice in any state, and can feasibly be implemented in the area.” The EPA concludes that Congress similarly did not expect air agencies to satisfy the contingency measure requirement with infeasible measures. Thus, the EPA anticipates that a demonstrated lack of feasible measures would be a reasoned justification for adopting contingency measures that only achieve a lesser amount of emissions reductions.<sup>200</sup>

## 2. Summary of the EPA’s Prior Action Regarding the Contingency Measures

In the Fairbanks Serious Plan, Alaska submitted revisions to 18 AAC 50.077(n) that included two contingency measures purporting to meet the requirements of CAA section 172(c)(9) and 40 CFR 51.1014. The first measure requires owners of older EPA-certified wood fired heating devices with an emission rating above 2.0 grams per hour (g/hr), manufactured 25 years prior to the effective date of an EPA finding that triggers this measure, to remove the device upon the sale of a property or by December 31, 2024, whichever is earlier. The second measure requires owners of EPA-certified devices that were manufactured less than 25 years prior to the EPA finding to remove the device prior to reaching 25 years from the date of manufacture. On September 24, 2021, the EPA approved the submitted revisions to 18 AAC 50.077(n) as SIP-strengthening, but otherwise did not determine whether the revisions satisfied the contingency measure requirement of CAA section 172(c)(9) and 40 CFR 51.1014.

On September 2, 2020, the EPA issued a determination that the Fairbanks PM<sub>2.5</sub> Nonattainment Area failed to attain the 2006 24-hour NAAQS by the Serious area attainment date.<sup>201</sup> This action triggered the contingency measures included in the Fairbanks Serious Plan at 18 AAC 50.077(n).

In the initial Fairbanks 189(d) Plan, Alaska: (1) retained the revisions to 18 AAC 50.077(n); (2) submitted a revision to state regulations at 18 AAC 50.030(c), to act as a central trigger mechanism for all contingency measures contained in Alaska’s nonattainment plans,<sup>202</sup> and (3)

<sup>192</sup> “Guidance on the Preparation of State Implementation Plans Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter,” Joseph Goffman, U.S. Environmental Protection Agency, Assistant Administrator, Office of Air and Radiation, December 3, 2024.

<sup>193</sup> See 81 FR 58010, Aug. 24, 2016, at p. 58067.

<sup>194</sup> Contingency Measure Guidance, at p. 23.

<sup>195</sup> Contingency Measure Guidance, at p. 46

<sup>196</sup> *Id.*

<sup>197</sup> See 81 FR 58010, Aug. 24, 2016, at p. 58067.

<sup>198</sup> Contingency Measure Guidance, at p. 33.

<sup>199</sup> *Id.*

<sup>200</sup> Contingency Measure Guidance, at p. 34.

<sup>201</sup> 85 FR 54509, September 2, 2020, at pp. 54509–10.

<sup>202</sup> “Contingency measures in nonattainment and maintenance areas identified in 18 AAC 50.015(b),

included an additional contingency measure, as a revision to State Air Quality Control Plan, Vol. II, section III.D.7.12 (Fairbanks Emergency Episode Plan) that, if triggered, lowers the wood stove curtailment Stage 2 alert threshold from 30  $\mu\text{g}/\text{m}^3$  to 25  $\mu\text{g}/\text{m}^3$ .

On January 10, 2023, the EPA approved the submitted revisions to 18 AAC 50.030(c) as consistent with the triggering events in 40 CFR 51.1014. The EPA also approved as SIP-strengthening the submitted revisions to the Fairbanks Emergency Episode Plan regarding the wood stove curtailment thresholds. However, the EPA determined that the revisions to 18 AAC 50.077(n) did not meet contingency measures requirements because they were already triggered and implemented.

With respect to the revision in the Fairbanks Emergency Episode Plan, the EPA determined that this measure alone is insufficient to meet contingency measures requirements, and Alaska did not provide a reasoned justification for why the state could not adopt additional contingency measures. Thus, the EPA disapproved the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan with respect to the contingency measures element. The State is addressing this prior disapproval for the contingency measures element by submitting new provisions intended to meet the requirement in the Fairbanks Revised 189(d) Plan.

### 3. Summary of the State's Submission Regarding the Contingency Measures

In the Fairbanks Revised 189(d) Plan, Alaska includes: (1) calculations of one year's worth of progress and RFP metrics; (2) an evaluation of potential contingency measures; (3) three contingency measures purporting to meet the requirements of CAA section 172(c)(9) and 40 CFR 51.1014; and (4) an evaluation of whether the contingency measures achieve sufficient emissions reductions.

#### a. Alaska's Calculation of One Year's Worth of Progress

Alaska used the one year's worth of progress metric to demonstrate that its contingency measures achieve sufficient emissions reductions.<sup>203</sup> According to the Fairbanks Revised 189(d) Plan, the one year's worth of progress target is

(d), and (e) must be implemented as described in the State Air Quality Control Plan for an area upon . . . the effective date of an EPA finding that the area failed (i) to attain the applicable NAAQS by the applicable attainment date; (ii) to meet a quantitative milestone; (iii) to submit a required quantitative milestone report; or (iv) to meet a reasonable further progress requirement."

<sup>203</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.2.1 (adopted November 5, 2024).

0.102 tons per episode day for direct  $\text{PM}_{2.5}$  emissions and 0.115 tons per episode day for  $\text{SO}_2$  emissions. Alaska also calculated the one year's worth of RFP target for direct  $\text{PM}_{2.5}$  and  $\text{SO}_2$  as 0.172 tons per episode day and 0.122 tons per episode day, respectively.<sup>204</sup>

#### b. Alaska's Identification and Evaluation of Contingency Measures

Alaska evaluated 25 potential measures as contingency measures.<sup>205</sup> Alaska evaluated measures to reduce  $\text{SO}_2$  emissions and direct  $\text{PM}_{2.5}$  emissions. Alaska determined that there were no  $\text{NH}_3$  control measures that could serve as contingency measures.<sup>206</sup> With respect to  $\text{SO}_2$  emissions, Alaska evaluated requiring the use of ULSD heating oil (*i.e.*, a 15 parts per million sulfur content fuel oil requirement). According to Alaska, the ULSD mandate would significantly reduce  $\text{SO}_2$  emissions from the residential space heating source category. However, Alaska determined that the ULSD mandate could not achieve emissions reductions until year three of implementation and also posed technological feasibility concerns.<sup>207</sup>

Alaska also identified major stationary source  $\text{SO}_2$  controls, aircraft  $\text{SO}_2$  controls, residential fuel oil boilers repair and replacement requirements as potential measures. Alaska determined that, based on the major stationary source  $\text{SO}_2$  precursor demonstration,  $\text{SO}_2$  controls on these sources would achieve negligible reductions in sulfate formation in the nonattainment area.<sup>208</sup> Similarly, Alaska determined that requiring residents to replace or upgrade their fuel oil boilers would result in negligible  $\text{SO}_2$  emissions reductions.<sup>209</sup> With respect to aircraft, Alaska explained that the State does not have authority to regulate fuel sulfur content for commercial aircraft. Thus, Alaska determined that there were no technologically feasible contingency measures for  $\text{SO}_2$ .

Alaska also evaluated several potential contingency measures designed to reduce emissions of direct  $\text{PM}_{2.5}$ . Specifically, Alaska evaluated enhancements to the existing curtailment program, enhancements to the existing wood device removal

program, used oil burning restrictions, vehicle idling restrictions, making existing control measures more stringent, and various economic incentive programs suggested by commenters.<sup>210</sup> Alaska ultimately determined that enhancing the existing curtailment program and existing wood device removal program were the only technologically feasible measures that would achieve more than negligible emissions reductions.

Alaska determined that prohibiting small "pot burners" and used oil burners would achieve negligible emissions reductions.<sup>211</sup> According to the Fairbanks Revised 189(d) Plan, prohibiting small pot burners would achieve emissions reductions of 0.002 tons per episode day of direct  $\text{PM}_{2.5}$ .<sup>212</sup> Likewise, prohibiting used oil burners would achieve less than 0.0001 tons per episode day of direct  $\text{PM}_{2.5}$  emissions reductions.<sup>213</sup> Similarly, Alaska determined that imposing vehicle idling restrictions would achieve 0.002 tons per episode day of direct  $\text{PM}_{2.5}$  emissions reductions.

Alaska also evaluated adopting a 1.0 grams per hour PM emissions standard for new solid fuel-fired heating devices, similar to the measure implemented by Missoula, Montana.<sup>214</sup> Alaska determined that this measure would achieve emissions reductions through attrition (phase-out of old stoves) and would not achieve significant emissions reductions in the aggregate given Alaska's already stringent restrictions on new wood stoves.<sup>215</sup> Alaska also noted that the measure effectively restricts new solid-fuel burning devices to pellet-fuel fired stoves. Alaska explained that pellet stoves require electricity to operate. According to Alaska, Fairbanks experiences frequent power outages during the winter months and residents must have a reliable source of heat during these periods. According to Alaska, this renders the measure technologically infeasible as a contingency measure.

In addition, Alaska evaluated reducing the allowable moisture content in commercial dry wood.<sup>216</sup> Under Alaska's current regulations, all commercial dry wood must have a moisture content of 20 percent or less.<sup>217</sup> Alaska determined that reducing the moisture content percentage to 15

<sup>204</sup> *Id.* at section III.D.7.10, Table 7.10–8.

<sup>205</sup> *Id.* at section III.D.7.11.2.2.

<sup>206</sup> *Id.* at section III.D.7.11.3.3.8.

<sup>207</sup> *Id.* at section III.D.7.11.3.3.1.1.

<sup>208</sup> *Id.* at section III.D.7.11.3.3.1.

<sup>209</sup> *Id.* at section III.D.7.11.3.3.1.3. According to the Fairbanks Revised 189(d) Plan, requiring residents to repair their fuel oil boilers would achieve at most 0.001 tons per day of  $\text{SO}_2$  emissions reductions. Requiring replacement of fuel oil boilers would achieve at most 0.006 tons per day of  $\text{SO}_2$  emissions reductions.

<sup>210</sup> *Id.* at section III.D.7.11.3.3.3.

<sup>211</sup> *Id.* at section III.D.7.11.3.3.3.3.

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> *Id.* at section III.D.7.11.3.3.2.

<sup>215</sup> *Id.*

<sup>216</sup> *Id.* at section III.D.7.11.3.3.5.

<sup>217</sup> 18 AAC 50.076(g).

would reduce PM<sub>2.5</sub> emissions by 0.011 tons per episode day, while reducing the moisture percentage to 10 would reduce PM<sub>2.5</sub> emissions by 0.022 tons per episode day. However, Alaska determined that achieving these emissions reductions within two years of a triggering event is not technologically feasible due to infrastructure constraints.<sup>218</sup> According to Alaska, there is a single dry wood kiln in Fairbanks that supplies 31 percent of the commercial dry wood in the area. Requiring the kiln to achieve lower wood moisture content would require longer dry times, which would restrict the availability of dry wood in the area unless the kiln expanded capacity.

Alaska also evaluated granting citation authority to the Alaska Department of Environmental Conservation and increasing civil penalties for SIP violations as potential contingency measures.<sup>219</sup> Alaska determined that neither measure would improve compliance or achieve emissions reductions.<sup>220</sup> Alaska explained that it has broad and efficient state judicial authority to enforce violations of the SIP. Alaska included a discussion of its process for enforcing SIP violations. Alaska also explained that its civil penalty authority under Alaska Statute 46.03.760(e) does not set a maximum penalty for SIP violations.<sup>221</sup>

Finally, Alaska evaluated whether several economic incentive programs suggested by commenters could satisfy contingency measure requirements.<sup>222</sup> These included subsidizing the cost of ULSD, subsidizing natural gas, and various electricity cost subsidy programs.<sup>223</sup> Alaska determined that each of these programs would not be enforceable contingency measures. Alaska also noted that implementing the programs would require more than minimal further effort on the part of the state.<sup>224</sup> Therefore, Alaska concluded that these economic incentive programs would not meet the legal requirements for contingency measures.

#### c. Alaska's Contingency Measures Included in the Fairbanks Revised 189(d) Plan

Based on the analysis discussed in the preceding paragraphs, Alaska concluded

that the only technologically feasible contingency measures were enhancing the solid fuel burning device curtailment and removal programs. Therefore, in the Fairbanks Revised 189(d) Plan, the State includes three measures intended to meet the contingency measures requirements: (1) lower alert levels under the Solid Fuel-Burning Appliance Curtailment Program; (2) an enforceable commitment to increase the staff hours dedicated to implementing the Solid Fuel-Burning Appliance Curtailment Program; and (3) an enforceable commitment to increase staff hours dedicated to compliance and enforcement with the state regulations requiring replacement of older wood stoves by December 31, 2024.<sup>225</sup>

Alaska's current EPA-approved Solid Fuel-Burning Appliance Curtailment Program includes two stages. Alaska calls a Stage 1 burn ban when Alaska projects ambient PM<sub>2.5</sub> concentrations to be at or above 20 µg/m<sup>3</sup>. Under a Stage 1 burn ban, individuals may only operate their solid fuel-burning device if the individual has an Alaska-approved "no other adequate source of heat" (NOASH) waiver or an Alaska-approved solid fuel-burning device that meets specific stage 1 waiver age and emission rate criteria.<sup>226</sup> Under the current curtailment program, Alaska calls a Stage 2 burn ban when the state projects ambient PM<sub>2.5</sub> concentrations to exceed 30 µg/m<sup>3</sup>. Under a Stage 2 burn ban, individuals may only operate their solid fuel burning device if they have an Alaska-approved NOASH waiver.<sup>227</sup>

As the first intended contingency measure, the State adopted revisions to the Fairbanks Emergency Episode Plan that would reduce the alert levels under the Solid Fuel-Burning Appliance Curtailment Program.<sup>228</sup> Upon a triggering event, such as failure to attain or failure to meet a QM, the Stage 1 alert level will be lowered to 15 µg/m<sup>3</sup> and the Stage 2 alert level will be lowered to 20 µg/m<sup>3</sup>.<sup>229</sup> The State anticipates that lowering these alert levels would result in Alaska calling burn bans more frequently and for longer durations, thus lowering the emissions from the solid fuel burning device source category.<sup>230</sup> Alaska projected this first contingency measure will result in emissions reductions of 0.086 tons per day PM<sub>2.5</sub>

but increase SO<sub>2</sub> emissions by 0.047 tons per day.

As a second intended contingency measure in the Fairbanks Revised 189(d) Plan, the State submitted an enforceable commitment to increase the Alaska Department of Environmental Conservation staff hours dedicated to the compliance and enforcement of the Solid Fuel-Burning Appliance Curtailment Program to 2,800 hours per year, within 60 days of any triggering event.<sup>231</sup> This would be an increase from the current 2,200 hours per year.<sup>232</sup> Under the current allocation of staff hours, Alaska achieved 38 percent compliance with the curtailment program.<sup>233</sup> Alaska projected that with the additional staff hours, the compliance rate would increase to 65 percent.<sup>234</sup> Alaska committed to maintain the increased allocation of staff hours, unless or until the state could later relax the measure through a SIP revision.<sup>235</sup> Alaska further committed to publishing an annual report that includes the staff hours dedicated to compliance and enforcement of the Solid Fuel-Burning Appliance Curtailment Program and the results of the Alaska Department of Environmental Conservation's annual assessments of the compliance rate.<sup>236</sup>

As the third intended contingency measure, the State submitted a second enforceable commitment to dedicate 300 staff hours to compliance and enforcement with the SIP-approved rules requiring replacement of older wood stoves (18 AAC 50.077(l-n)).<sup>237</sup> Alaska projects this staffing level would increase the compliance rate from 30 percent to 45 percent.<sup>238</sup> Alaska committed to maintaining the allocation of staffing hours unless or until the state can relax the measure through a SIP revision.<sup>239</sup> Alaska further committed to publishing an annual report that includes the staff hours dedicated to compliance and enforcement with the regulations mandating replacement of older wood stoves.<sup>240</sup>

<sup>231</sup> 18 AAC 50.075(e); State Air Quality Control Plan, Vol. II, section III.D.7.12. See State Air Quality Control Plan, Vol. II, section III.D.7.11.4.3.

<sup>232</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.4.1.

<sup>233</sup> *Id.*; See also State Air Quality Control Plan, Vol. II, section III.D.7.10.3.2.

<sup>234</sup> *Id.* at section III.D.7.11.4.1.

<sup>235</sup> *Id.* at section III.D.7.11.4.3.

<sup>236</sup> *Id.*

<sup>237</sup> *Id.*

<sup>238</sup> *Id.* at section III.D.7.11.4.2.

<sup>239</sup> *Id.* at section III.D.7.11.4.3.

<sup>240</sup> *Id.*

<sup>218</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.3.3.5.

<sup>219</sup> *Id.* at section III.D.7.11.3.3.6; *Id.* at section III.D.7.11.3.3.4.

<sup>220</sup> *Id.*

<sup>221</sup> *Id.* at section III.D.7.11.3.3.6.

<sup>222</sup> *Id.* at section III.D.7.11.3.3.7.

<sup>223</sup> *Id.*

<sup>224</sup> *Id.*

<sup>225</sup> 18 AAC 50.075(e); State Air Quality Control Plan, Vol. II, section III.D.7.11.4.

<sup>226</sup> *Id.*

<sup>227</sup> *Id.*

<sup>228</sup> State Air Quality Control Plan, Vol. II, section III.D.7.12.2.

<sup>229</sup> *Id.* See also State Air Quality Control Plan, Vol. II, section III.D.7.12, Table 7.12-1.

<sup>230</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.3.1.

#### d. Emissions Reductions From Alaska's Contingency Measures

Alaska projected that these three contingency measures would achieve emissions reductions of 0.151 tons per episode day of direct PM<sub>2.5</sub> emissions (0.142 tons per day when accounting for some overlap) and increase SO<sub>2</sub> emissions by 0.038 tons per episode day. As stated in the preceding paragraphs, Alaska proposed to use the one year's worth of progress metric for contingency measures. According to the Fairbanks Revised 189(d) Plan, the one year's worth of progress target is 0.102 tons per episode day for direct PM<sub>2.5</sub> and 0.115 tons per episode day for SO<sub>2</sub>.

Alaska purported to justify the increase in SO<sub>2</sub> emissions with the surplus emissions reductions of direct PM<sub>2.5</sub> emissions through "inter-pollutant trading."<sup>241</sup> Alaska developed a 5:1 ratio to compare reductions of direct PM<sub>2.5</sub> emissions to reductions of SO<sub>2</sub> emissions. For the purposes of developing the ratio, Alaska conservatively estimated that SO<sub>2</sub> emissions contribute 20 percent of ambient PM<sub>2.5</sub> levels in the area.<sup>242</sup> Thus, Alaska calculated that achieving an additional 0.023 tons per episode day (0.125 tons per episode day total) of direct PM<sub>2.5</sub> emissions would achieve the required one year's worth of attainment for both direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions.<sup>243</sup> Because Alaska's contingency measures would achieve 0.151 tons per episode day of direct PM<sub>2.5</sub> emissions, Alaska stated that its contingency measures would achieve sufficient emissions reductions.<sup>244</sup>

Alaska also compared the projected emissions reductions from its contingency measures to the one year's worth of RFP metric. Alaska calculated that the one year's worth of RFP target for direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions as 0.172 tons per episode day and 0.122 tons per episode day respectively.<sup>245</sup> The State acknowledged that its contingency measures would not achieve emissions reductions equivalent to one year's worth of RFP even taking into consideration inter-pollutant trading.<sup>246</sup>

#### 4. The EPA's Evaluation and Proposed Action

The EPA has reviewed the three measures that the State included in the Fairbanks Revised 189(d) Plan to meet the contingency measures requirement

for the 2006 24-hour PM<sub>2.5</sub> NAAQS. For the reasons explained in the following sections and the accompanying TSD, the EPA: (i) proposes to approve one of the State's submitted measures as a contingency measure; (ii) proposes to approve the other two measures as SIP-strengthening; (iii) proposes to find that the State has provided an adequate reasoned justification that no other contingency measures are feasible; and (iv) proposes to approve the Fairbanks Revised 189(d) Plan as meeting the contingency measure requirements in CAA Section 179(c)(9) and 40 CFR 51.1014(a).

##### a. Alaska's Calculation of One Year's Worth of Progress

Alaska proposed to use the one year's worth of progress metric to measure the sufficiency of its contingency measures. The EPA proposes to determine this is an appropriate metric. As discussed above, CAA section 172(c)(9) does not specify the amount of emissions reductions contingency measures must achieve. The EPA's recent revised guidance explains its view that one year's worth of progress approach is consistent with the primary objective of attaining the NAAQS.

This approach takes into account the declining emissions inventories between the base year and attainment year. The EPA expects that Alaska's control strategy in the Fairbanks Revised 189(d) Plan will achieve projected emissions reductions prior to any triggering event. Specifically, public participation in the wood stove change out program should continue given the mandatory change out requirements in 18 AAC 50.077(l)-(n), along with the EPA grant funding through the Targeted Airshed Grant program. Moreover, the continued phase-in of diesel no. 1 fuel oil in place of diesel no. 2 fuel oil will reduce SO<sub>2</sub> emissions.

##### b. Alaska's Identification and Evaluation of Contingency Measures

As summarized in section II.G.3 of this preamble, Alaska evaluated several control measures that could serve as contingency measures to reduce emissions of the relevant pollutants from the relevant sources. The EPA has reviewed the State's identification and evaluation of potential contingency measures. The EPA's detailed review is included in a Technical Support Document included in the docket for this action.<sup>247</sup> For the reasons stated in

the following paragraphs, as well as in the Technical Support Document, the EPA is proposing to determine that Alaska adequately identified and evaluated potential contingency measures.

In a prior action, the EPA approved comprehensive NO<sub>x</sub> and VOC precursor demonstrations submitted by Alaska. Therefore, these are not regulatory pollutants for purposes of the 2006 24-hour PM<sub>2.5</sub> NAAQS in the Fairbanks PM<sub>2.5</sub> Nonattainment Area. Accordingly, the State is not required to evaluate and adopt contingency measures for these pollutants.<sup>248</sup> In this action, the EPA is proposing to approve an SO<sub>2</sub> precursor demonstration for major stationary sources. If the EPA finalizes an approval of this precursor demonstration, then stationary sources that emit SO<sub>2</sub> will not be subject to BACM/BACT. Accordingly, the State would not be required to evaluate and adopt contingency measures for SO<sub>2</sub> emissions from such sources, but Alaska would still be required to evaluate and adopt SO<sub>2</sub> emissions controls from other area and mobile sources.

With respect to NH<sub>3</sub>, the EPA has previously approved Alaska's determination that there are no NH<sub>3</sub> controls for major stationary sources in the nonattainment area.<sup>249</sup> The EPA also previously approved as BACM for NH<sub>3</sub> Alaska's suite of controls for direct PM<sub>2.5</sub> on area sources.<sup>250</sup> The EPA agrees with Alaska's determination that there are no additional NH<sub>3</sub> controls that could serve as potential contingency measures.

Alaska focused its evaluation of potential contingency measures on measures that could reduce direct PM<sub>2.5</sub> emissions and SO<sub>2</sub> emissions from area sources and mobile sources. The EPA is proposing to approve the State's approach to identifying and adopting potential contingency measures for these specific pollutants and sources as part of its proposed approval of the contingency measures element of the Fairbanks Revised 189(d) Plan.

With respect to contingency measures to reduce SO<sub>2</sub> emissions, the EPA proposes to approve Alaska's determinations that (1) mandating ULSD is not technologically feasible as a contingency measure because it would not achieve emissions reductions within two years of being triggered; (2) requiring residents to repair or replace their fuel oil boilers would achieve

<sup>241</sup> *Id.* at section III.D.7.11.2.1.

<sup>242</sup> *Id.*

<sup>243</sup> *Id.*

<sup>244</sup> *Id.*

<sup>245</sup> *Id.* at section III.D.7.10, Table 7.10-8.

<sup>246</sup> *Id.* at section III.D.7.10.3.4.

<sup>247</sup> Jentgen, Matthew. (December 4, 2024). *Contingency Measure assessment of available control measures in the Fairbanks Revised 189(d) Plan*. U.S. Environmental Protection Agency,

Region 10, Air and Radiation Division, EPA-R10-OAR-2024-0595.

<sup>248</sup> 88 FR 84626, December 5, 2023, at p. 84635.

<sup>249</sup> 88 FR 84626, December 5, 2023, at p. 84636.

<sup>250</sup> *Id.* at pp. 84,638-49.

negligible emissions reductions; and (3) regulating aircraft emissions is not viable as a contingency measure because of limitations on legal authority.

Regarding mandating ULSD, the EPA agrees with the State that, if implemented, such a contingency measure could reduce SO<sub>2</sub> emissions from the residential home heating source category, which is the dominant contributor to sulfate formation in the nonattainment area. However, the EPA agrees with Alaska's determination that mandating ULSD would not achieve emissions reductions until at least three years following the triggering event.<sup>251</sup> This is due to the need to improve storage and distribution infrastructure in the area, the need to allow the distribution market to shift to new demands, and the time needed to phase out higher-sulfur fuels from existing storage vessels in the area.<sup>252</sup> A contingency measure that required the use of ULSD fuel factually could not be implemented quickly following a triggering event, or achieve emissions reductions until several years following the triggering event. Thus, mandating ULSD as a contingency measure would not satisfy the key purpose of contingency measures of continuing progress towards attainment between the triggering event and submission of a revised plan. Based upon this analysis, the EPA agrees that a measure mandating sale and use of ULSD fuel in the Fairbanks PM<sub>2.5</sub> Nonattainment Area is not viable as a contingency measure because of the time it would take to achieve emissions reductions.

In addition, the EPA has reviewed Alaska's emissions reductions calculations, including for the fuel oil boiler measures, and determined Alaska's methodology is reasonable. Based on these calculations, the fuel oil boiler measures would achieve negligible emissions reductions. Regarding emissions from aircraft, states are prohibited under CAA section 233 from adopting more stringent standards than those set by the Federal Government.<sup>253</sup> Therefore, the EPA agrees that none of these potential measures are viable as contingency measures.

Regarding potential contingency measures to control direct PM<sub>2.5</sub> emissions, the EPA proposes to approve Alaska's determinations of: (1) measures that would only achieve negligible emissions reductions; (2) measures that are technologically infeasible as

contingency measures because they would not achieve emissions reductions within two years of being triggered; and (3) other measures that are technologically infeasible due to infrastructure constraints and local conditions. The EPA agrees that prohibiting operation and sale of small pot burners, used oil burners, and restricting vehicle idling would achieve negligible emissions reductions. The EPA also agrees that granting citation authority to the Alaska Department of Environmental Conservation and increasing state penalties for SIP requirement violations would have negligible emissions benefits as a contingency measure.

The EPA also reviewed Alaska's evaluation of a potential requirement that all new solid fuel-burning devices meet a 1.0 gram per hour PM<sub>2.5</sub> emissions standard as a potential contingency measure. The EPA agrees that, in practice, the only wood heaters that can achieve this standard are pellet-fuel fired stoves and certain highly controlled cordwood stoves. The EPA also notes that, this measure has the potential to reduce direct PM<sub>2.5</sub> emissions from the solid fuel-burning source category. However, the EPA agrees with Alaska's assessment that this requirement would necessarily be an attrition-based measure that only achieves emissions reductions as homeowners replace older stoves. In its prior action on the Fairbanks Serious Plan, the EPA disapproved a similar Alaska contingency measure mandating the removal of older certified wood stoves, in part because the measure would have achieved virtually no emissions reductions in the first year of implementation.<sup>254</sup>

In addition, the EPA agrees that this measure is technologically infeasible as a contingency measure. In particular, as Alaska states in the Fairbanks Revised 189(d) Plan, pellet stoves require electricity to function, whereas cordwood stoves do not, and Fairbanks experiences power outages during the winter months. The EPA agrees that given the extremely cold temperatures residents experience, having a source of heat that does not rely on electricity remains a necessity. Based upon this analysis, the EPA agrees that a measure mandating that all new solid fuel-burning devices meet a 1.0 gram per hour PM<sub>2.5</sub> emissions standard in the Fairbanks area is not viable as a contingency measure because emissions reductions could not be achieved within two years and the measure is otherwise technologically infeasible.

Regarding reducing the required moisture content for dry cordwood, the EPA notes that this measure has the potential to reduce emissions of direct PM<sub>2.5</sub>. Alaska estimated that a measure requiring all dry wood to meet a 10 percent moisture content would reduce PM<sub>2.5</sub> emissions by 0.022 tons per episode day, which equates to 18 percent of one's years-worth of progress.<sup>255</sup> However, the EPA agrees with Alaska's assessment that mandating a reduction in moisture content as a contingency measure would not be technologically feasible given the constraint on the dry wood supply in Fairbanks. In order to further reduce the moisture content of cordwood while satisfying consumer demand for commercial dry wood, additional kilns would need to be built in the Fairbanks area. This type of large capital project is unlikely to be accomplished quickly such that dry wood at less than 10 percent moisture content could be reliably supplied to residents to achieve emissions reductions within two years of a triggering event.

Therefore, the EPA proposes to determine that, to the extent the contingency measures in the Fairbanks Revised 189(d) Plan fall short of the emissions reductions necessary for one year's worth of attainment, Alaska has provided an adequate reasoned justification for not adopting additional measures as contingency measures.

### c. Evaluation of Submitted Contingency Measures

#### i. Lowered Alert Levels

The submitted contingency measure lowering the alert levels for the Solid Fuel-Burning Appliance Curtailment Program is subject to Alaska's regulation at 18 AAC 50.030(c) that is consistent with the triggers in 40 CFR 51.1014(a). The measure is thus conditional and prospective, as required by statute. This measure will take effect with minimal further effort from the State or the EPA. Neither Alaska nor the EPA will need to engage in any additional rulemaking or other significant action to implement the measure. Alaska already issues alerts through its preexisting program approved into the SIP. Thus, implementing the contingency measure will be ministerial, in terms of adjusting the curtailment alert thresholds.

At the time of adoption and submission to the EPA, these contingency measure alert levels are not otherwise included in the control strategy to meet any other attainment plan requirements. This measure

<sup>251</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.3.3.1.1.

<sup>252</sup> *Id.*

<sup>253</sup> 42 U.S.C. 7573.

<sup>254</sup> 88 FR 84626, December 5, 2023, at p. 84664.

<sup>255</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.3.3.5.

addresses the largest source category of direct PM<sub>2.5</sub> emissions in the nonattainment area and is not otherwise included in the Fairbanks Revised 189(d) Plan control strategy. The EPA expects this contingency measure would produce emissions benefits in addition to the projected emissions reductions under the control strategy and were not required to meet RFP or to attain by the attainment date.

This contingency measure would go into effect once triggered by an EPA determination, as provided in 18 AAC 50.030(c). Alaska projected this first contingency measure will result in emissions reductions of 0.086 tons per day PM<sub>2.5</sub> but increase SO<sub>2</sub> emissions by 0.047 tons per day.<sup>256</sup> This contingency measure represents 84 percent of one year's worth of progress for direct PM<sub>2.5</sub> reductions, but, the increase in SO<sub>2</sub> emissions would not meet the one year's worth of progress metric for SO<sub>2</sub>.

For the reasons provided in the preceding paragraphs, the EPA is proposing to determine that this measure meets the requirements for contingency measures in 40 CFR 51.1014 and CAA Section 172(c)(9). In section II.G.4.d of this preamble, we address whether approval of this contingency measure also supports approval of the overarching attainment plan contingency measures element of the Fairbanks Revised 189(d) Plan for purposes of the 2006 24-hour PM<sub>2.5</sub> NAAQS in the Fairbanks PM<sub>2.5</sub> Nonattainment Area.

#### ii. Enforceable Commitments To Enhance Enforcement of the Solid Fuel-Burning Appliance Curtailment Program and Removal of Wood Stoves

These submitted measures take the form of enforceable commitments. According to Alaska, these measures would achieve surplus emissions reductions by increasing the compliance rate with the curtailment program from 38 percent to 65 percent and the wood stove removal measure from 30 percent to 45 percent. For the reasons stated in the following paragraphs, the EPA proposes to determine that these measures meet the CAA requirements for enforceable commitments. The EPA is further proposing to approve these commitments into the Alaska SIP as SIP-strengthening but not as contingency measures.

<sup>256</sup> Applying Alaska's interpollutant trading mechanism, the combined emissions reductions for PM<sub>2.5</sub> and SO<sub>2</sub> are estimated to be 0.077 tons per day, representing 62 percent of the one year's worth of interpollutant emissions reductions for PM<sub>2.5</sub> and SO<sub>2</sub>. See State Air Quality Control Plan, Vol. II, section III.D.7.11.5.2; see also State Air Quality Control Plan, Vol. II, section III.D.7.11, Table 7.11-6.

First, Alaska's commitments meet the CAA's requirements for enforceable commitments. Under the CAA, an enforceable commitment must be: (1) a specific enforceable requirement, not merely an aspirational goal; and (2) enforceable as a practical matter (*i.e.*, the public will have sufficient information to enforce the state's compliance with its commitment).<sup>257</sup> In the submitted measures, Alaska committed to increase the allocation of annual staff hours by a specific number of hours dedicated to implementing and enforcing specific SIP measures. Thus, the commitment is sufficiently concrete and not merely an aspirational goal. Moreover, Alaska committed to publish a report of its compliance with these commitments. The report will not only include the number of hours dedicated to implementing and enforcing the specific measures, but also other compliance metrics such as number of warning letters and the number of wood stoves removed. Thus, the commitments are enforceable as a practical matter.

In addition to the two criteria above, the EPA has assessed whether to approve an enforceable commitment based on consideration of the following three factors: (1) whether the commitment addresses a limited portion of the CAA requirement; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time.<sup>258</sup> Regarding the first factor, in the past, states have relied on enforceable commitments as part of their overall control strategy to achieve the NAAQS.<sup>259</sup> Thus, the EPA has typically assessed whether the emissions reductions attributable to the state's enforceable commitments are a limited portion of the emissions reductions necessary to achieve attainment or RFP.

The EPA notes that Alaska structured its enforceable commitments as contingency measures. Thus, in the Fairbanks Revised 189(d) Plan, Alaska assessed the amount of emissions reductions that the commitments could achieve with respect to the one year's worth of progress and one year's worth

of RFP metrics for contingency measures. Alaska determined that the emissions reductions attributable to the commitments are a small portion of the emissions reductions towards the recommended one year's worth of progress and one year's worth of RFP metrics for contingency measures, respectively.<sup>260</sup> Alaska projected that emissions reductions attributable to the commitments will yield 38 percent of the emissions reductions towards one-year's work of progress target.<sup>261</sup>

The EPA is proposing to determine that Alaska's enforceable commitments included in State Air Quality Control Plan, Vol. II, section III.D.7.11.2.1 address a limited portion of the CAA requirement. The EPA is not proposing to approve these commitments as contingency measures under CAA section 172(c)(9). If the EPA finalizes approval, these commitments will become part of Alaska's overall control strategy. Viewed in this light, Alaska would not rely on the enforceable commitments to achieve attainment or RFP.

As to the second enforceable commitments factor, Alaska has demonstrated that it can fulfill its commitments. According to Alaska, the commitment to re-allocate staff hours is within the Alaska Department of Environmental Conservation Air Quality Division's existing budget and control. In the Fairbanks Revised 189(d) Plan, Alaska stated that it has the capacity to implement the reallocation of staffing hours it is making in the enforceable commitments and to maintain them indefinitely.<sup>262</sup>

Finally, the commitments are for a reasonable and appropriate period of time. For this factor, the EPA typically assesses the state's schedule for promulgating specific control measures to achieve the promised emissions reductions and whether the schedule comports with the RFP and attainment deadlines.<sup>263</sup> Here, Alaska is not relying on the enforceable commitment to achieve RFP or attainment. Therefore, the EPA proposes to determine that this factor is not determinative with respect to Alaska's enforceable commitments.

<sup>257</sup> See *Comm. for a Better Arvin v. EPA*, 786 F.3d 1169, 1181 (9th Cir. 2015).

<sup>258</sup> See 75 FR 74518, November 30, 2010, at pp. 74535-56; see also *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 840 (5th Cir. 2003).

<sup>259</sup> See, e.g., Approval of Air Quality Implementation Plans; California; South Coast; Attainment Plan for 1997 PM<sub>2.5</sub> Standards, 76 FR 69928, November 9, 2011, at p. 69941; Approval and Promulgation of Implementation Plans; Arizona—Maricopa County PM-10 Nonattainment Area; Serious Area Plan for Attainment of the Annual PM-10 Standard, 65 FR 19964, April 13, 2000, at pp. 19983-19984.

<sup>260</sup> The enhanced enforcement of the curtailment program is expected to yield 0.090 tons per day in PM<sub>2.5</sub> emissions reductions and increase SO<sub>2</sub> emissions by 0.038 tons per day (the increase in SO<sub>2</sub> caused by the shift from wood burning to heating oil). See State Air Quality Control Plan, Vol. II, section III.D.7.11.5.1.

<sup>261</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.5.

<sup>262</sup> *Id.* at section III.D.7.11.6.

<sup>263</sup> See, e.g., Approval of Air Quality Implementation Plans; California; South Coast; Attainment Plan for 1997 PM<sub>2.5</sub> Standards, 76 FR 69928, November 9, 2011, at p. 69941.

Rather, Alaska structured the commitments as contingency measures triggered upon any of the EPA findings in 40 CFR 51.1014. Once triggered, Alaska committed to increasing staff hours within 60 days of the triggering event and maintain the staff hours unless and until the State could revise them through a SIP revision.<sup>264</sup>

The EPA is proposing to approve the measures as SIP-strengthening but not as contingency measures under CAA section 172(c)(9) for the following reasons. The EPA acknowledges that the enforceable commitments meet many of the regulatory requirements in 40 CFR 51.1014. Specifically, the enforceable commitments are subject to Alaska's regulation 18 AAC 50.030(c) that is consistent with the triggers in 40 CFR 51.1014(a). The Fairbanks Revised 189(d) Plan also includes a description of the specific trigger mechanisms for the commitment. The commitments also specify the timeframe within which they would become effective. Finally, Alaska is not relying on the emissions reductions that may occur as a result of increased compliance rates attributable to the enforceable commitments as part of its control strategy, to meet RFP requirements, or in its attainment demonstration.

However, outside of the SO<sub>2</sub> nonattainment context, the EPA has not considered increased enforcement of existing measures in the control strategy as "implementation of specific measures" that would "take effect with minimal further action by the state of the EPA" following a triggering event.<sup>265</sup> The EPA has approved enhanced enforcement as satisfying the contingency measure requirement in the context of SO<sub>2</sub> NAAQS nonattainment areas.<sup>266</sup> This is for several reasons. First, the procedures and methods for quantifying and predicting SO<sub>2</sub> concentrations are less uncertain than for other criteria pollutants, especially those that may result from secondary formation from multiple precursors,

such as PM<sub>2.5</sub>.<sup>267</sup> Second, the regulated sources in SO<sub>2</sub> nonattainment areas are typically one or a few major stationary sources that are the main cause of exceedances of the SO<sub>2</sub> NAAQS.<sup>268</sup> Third, the control efficiencies for SO<sub>2</sub> control measures are well understood and are less prone to uncertainty than for other criteria pollutants.<sup>269</sup> Thus, the EPA has reasoned in the context of SO<sub>2</sub> NAAQS nonattainment areas that if the nonattainment area fails to meet RFP or achieve attainment, then that failure is likely due to violations of the control strategy by the major stationary source regulated in the attainment plan—rather than an inadequacy of the control strategy.<sup>270</sup> Hence, for purposes of the SO<sub>2</sub> NAAQS, contingency measures comprised of a comprehensive enforcement program are sufficient.

By contrast, PM<sub>2.5</sub> NAAQS nonattainment areas typically include hundreds or thousands of individual sources (including multiple categories of major stationary, area, and mobile sources) of emissions of direct PM<sub>2.5</sub> and multiple PM<sub>2.5</sub> precursors. Thus, it is not appropriate for a state or the EPA to presume that a failure to meet RFP or to attain is presumptively the result of a single easily identified source to have violated the emissions limitations in an attainment plan for the PM<sub>2.5</sub> NAAQS.

Accordingly, the EPA has assessed whether the situation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area is sufficiently analogous to an SO<sub>2</sub> nonattainment area to warrant extending the EPA's approach to SO<sub>2</sub> contingency measures to Alaska's enforceable commitments. The EPA acknowledges that the emissions inventories and RFP provisions of the Fairbanks Revised 189(d) Plan make clear that the dominant contributor to elevated PM<sub>2.5</sub> concentrations in the nonattainment area is the solid fuel-burning device source category, *i.e.*, wood stoves. The EPA has approved Alaska's control strategy as meeting BACM for this source category and is proposing to determine that the Fairbanks Revised 189(d) Plan meets the CAA section 189(d) requirements. Thus, a failure to achieve RFP or QM requirements, or to achieve attainment could be attributable to widespread noncompliance with preexisting measures limiting emissions from the solid fuel-burning device source category. Although comprised of

numerous relatively small sources, widespread noncompliance could cumulatively be comparable to that by a single major stationary source.

Therefore, if the State were to fail to meet an RFP or QM requirement or fail to attain the NAAQS by the applicable attainment date, then improving compliance with the Solid Fuel-Burning Appliance Curtailment Program and date certain removal requirement could be critical to ensuring the area achieves progress towards attainment. As previously discussed, the EPA is proposing to approve the State's determination that there are no other feasible measures that would meet contingency measures requirements. The EPA also acknowledges that Alaska's methods of assessing current and predicting future compliance rates with its control strategy have improved over time. This is evident by the results of Alaska's Fairbanks Winter Home Heating Energy Model and Multiple Residential Heating Surveys.<sup>271</sup> In these ways, the situation in Fairbanks shares similarities to SO<sub>2</sub> nonattainment areas.

However, critical distinctions remain that suggest the Fairbanks PM<sub>2.5</sub> Nonattainment Area should not be treated the same as an SO<sub>2</sub> nonattainment area for the purposes of contingency measures requirements. In particular, the major contributors to ambient PM<sub>2.5</sub> levels in Fairbanks are wood stoves, which emit direct PM<sub>2.5</sub>, and oil furnaces, which emit SO<sub>2</sub>, a PM<sub>2.5</sub> precursor for area source purposes. There are tens of thousands of these area sources throughout the nonattainment area.<sup>272</sup> They vary in make, model, age, and emissions potential.<sup>273</sup> Importantly, actual emissions are highly dependent on operator behavior—particularly for wood stoves. This is different from the single or handful of major stationary sources that a state typically regulates in SO<sub>2</sub> NAAQS nonattainment areas.

By extension, measuring and predicting compliance with controls on wood stoves and oil furnaces is less precise than SO<sub>2</sub> emissions controls on major stationary sources. In addition, assuring compliance by thousands of individual wood stove operators is significantly more resource intensive than enforcement against an SO<sub>2</sub> source—particularly in detecting violations. Thus, while a comprehensive enforcement program to assure compliance by major stationary sources in SO<sub>2</sub> nonattainment areas satisfies the

<sup>264</sup> State Air Quality Control Plan, Vol. II, section III.D.7.11.4.3.

<sup>265</sup> 40 CFR 51.1014(a). See Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; San Joaquin Valley, California, 84 FR 11198, March 25, 2019, at pp. 11200, 11203.

<sup>266</sup> See Approval and Promulgation of Air Quality Implementation Plans; Michigan; Federal Implementation Plan for the Detroit Sulfur Dioxide Nonattainment Area, 87 FR 61514, Oct. 12, 2022, at p. 61522; see also SO<sub>2</sub> Guideline Document, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, EPA-452/R-94-008, February 1994 (1994 SO<sub>2</sub> Guideline); Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions, Office of Air Quality Planning and Standards, Stephen D. Page, April 23, 2014.

<sup>267</sup> *Id.*

<sup>268</sup> Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions, Office of Air Quality Planning and Standards, Stephen D. Page, April 23, 2014, at p. 69.

<sup>269</sup> 87 FR 61514, Oct. 12, 2022, at p. 61522.

<sup>270</sup> *Id.*

<sup>271</sup> State Air Quality Control Plan, Vol. II, section III.D.7.6.9.3.

<sup>272</sup> *Id.*

<sup>273</sup> *Id.*

CAA requirement that contingency measures be comprised of “specific measures” that would “take effect with minimal further action by the state or EPA” following a triggering event, this is not the case for PM<sub>2.5</sub> nonattainment areas.<sup>274</sup>

Thus, the EPA proposes to approve the enforceable commitments in State Air Quality Control Plan, Vol. II, section III.D.7.2.1 as SIP-strengthening that will enhance the State’s overall approach to attaining and maintaining the NAAQS in the Fairbanks PM<sub>2.5</sub> Nonattainment Area.

#### d. Sufficiency of Emissions Reductions From Alaska’s Contingency Measures

Alaska’s contingency measure, reducing the solid fuel-burning device curtailment thresholds, would achieve approximately 0.086 tons per day PM<sub>2.5</sub> emissions reductions with an increase of 0.047 tons per day SO<sub>2</sub> emissions.<sup>275</sup> This falls short of the one year’s worth of progress metric for both pollutants, 0.102 tons per episode day of direct PM<sub>2.5</sub> emissions and 0.115 tons per day of SO<sub>2</sub> emissions. The estimates of emissions reductions from the other two contingency measures related to enhanced enforcement are not included in this calculation because the EPA is proposing to approve them as SIP-strengthening measures. However, as discussed in section II.G.3 of this preamble, the EPA proposes to determine that Alaska has provided a reasoned justification for why the state cannot adopt additional contingency measures to make up the shortfall.

Based on the reasons in the preceding paragraphs, the EPA is proposing to approve the Fairbanks Revised 189(d) Plan as meeting the contingency measures requirements in CAA section 172(c)(9) and 40 CFR 51.1014.

<sup>274</sup> The EPA solicits comments on this assessment and conclusion. Given that Alaska’s enforceable commitments meet all other requirements in 40 CFR 51.1014, the EPA may approve these commitments as contingency measures if commenters provide a compelling basis to show that the EPA should treat the Fairbanks PM<sub>2.5</sub> Nonattainment Area as analogous to an SO<sub>2</sub> nonattainment area for the purposes of contingency measures.

<sup>275</sup> Applying Alaska’s interpollutant trading mechanism, the combined emissions reductions for PM<sub>2.5</sub> and SO<sub>2</sub> are estimated to be 0.077 tons per day, representing 62 percent of the one year’s of interpollutant emissions reductions for PM<sub>2.5</sub> and SO<sub>2</sub>. See State Air Quality Control Plan, Vol. II, section III.D.7.11.5.2; see also State Air Quality Control Plan, Vol. II, section III.D.7.11, Table 7.11-6.

#### H. Motor Vehicle Emission Budgets for Transportation Conformity

##### 1. Statutory and Regulatory Requirements Regarding the Motor Vehicle Emission Budgets

CAA section 176(c) requires Federal activities in nonattainment and maintenance areas to conform to the SIP’s purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the standards. Conformity to the SIP means that such activities will not: (1) cause or contribute to any new violation of a NAAQS; (2) increase the frequency or the severity of an existing violation; or (3) delay timely attainment of any NAAQS or interim milestones.

Transportation plans, transportation improvement programs (TIPs), and transportation projects involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the transportation conformity rule (40 CFR 51.390 and part 93, subpart A). Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state air quality and transportation agencies, the EPA, FHWA and FTA to demonstrate that an area’s transportation plan and TIP conform to the applicable SIP. This demonstration typically includes a regional emissions analysis that shows that estimated emissions from existing and planned highway and transit systems are less than or equal to the SIP’s motor vehicle emissions budgets (“budgets”) that the EPA has found adequate or approved. An attainment plan for the PM<sub>2.5</sub> NAAQS should include budgets for the attainment year and each required RFP year, as appropriate. Budgets are generally established for specific years and specific pollutants or precursors and reflect all of the motor vehicle control measures contained in the attainment and RFP demonstrations (40 CFR 93.118(e)(4)(v)).

Attainment plans for PM<sub>2.5</sub> NAAQS would identify motor vehicle emission budgets for the attainment year and each RFP year for direct PM<sub>2.5</sub> and typically for NO<sub>x</sub> (unless certain criteria are met in the transportation conformity rule, see 40 CFR 93.102(b)(2)(iv)), and for VOCs, SO<sub>2</sub>, and NH<sub>3</sub> if certain criteria in the transportation conformity rule are met (see 40 CFR 93.102(b)(2)(v)). Direct PM<sub>2.5</sub> emission budgets would include direct PM<sub>2.5</sub> motor vehicle emissions from tailpipe, brake wear, and tire wear. A state should also consider whether re-entrained paved and unpaved road dust

are significant contributors and should be included in the direct PM<sub>2.5</sub> budget. See 40 CFR 93.102(b) and 93.122(f) and the conformity rule preamble at 69 FR 40004, July 1, 2004, at pp. 40031–40036.<sup>276</sup>

##### 2. Summary of the EPA’s Prior Action Regarding the Motor Vehicle Emission Budgets

The EPA disapproved the budgets for the Fairbanks PM<sub>2.5</sub> Nonattainment Area in the December 5, 2023, final rule.<sup>277</sup> The EPA evaluated the motor vehicle emissions budgets developed by Alaska against our adequacy criteria in 40 CFR 93.118(e)(4) as part of our review of the submitted SIP. The EPA found that the budgets were clearly identified and precisely quantified using MOVES2014b, with appropriate consultation among Federal, State, and local agencies. However, the EPA found that the budgets did not meet other adequacy criteria: the budgets, when considered together with all other emissions sources, must be consistent with applicable RFP or attainment requirements, and must be consistent with and clearly related to the emissions inventory and the control measures in the SIP, see 40 CFR 93.118(e)(4)(iv) and (v). Because the control strategy in the Fairbanks Serious Plan and Fairbanks 189(d) Plan did not include all required control measures, the budgets did not reflect all the required control measures.

##### 3. Summary of the State’s Submission Regarding the Motor Vehicle Emission Budgets

The Fairbanks Revised 189(d) Plan includes budgets for direct PM<sub>2.5</sub> for each of the upcoming RFP years (2023, 2026, and 2029) and the 2027 attainment year identified by Alaska. Budgets for NO<sub>x</sub> were not included because Alaska demonstrated that NO<sub>x</sub> does not significantly contribute to PM<sub>2.5</sub> formation in the Fairbanks PM<sub>2.5</sub> Nonattainment Area, and the EPA finalized approval of that precursor demonstration on December 5, 2023.<sup>278</sup> For VOC, SO<sub>2</sub> and NH<sub>3</sub>, in accordance with 40 CFR 93.102(b)(2)(v), transportation-related emissions of these

<sup>276</sup> For further information on transportation conformity rulemakings, policy guidance and outreach materials, see the EPA’s website at <https://www.epa.gov/state-and-local-transportation>.

<sup>277</sup> 88 FR 84626, December 5, 2023, at p. 84676.

<sup>278</sup> See section II.B.2. Note that 40 CFR 93.102(b)(2)(iv) indicates that NO<sub>x</sub> would apply in transportation conformity unless the appropriate finding has been made or if the SIP does not establish a budget for NO<sub>x</sub>.



precursors have not been found to be significant.<sup>279</sup>

The direct PM<sub>2.5</sub> budgets were calculated using the MOVES3 vehicle emissions model, which was the latest on-road mobile sources emissions model available at the time Alaska started developing the attainment plan inventory. Although a major model update was released in September 2023, MOVES4, the motor vehicle emission budgets were developed using MOVES3.0.3 (released January 2022) as significant work had already been completed on the SIP amendment prior to the release of MOVES4. The use of MOVES3 was agreed upon following consultation with applicable Federal, state, and local agencies.

Alaska used local fleet and fuel inputs and the Fairbanks Area Surface Transportation Planning (FAST Planning) travel demand model to generate local vehicle travel activity estimates over the six-month nonattainment season (October through March). The average winter day emissions were used by Alaska to set the motor vehicle emissions budgets. Exceedances of the 2006 24-hour PM<sub>2.5</sub> NAAQS in the Fairbanks PM<sub>2.5</sub> Nonattainment Area occur almost exclusively during the winter months. Alaska executed MOVES3 with locally developed inputs representative of wintertime 2019–2020 conditions. Table 6 of this preamble summarizes the regional average winter day on-road vehicle PM<sub>2.5</sub> emission budgets and the related CAA milestone for the nonattainment area.

TABLE 6—PM<sub>2.5</sub> MOTOR VEHICLE EMISSION BUDGETS BY MILESTONE YEAR

Calendar year	PM <sub>2.5</sub> on-road budgets (tons per day)	CAA-related milestone
2020 .....	0.074	Base year.
2023 .....	0.062	RFP.
2026 .....	0.054	RFP.
2027 .....	0.052	Attainment.

<sup>279</sup> Under 40 CFR 93.102(b)(2)(v), the requirements of the transportation conformity rule apply for VOC, SO<sub>2</sub>, and/or NH<sub>3</sub> in a PM<sub>2.5</sub> area if either (1) the EPA Regional Administrator or the director of the state air agency makes a finding that transportation-related emissions of any of these precursors within the nonattainment area are a significant contributor to the PM<sub>2.5</sub> nonattainment problem and has so notified the MPO and DOT, or (2) if the applicable implementation plan or submission establishes an approved or adequate budget for such emissions as part of the reasonable further progress, attainment or maintenance strategy. Because neither criterion is met for the Fairbanks area, budgets were not included for VOC, SO<sub>2</sub>, and NH<sub>3</sub>.

TABLE 6—PM<sub>2.5</sub> MOTOR VEHICLE EMISSION BUDGETS BY MILESTONE YEAR—Continued

Calendar year	PM <sub>2.5</sub> on-road budgets (tons per day)	CAA-related milestone
2029 .....	0.049	RFP.

Source: State Air Quality Control Plan, Vol II, section III.D.7.14, Table 7.14–2.

4. The EPA’s Evaluation and Proposed Action Regarding the Motor Vehicle Emission Budgets

We have evaluated the motor vehicle emissions budgets developed by Alaska against our adequacy criteria in 40 CFR 93.118(e)(4) as part of our review. Because the EPA believes the budgets meet the criteria in the transportation conformity regulation at 40 CFR 93.118(e)(4), the EPA proposes to approve them as part of this SIP submission that addresses attainment and RFP.

The Fairbanks Revised 189(d) Plan was submitted by the Alaska Governor’s designee—the Commissioner of Alaska Department of Environmental Conservation.<sup>280</sup> Consultation among Federal, State, and local agencies occurred prior to Alaska’s submission of the Fairbanks Revised 189(d) Plan.<sup>281</sup> This consultation is documented in the State Air Quality Control Plan, Vol. II, section III.D.7.14. The budgets are clearly identified and precisely quantified (40 CFR 93.118(e)(4)(iii)).<sup>282</sup> The EPA proposes to find that the budgets are consistent with applicable RFP and attainment requirements (40 CFR 93.118(e)(4)(iv)), as well as the emissions inventory and control measures in the Fairbanks Revised 189(d) Plan (40 CFR 93.118(e)(4)(v)). The Fairbanks Revised 189(d) Plan also includes Alaska’s explanations and documentation for any revisions to the Fairbanks Serious Plan and initial Fairbanks 189(d) Plan, including revisions to control measures, previously submitted budgets, and prior attainment projections.<sup>283</sup>

In addition to proposing approval of the budgets, the EPA is also initiating the adequacy review process for the budgets in this proposed rulemaking. When reviewing submitted SIPs containing budgets, the EPA reviews budgets for adequacy. Once the EPA affirmatively finds the submitted budget is adequate for transportation

<sup>280</sup> 40 CFR 93.118(e)(4)(i).

<sup>281</sup> 40 CFR 93.118(e)(4)(ii).

<sup>282</sup> 40 CFR 93.118(e)(4)(vi).

<sup>283</sup> 40 CFR 93.118(e)(4)(vi).

conformity purposes, that budget must be used by state and Federal agencies in determining whether proposed transportation activities conform to the SIP as required by section 176(c) of the CAA. See 40 CFR 93.118(e)(4)(1).<sup>284</sup> The EPA may find budgets adequate before the SIP is approved in a final rule.

The substantive criteria the EPA uses for determining adequacy of a budget are set out in 40 CFR 93.118(e)(4); these criteria were discussed above as the basis for the EPA’s proposed approval. The process for determining adequacy is found in 40 CFR 93.118(f) and consists of three basic steps: (1) public notification of a SIP submission; (2) a public comment period; and (3) the EPA’s adequacy determination. The EPA can begin an adequacy review through a proposed rulemaking in the **Federal Register** based on the transportation conformity regulation at 40 CFR 93.118(f)(2). This proposed rulemaking notifies the public that the EPA has received a SIP submission with budgets that the EPA will review for adequacy and begins the public comment period. The EPA invites the public to comment on the adequacy of budgets as well as other actions the EPA is proposing in this proposed rulemaking. Comments must be submitted by the close of the comment period. See the **DATES** section of this document for details.

Interested members of the public can access the Fairbanks Revised 189(d) Plan and other relevant information at <https://www.regulations.gov>, under Docket ID No. EPA–R10–OAR–0595. Following the EPA’s public comment period, the EPA will consider any comments received.

III. Summary of Proposed Action

A. Proposed Approval

In this action, the EPA is proposing to approve the submitted revisions to the Alaska SIP as meeting the following Serious Plan and CAA section 189(d) <sup>285</sup> required elements for the 2006 24-hour PM<sub>2.5</sub> NAAQS Fairbanks Nonattainment Area:

1. The 2020 base year emissions inventory (CAA section 172(c)(3)); <sup>286</sup> 40 CFR 51.1008(c)(1)) for areas subject to CAA section 189(d));

<sup>284</sup> However, the budgets in submitted implementation plans do not supersede the budgets in an approved SIP submission for the same CAA requirement and the period of years addressed by the previously approved SIP submission, unless the EPA specifies otherwise in its approval of a SIP submission. 40 CFR 93.118(e)(4)(1).

<sup>285</sup> 42 U.S.C. 7513a(d).

<sup>286</sup> 42 U.S.C. 7502(c)(3).

2. The 2027 attainment projected emissions inventory (CAA section 172(c)(1);<sup>287</sup> 40 CFR 51.1008(c)(2));

3. The State's PM<sub>2.5</sub> major stationary source precursor demonstration for SO<sub>2</sub> emissions (CAA section 189(e);<sup>288</sup> 40 CFR 51.1006(a));

4. The control strategy as meeting the BACM requirements under CAA section 189(b)(1)(B)<sup>289</sup> and 40 CFR 51.1010(a) for the following emission source categories:

- Requirements for wood sellers;
- Coal-fired heating devices;
- Coffee roasters;
- Weatherization and energy efficiency measures; and
- Mobile source emissions;

5. Control strategy BACT requirements for direct PM<sub>2.5</sub> emissions (CAA section 189(b)(1)(B)<sup>290</sup> and 40 CFR 51.1010(a)) for the following emission sources:

- Chena Power Plant;
- Doyon-Fort Wainwright Central Heating and Power Plant;
- University of Alaska Fairbanks Power Plant;
- Zehnder Facility;
- North Pole Power Plant;

6. Additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as RACM/RACT, BACM/BACT, and Most Stringent Measures (MSM) (if applicable) under CAA section 189(d)<sup>291</sup> and 40 CFR 51.1010(c);

7. Attainment demonstration and modeling meeting the requirements of CAA sections 188(c)(2) and 189(b)(1)(A)<sup>292</sup> and 40 CFR 51.1003(c) and 51.1011;

8. Reasonable further progress provisions meeting the requirements of CAA section 172(c)(2)<sup>293</sup> and 40 CFR 51.1012;

9. Motor vehicle emission budgets meeting the requirements under 40 CFR 93.118;

10. Quantitative milestones meeting the requirements of CAA section 189(c)<sup>294</sup> and 40 CFR 51.1013;

11. Contingency measures meeting the requirements of CAA section 172(c)(9)<sup>295</sup> and 40 CFR 51.1014 applicable to Serious areas subject to CAA section 189(b) and 189(d).

The EPA is proposing to approve the following submitted sections of the State Air Quality Control Plan for the

Fairbanks PM<sub>2.5</sub> Nonattainment Area, State effective December 14, 2024:

- Volume II, section III.D.7.06 Emissions Inventory;
- Volume II, section III.D.7.07 Control Strategy;
- Volume II, section III.D.7.08 Modeling;
- Volume II, section III.D.7.09 Attainment Demonstration;
- Volume II, section III.D.7.10 Reasonable Further Progress and Quantitative Milestones;
- Volume II, section III.D.7.11 Contingency Measures;
- Volume II, section III.D.7.12 Emergency Episode Plan;
- Volume II, section III.D.7.14 Conformity and Motor Vehicle Emission Budgets;
- Volume III, Appendix III.D.7.06 Emissions Inventory;
- Volume III, Appendix III.D.7.07 Control Strategy;<sup>296</sup>
- Volume III, Appendix III.D.7.08 Modeling;
- Volume III, Appendix III.D.7.09 Attainment Demonstration;
- Volume III, Appendix III.D.7.10 Reasonable Further Progress and Quantitative Milestones;
- Volume III, Appendix III.D.7.14 Conformity and Motor Vehicle Emission Budgets.

The EPA is also proposing to approve and incorporate by reference submitted regulatory changes into the Alaska SIP. Upon final approval, the Alaska SIP will include the following regulations, State effective December 8, 2024:

- 18 AAC 50.055 (industrial processes and fuel-burning equipment requirements), except (d)(2)(B);
- 18 AAC 50.076 (solid fuel-fired heating device fuel requirements; registration of commercial wood sellers), except (g)(11);
- 18 AAC 50.077 (standards for wood fired heating devices), except (g);
- 18 AAC 50.078 (additional control measures for a serious PM<sub>2.5</sub> nonattainment area), except (c);
- 18 AAC 50.079 (provisions for coal-fired heating devices); and
- 18 AAC 50.081 (Real estate transaction requirements; weatherization and energy efficiency).

The EPA is also proposing to approve and incorporate by reference submitted permits into the Alaska SIP. Upon final approval, the Alaska SIP will include:

1. Minor Permit AQ1121MSS04 Rev. 1, Title Page, Table of Contents, List of

<sup>296</sup> The EPA is not proposing to take action on Alaska's SO<sub>2</sub> BACT determinations in State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at this time. If the EPA does not finalize approval of the SO<sub>2</sub> precursor demonstration, then the EPA will propose action on Alaska's SO<sub>2</sub> BACT determinations separately.

Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only, State effective December 14, 2024 (Doyon Utilities, LLC—Fort Wainwright (Privatized Emission Units);

2. Minor Permit AQ0236MSS03 Rev. 2, Title Page, Table of Contents, List of Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only State effective December 14, 2024 (U.S. Army Garrison Fort Wainwright);
3. Minor Permit AQ0110MSS01 Rev. 1, Title Page, Table of Contents, List of Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only, State effective December 14, 2024 (Golden Valley Electric Association, North Pole Power Plant);
4. Minor Permit AQ0109MSS01 Rev. 2, Title Page, Table of Contents, List of Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only, State effective December 14, 2024 (Golden Valley Electric Association, Zehnder Facility);
5. Minor Permit AQ0315MSS02 Revision 1, Title Page, Table of Contents, List of Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only, State effective December 14, 2024 (Aurora Energy LLC, Chena Power Plant);
6. Minor Permit AQ0316MSS08 Revision 1, Title Page, Table of Contents, List of Abbreviations and Acronyms, Section 1, Section 3, Section 4, and Section 6, only, State effective December 14, 2024 (University of Alaska Fairbanks, University of Alaska Fairbanks Campus).

#### B. Adequacy Process

In this action, the EPA is also initiating the adequacy process for the PM<sub>2.5</sub> budgets included in this SIP submission. For further details, see section II.H.4.

#### IV. Interim Final Determination and Deferral of Sanctions

Please see the EPA's Interim Final Determination published in the "Rules" section of this **Federal Register**.

#### V. Incorporation by Reference

In this document, the EPA is proposing to include regulatory text in an EPA final rule that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is proposing to incorporate by reference the regulations described in section III. of this document. The EPA has made, and will continue to make, these materials generally available through <https://www.regulations.gov> and at the EPA Region 10 Office (please contact the person identified in the **FOR FURTHER**

<sup>287</sup> 42 U.S.C. 7502(c)(1).

<sup>288</sup> 42 U.S.C. 7513a(e).

<sup>289</sup> 42 U.S.C. 7513a(b)(1)(B).

<sup>290</sup> *Id.*

<sup>291</sup> 42 U.S.C. 7513a(d).

<sup>292</sup> 42 U.S.C. 7513(c)(2); 7513a(b)(1)(A).

<sup>293</sup> 42 U.S.C. 7502(c)(2).

<sup>294</sup> 42 U.S.C. 7513a(c).

<sup>295</sup> 42 U.S.C. 7502(c)(9).

INFORMATION CONTACT section of this document for more information).

## VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at <https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

*A. Executive Order 12866: Regulatory Planning and Review as Amended by Executive Order 14094: Modernizing Regulatory Review*

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

*B. Paperwork Reduction Act (PRA) (44 U.S.C. 3401 et. seq.)*

This action does not impose an information collection burden under the PRA, because this proposed SIP approval, if finalized, will not in-and-of itself create any new information collection burdens, but will simply approve certain State requirements for inclusion in the SIP.

*C. Regulatory Flexibility Act (RFA) (5 U.S.C. 601 et. seq.)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This proposed SIP approval, if finalized, will not in-and-of itself create any new requirements but will simply approve certain State requirements for inclusion in the SIP.

*D. Unfunded Mandates Reform Act (UMRA) (Pub. L. 104-4)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action proposes to approve certain pre-existing requirements under State or local law and imposes no new requirements. Accordingly, no additional costs to State, local, or Tribal governments, or to the private sector, result from this action.

*E. Executive Order 13132: Federalism*

This action does not have federalism implications. It will not have substantial

direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

*F. Executive Order 13175: Coordination With Indian Tribal Governments*

This action does not have Tribal implications, as specified in Executive Order 13175, because the SIP revision that EPA is proposing to approve would not 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, and will not impose substantial direct costs on Tribal governments or preempt Tribal law. Thus, Executive Order 13175 does not apply to this action.

*G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because this proposed SIP approval, if finalized, will not in-and-of itself create any new regulations, but will simply approve certain State requirements for inclusion in the SIP.

*H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use*

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act (NTTAA)*

Section 12(d) of the NTTAA directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The EPA believes that this action is not subject to the requirements of section 12(d) of the NTTAA because application of those requirements would be inconsistent with the CAA.

*J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Population*

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994) directs Federal agencies to identify and address “disproportionately high and adverse human health or environmental effects” of their actions on communities with environmental justice (EJ) concerns to the greatest extent practicable and permitted by law. Executive Order 14096 (Revitalizing Our Nation’s Commitment to Environmental Justice for All, 88 FR 25251, April 26, 2023) builds on and supplements Executive Order 12898 and defines EJ as, among other things, the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, or Tribal affiliation, or disability in agency decision-making and other Federal activities that affect human health and the environment.”

The air agency did not evaluate EJ considerations as part of its SIP submission; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. The EPA did not perform an EJ analysis and did not consider EJ in this action. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of Executive Order 12898/14096 of achieving EJ for communities with EJ concerns.

### List of Subjects in 40 CFR Part 52

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

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

Dated: December 17, 2024.

**Casey Sixkiller,**

*Regional Administrator, Region 10.*

[FR Doc. 2024–30648 Filed 1–7–25; 8:45 am]

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