6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2022-0115; FRL-9755-02-R10]

Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving in part and disapproving in part the state implementation plan (SIP) submissions, submitted by the State of Alaska (Alaska or the State) to address Clean Air Act (CAA or Act) requirements for the 2006 24-hour fine particulate matter ($PM_{2.5}$) national ambient air quality standard (NAAQS) in the Fairbanks North Star Borough $PM_{2.5}$ nonattainment area (Fairbanks $PM_{2.5}$ Nonattainment Area). Alaska made these submissions on December 13, 2019, and December 15, 2020.

DATES: This action is effective on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-R10-OAR-2022-0115. All documents in the docket are listed on the https://www.regulations.gov web site. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by

statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available through https://www.regulations.gov, or please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section for additional availability information.

FOR FURTHER INFORMATION CONTACT: Matthew Jentgen, EPA Region 10, 1200 Sixth Avenue – Suite 155, Seattle, WA, 98101, (206) 553-0340, jentgen.matthew@epa.gov.

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

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Background

For a complete regulatory history of the Fairbanks $PM_{2.5}$ Nonattainment Area, see the EPA's proposal, published on January 10, 2023 (88 FR 1454) (Proposal). This action finalizes the EPA's specific assessment of the State of Alaska's SIP submissions to meet nonattainment plan requirements for the Fairbanks $PM_{2.5}$ Nonattainment Area, as discussed in the Proposal.

In summary, Alaska submitted a plan to address the Serious area plan requirements on December 13, 2019 (Fairbanks Serious Plan). On September 2, 2020, the EPA determined that the area failed to attain the NAAQS by the outermost statutory Serious area attainment date of December 31, 2019, and denied the State's Serious area attainment date extension request under CAA section 188(e) (85 FR 54509). As a result,

Alaska was required to submit a new SIP submission to meet both the Serious area attainment plan requirements and the additional CAA requirements set forth in CAA section 189(d) by December 31, 2020.[1]

Prior to the EPA taking action to approve or disapprove the Fairbanks Serious Plan, Alaska withdrew and replaced several chapters of the Fairbanks Serious Plan with the Fairbanks 189(d) Plan submission, submitted on December 15, 2020 (Fairbanks 189(d) Plan).[2] Thus, the State intended to address the Serious area plan requirements with a combination of unwithdrawn portions of the Fairbanks Serious Plan and revised elements submitted as part of the Fairbanks 189(d) Plan. In this final action, the EPA is not acting on the withdrawn elements of the prior Fairbanks Serious Plan, but only acting on those elements that remain as revised by Alaska in the Fairbanks 189(d) Plan. Additionally, on September 25, 2023, Alaska withdrew the State's sulfur dioxide (SO_2) best available control technology (BACT) findings submitted as part of the Fairbanks Serious Plan.[3]

In the Proposal, the EPA proposed to approve the following components of the Fairbanks Serious Plan and Fairbanks 189(d) Plan: the base year emissions inventory; the State's $PM_{2.5}$ precursor demonstrations for nitrogen oxide (NO_x) and volatile organic compound (VOC) emissions; the control strategy for the solid fuel-fired heating device source category and ammonia (NH_3) BACM and BACT findings, as applicable; specific

[1] 40 CFR 51.1003(c).
[2] See SIP submission cover letter, submitted by Alaska Department of Environmental Conservation (ADEC) Commissioner Jason Brune to EPA Regional Administrator, Chris Hladick, on December 15, 2020.
[3] "Fairbanks SIP submissions for the Serious area and 189(d) plans" Letter from Emma Pokon, Acting Commissioner, Alaska Department of Environmental Conservation, to Casey Sixkiller, Regional Administrator, EPA Region 10, September 25, 2023. Included in the docket for this action.

regulations under 18 AAC 50.075 through 077 and the Fairbanks Emergency Episode Plan[4] (except for the contingency measure provision).

The EPA proposed disapproval of the following elements of the Fairbanks Serious Plan and the Fairbanks 189(d) Plan as not meeting applicable requirements for Serious area plan requirements and CAA section 189(d) plan requirements: attainment projected emissions inventory; best available control measure (BACM) requirements for residential and commercial fuel combustion, wood sellers; coal-fired heating devices, coffee roasters, charbroilers, used oil burners, weatherization and energy efficiency measures, and mobile source emissions. The EPA proposed disapproval of most of the control strategy BACT requirements for certain large stationary sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. Additionally, the EPA proposed disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan for not meeting the remaining nonattainment planning elements: the CAA section 189(d) requirement to analyze additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as reasonably available control measure/technology (RACM/RACT), BACM/BACT, and Most Stringent Measures (MSM))[5]; attainment demonstration and modeling; reasonable further progress; motor vehicle emission budgets; quantitative milestones; and contingency measures.

[4] State Air Quality Control Plan, Vol. II, Chapter III.D.7.12. This portion of Alaska's SIP is distinct from Alaska's emergency powers under Alaska Statutes 46.03.820 and 18 AAC 50.245-50.246 that authorize ADEC to declare an air alert, air warning, or air advisory to notify the public and prescribe and publicize curtailment action. In prior actions, the EPA has determined that these authorities are consistent with CAA section 110(a)(2)(G) and 40 CFR 51.150 through 51.153. See 83 FR 60769, November 27, 2018, at p. 60772.

[5] 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. As mentioned above, the EPA denied Alaska's request to extend the Serious area attainment date for the Fairbanks Serious Nonattainment Area.

Section II of this preamble summarizes comments received during the public comment period for the Proposal and provides the EPA's responses. With respect to most planning requirements, the EPA is finalizing approval and disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan as proposed. However, based on the comments received, the EPA is finalizing approval of certain portions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan that it originally proposed to disapprove. Specifically, the EPA is finalizing approval of Alaska's economic infeasibility demonstrations for a number of area sources identified in Alaska's 2019 base year emission inventory. Alaska's economic infeasibility demonstration provided updated cost information and additional considerations for a number of control measures. Based on these comments, we are finalizing approval for residential and commercial fuel oil combustion, charbroilers, used oil burners, and most of the measures for mobile sources. This means the EPA is approving Alaska's evaluation that ULSD adoption for residential and commercial fuel oil combustion is not economically feasible at this time and that Alaska will not have to adopt additional controls for these emission sources to satisfy the control strategy requirements for Serious areas and Serious areas that fail to attain.[6]

The EPA will work with the State of Alaska to address those portions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan that the EPA is disapproving in this action. Alaska may rectify each of these disapprovals with a revised SIP submission. The EPA understands that the State is developing a revised SIP submission to address the plan deficiencies that are identified in section III of this preamble. Specifically, with this new

[6] We note that while we are approving most of Alaska's analysis for mobile sources, Alaska will need to further evaluate, and adopt and implement as necessary, light-duty vehicle anti-idling measures to meet CAA requirements.

SIP submission, the EPA anticipates Alaska will identify, adopt, and implement all feasible control measures and ensure that such control measures are adopted and submitted in a manner that is enforceable as a practical matter and permanent.

The EPA also understands that the State is nearing completion of an updated air quality model that may better characterize particulate emissions in the Fairbanks $PM_{2.5}$ Nonattainment Area. Given this development, Alaska may potentially address the EPA's disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan for failure to adopt and implement SO_2 BACT requirements for major stationary sources though either identifying, adopting, and implementing BACT for the control of SO_2 emissions from these sources or a major stationary source SO_2 precursor demonstration that meets statutory and regulatory requirements and clearly demonstrates these sources do not contribute significantly to $PM_{2.5}$ levels that exceed the NAAQS in the Fairbanks $PM_{2.5}$ Nonattainment Area.

The State may also update its modeled attainment demonstration, reasonable further progress provisions, quantitative milestones, and attainment projected inventories. Finally, the State will need to evaluate and adopt adequate contingency measures.

II. Public Comments and EPA Responses

The EPA provided a 72-day period for the public to comment on the proposed action that ended on March 23, 2023. We received 164 public comments.[7] The public comments are included in the docket for this action. On March 7, 2023, the EPA held a public hearing in Fairbanks, Alaska, at the Wood Center, University of Alaska Fairbanks.

[7] The EPA received 61 comments as part of oral testimony provided during EPA's March 7, 2023, public hearing and 103 comments as part of written testimony submitted to the docket.

Comments received at the public hearing have been treated the same as written comments submitted to the docket and are summarized in this section II of the preamble. The transcript for the March 7, 2023, public hearing is also included in the docket for this action. Additionally, on April 17, 2023, EPA Region 10 Regional Administrator Sixkiller engaged in consultation with Doyon, Limited as an Alaska Native Corporation under the Alaska Native Claims Settlement Act (ANCSA) on the Proposal.[8] Separately, Doyon, Limited provided comments during the public hearing.

A. Timing of the EPA's Rulemaking

The State of Alaska submitted the Fairbanks Serious Plan on December 13, 2019. On January 10, 2020, the EPA made a finding that this submission was administratively complete.[9] Alaska subsequently submitted the Fairbanks 189(d) Plan on December 15, 2020. That submission was deemed complete by operation of law on June 15, 2021. Therefore, in accordance with CAA section 110(k)(2), the EPA's statutory deadlines to act on the Fairbanks Serious Plan and Fairbanks 189(d) Plan were January 10, 2021, and June 15, 2022, respectively. In order to satisfy its mandatory duties under the CAA, the EPA proposed action on both the Fairbanks Serious Plan and Fairbanks 189(d) Plan on January 10, 2023. After holding a public hearing on March 7, 2023, accepting written comments, and considering said comments, the EPA is finalizing action on these plans.

Comments: The EPA received several comments requesting that it delay finalizing action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan. The primary basis for the request was to allow Alaska to complete modeling work necessary to

[8] Letter from Region 10 Regional Administrator Casey Sixkiller to Aaron Schutt, President and CEO of Doyon, Limited, March 30, 2023. Included in the docket for this action.
[9] 85 FR 7760, February 11, 2020.

support a future SO_2 precursor demonstration for major stationary sources. Many of the commenters presumed that the outcome of the precursor demonstration would show that SO_2 emissions from major stationary sources is not a significant contributor to $PM_{2.5}$ formation in the Fairbanks 2006 $PM_{2.5}$ Nonattainment Area. Other commenters stated generally that the EPA should avoid hasty decisions.

In its comments submitted during the public comment period, Alaska represented that it would complete the necessary modeling work and submit a revised SIP submission to the EPA by May 1, 2024. After the close of the public comment period, Alaska submitted additional comments via letter requesting an additional year from the date of the letter—until July 24, 2024—for Alaska to submit a revised SIP submission. In the latter letter, Alaska enclosed Regional Applied Research Effort (RARE)[10] meeting notes that include preliminary modeling results for the Fairbanks $PM_{2.5}$ Nonattainment Area based on continuing analysis of sulfate formation in the area. Alaska asserted that these preliminary modeling results indicate that major point sources of SO_2 emissions do not significantly contribute to particulate matter pollution during winter-time episodic conditions in the area. Alaska further asserted that the EPA has the discretion and authority to grant the State an additional year from July 24, 2023, to provide a revised SIP submission before taking final action on the already submitted Fairbanks Serious Plan and Fairbanks 189(d) Plan.

Response: Consistent with its obligations in CAA section 110(k)(2) to act on SIP submissions, the EPA is finalizing action on the Fairbanks Serious Plan and Fairbanks

[10] EPA's Regional Applied Research Effort (RARE) is an Office of Research and Development (ORD) program administered by the Office of Science Policy (OSP) that responds to the high-priority research needs of EPA Regions.

189(d) Plan in this action. By statute, the EPA is required to take final action within one year of a SIP submission being complete or complete by operation of law. The EPA has already delayed action well past the deadlines imposed by the CAA. Thus, further delay would not be consistent with these requirements. Contrary to Alaska's comments, the EPA does not have generic authority to modify the CAA deadlines that pertain to when states must submit SIP submissions, or to when the EPA must take action on such SIP submissions. Nor does the EPA have the authority to postpone the statutory deadline for the imposition of mandatory sanctions under CAA section 179, or its obligation to promulgate a Federal Implementation Plan pursuant to CAA section 110(c).

The CAA establishes a process for states to rectify SIP disapprovals via a new SIP submission.[11] The CAA does not impose a mandatory deadline for states to make a new SIP submission in response to an EPA disapproval. Rather, the CAA imposes mandatory sanctions on the state at 18 and 24 months following the effective date of the EPA's disapproval, and an obligation on the EPA to promulgate a FIP within two years of the effective date of such disapproval. To avoid the potential for mandatory sanctions and a FIP, Alaska should follow this process to make a timely corrective SIP submission to address the portions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan that the EPA is disapproving. Alaska may include an optional SO_2 precursor demonstration in this SIP submission, if it provides a valid basis to establish that SO_2 emissions from either all sources or major stationary sources do not significantly contribute to $PM_{2.5}$ formation.

As discussed further in the following sections of this preamble, the EPA will review any future SO_2 precursor demonstration based on the statutory and regulatory

[11] CAA section 110(k) - (*l*) and 179. 40 CFR part 51, subpart F.

requirements and EPA guidance. The EPA emphasizes that the Agency will review the entire weight-of-evidence of any precursor demonstration, not only the outputs of any particular air quality model. Moreover, delaying action on a SIP submission based on an anticipated future SIP submission that may or may not address identified SIP deficiencies would be arbitrary and inconsistent with the CAA's mandatory requirements.

The commenters advocating further delay of this final action, appeared to suggest that if the EPA finds that any portion of a SIP submission does not meet CAA requirements, then the EPA must delay fulfilling its statutory obligation in order to allow a state to revise the SIP submission, rather than act on the SIP submission. The EPA does not interpret the CAA as requiring this approach. Rather, the CAA requires the EPA to approve or disapprove a SIP submission within 12 months of the date on which it is complete.[12] To the extent that a state seeks to revise its approach in a SIP submission following a disapproval, it may do so consistent with the process and schedule provided for in CAA sections 179(a) and 110(c)(1). Thus, the EPA is satisfying its CAA obligation to take action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan.

B. Environmental Justice Considerations

Executive Order 12898 (59 FR 7629, February 16, 1994) requires that Federal agencies, to the greatest extent practicable and permitted by law, identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Additionally, Executive Order 13985 (86 FR 7009, January 25, 2021) directs Federal government agencies to assess whether, and to what extent, their programs and policies perpetuate systemic barriers to

[12] CAA section 110(k)(2), 42 U.S.C. 7410(k)(2).

opportunities and benefits for people of color and other underserved groups, and Executive Order 14008 (86 FR 7619, February 1, 2021) directs Federal agencies to develop programs, policies, and activities to address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities.

In the Proposal, the EPA provided the results of a screening-level analysis using the EPA's environmental justice (EJ) screening and mapping tool ("EJSCREEN").[13] The purpose of conducting this analysis and sharing the results was to provide information and context. The EPA did not base the proposed action nor this final action on environmental justice considerations. Rather, the EPA based the proposed action and this final action on a determination of whether the Fairbanks Serious Plan and Fairbanks 189(d) Plan meet applicable CAA requirements.

The EPA noted in the Proposal that the Fairbanks $PM_{2.5}$ Nonattainment Area has some of the highest $PM_{2.5}$ concentrations in the country and has been designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS since 2009. Residents in Fairbanks and North Pole have been subjected to a high pollution burden for many years. Other health and socioeconomic indices, identified in EJSCREEN, that are impacted by elevated ambient $PM_{2.5}$ concentrations include: low life expectancy (95-100 percentile) and asthma (90-95 percentile) in an area south of downtown Fairbanks, and population under age 5 (95-100 percentile) in various areas within the Fairbanks $PM_{2.5}$

[13] 88 FR 1454, January 10, 2023, at pp.1455-1456. EJSCREEN provides a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN is available at *https://www.epa.gov/ejscreen/what-ejscreen.*

Nonattainment Area. Most of Alaska, including the Fairbanks area, is considered "medically underserved."[14]

A review of other environmental justice indices in EJSCREEN for the cities of Fairbanks, Alaska and North Pole, Alaska are below the 80th percentile, with some areas around downtown Fairbanks in the 80-90th percentile for the following indices: Superfund proximity, Hazardous waste proximity, and Underground storage tanks. No indices are above the 90th percentile for the Fairbanks $PM_{2.5}$ Nonattainment Area. EJSCREEN reports for Fairbanks and North Pole are included in the docket for this action.

The EPA noted in the Proposal that Alaska's expeditious submission of a new SIP to correct the deficiencies identified in this final action will ensure the plan meets CAA requirements and achieve attainment as expeditiously as practicable, consistent with the principles of environmental justice.

1. Comments and Responses

The EPA received multiple comments regarding environmental justice considerations.

Comment: Alaska argued that the EPA proposed to improperly shift the burden of addressing environmental justice from the EPA to the State of Alaska and that the EPA's proposed disapproval of certain elements of the Fairbanks Serious Plan and Fairbanks 189(d) Plan is inconsistent with the principles of environmental justice. As support, Alaska quoted from the EPA's statement in the proposed action: "Alaska's expeditious

[14] Medically Underserved Areas are defined by the Health Resources and Services Administration as geographic areas with a lack of access to primary care services. For more information see: https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation#mups.

submission of plan revisions that correct the deficiencies identified in this document will ensure the plan meets CAA requirements, and the measures in the plan when implemented achieves attainment as expeditiously as practicable. And in doing so, the plan revisions address harmful and disproportionate health and environmental effects on underserved and overburdened populations, consistent with the principles of environmental justice."

Alaska also stated that Fairbanks residents already face severe economic challenges including utility costs, transportation, healthcare, internet connectivity, and food and that adopting and implementing additional control measures will exacerbate these challenges. The commenter stated that the EPA ignored the economic challenges faced by Fairbanks residents in its proposed rule.

Response: The EPA is finalizing action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan based on a determination of whether these plans meet applicable CAA requirements. The EPA did not propose to disapprove any portion of the Fairbanks Serious Plan and Fairbanks 189(d) Plan based on environmental justice considerations. The EPA clearly articulated that it was proposing to disapprove certain portions of the SIP submissions because of specifically identified deficiencies with respect to CAA requirements.

In the Proposal the EPA did, however, provide factual information concerning environmental justice concerns in the Fairbanks $PM_{2.5}$ Nonattainment Area as part of its own evaluation.[15] The EPA provided the results of EJSCREEN and evaluated the impacts

[15] See, e.g., 88 FR 1454, January 10, 2023, at p. 1455 ("Executive Order 12898…requires that Federal agencies, the greatest extent practicable and permitted by law, identify and address disproportionately high and adverse human health or environmental effects of their actions.").

of finalizing its proposal for informational purposes only. The EPA expressly stated that it did so "to better understand the context of our proposed action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan on these communities."[16] Thus, the EPA disagrees with Alaska that it proposed to transfer the EPA's obligations under Executive Order 12898 to the State. Executive Order 12898 does not impose any such obligations on the State of Alaska. Alaska does, however, have the obligation to develop and submit implementation plans for the Fairbanks 2006 24-hour $PM_{2.5}$ Nonattainment Area that meet CAA requirements. In the Proposal, the EPA observed that the State doing so will reduce air pollution in the nonattainment area and thus reduce the burden on Fairbanks residents who experience some of the worst air pollution in the country.

The EPA also disagrees with Alaska that it ignored the economic challenges faced by Fairbanks residents in its proposed action. On the contrary, the EPA's proposed action and this final action, particularly with regards to the adequacy of the control strategy, was based on a thorough review of the technological and economic infeasibility of specific measures. In many cases, the EPA is finalizing approval of Alaska's rejection of certain control measures based in part on Alaska's demonstrations that the measures are infeasible due either to local circumstances or cost. Nevertheless, the state also oversimplifies this issue by claiming that the cost of imposing controls as required by the CAA to achieve actual attainment of the NAAQS in the Fairbanks $PM_{2.5}$ Nonattainment Area necessarily outweighs any public health benefits from such controls. The ongoing nonattainment of the NAAQS in the area likewise imposes costs, as measured in adverse public health impacts due to exposure to air pollution.

[16] 88 FR 1454, January 10, 2023, at pp. 1455-1456.

Comment: The EPA also received comments from environmental organizations representing citizens in the Fairbanks $PM_{2.5}$ Nonattainment Area concerning environmental justice issues. The commenter advocated that "all possible measures should be taken to reduce and eliminate exposures." In particular, the commenter asserted that there should be additional Federal Reference Method (FRM) monitors in the area, as well as additional monitors near schools, elder care facilities, and hospitals to assess impacts on vulnerable communities. The commenter asked that regulators give attention to cumulative impacts from exposure in the area, such as from coal ash and per-and polyfluoroalkyl substances (PFAS) in drinking water. Finally, the commenter expressed concern that "without the intervention of the EPA and Federal regulators, those who already bear a disproportionate burden will continue to experience the worst outcomes due to Alaska's inaction on this issue."

Response: The EPA agrees with the commenter that there are environmental justice concerns in the Fairbanks $PM_{2.5}$ Nonattainment Area, as evidenced by facts indicated by the EJSCREEN analysis, such as the prevalence of asthma and life expectancy. The EPA anticipates that compliance with CAA requirements for nonattainment plans should result in improvements for purposes of environmental justice in this area. As explained in the preceding paragraphs of this preamble, however, the EPA discussed environmental justice impacts of this action in the Proposal for informational purposes only. The EPA's final action, with respect to both approvals and disapprovals, is based on the Agency's evaluation of the Fairbanks Serious Plan and Fairbanks 189(d) Plan with respect to applicable CAA requirements. The EPA will

address the commenters specific concerns with respect to monitoring in the area in section II.C. of this preamble.

C. Air Quality Monitoring in the Fairbanks $PM_{2.5}$ Nonattainment Area

In the Proposal we described Alaska's air quality monitoring network for the Fairbanks $PM_{2.5}$ Nonattainment Area, and noted that it includes four regulatory monitor site locations. Table 1 of this preamble includes the site names, identification numbers, monitor data, and updated design values for the $PM_{2.5}$ monitor site locations in Fairbanks. In the Proposal, we explained that with EPA approval, the State discontinued the monitor location at the State Office Building and established the A Street monitor as a monitor location in 2019. Alaska established the A Street monitor location as a State or Local Air Monitoring Station (SLAMS) $PM_{2.5}$ monitoring station to characterize $PM_{2.5}$ concentrations in the Fairbanks portion of the nonattainment area. The EPA also explained in the Proposal that the Hurst Road monitor measures expected maximum concentrations for the nonattainment area.[17] Following is a table of air quality monitoring data in the Fairbanks $PM_{2.5}$ Nonattainment Area. The EPA notes this table was updated from the Proposal because monitoring data from 2022 became available since the Proposal was published. Therefore, Table 1 of this preamble includes the 2020-2022 24-hour Design Values, while the Proposal included the 2019-2021 24-hour Design Values.

Table 1. Fairbanks $PM_{2.5}$ monitoring locations and recent site-level Design Values

Local Site Name	**Site location**	**AQS ID**	**98th percentile (µg/m³)**			**2020-2022 24-hour Design Value****
			2020	2021	2022**	

[17] For further details of the air quality monitoring network in the Fairbanks $PM_{2.5}$ Nonattainment Area, see the EPA's approval letters of Alaska's Annual Monitoring Network Plans for each year between 2019 to 2022, which are included in the docket for this action.

Hurst Road*	3288 Hurst Road, North Pole	02-090-0035	71.4	65.5	72.5	70
A Street	397 Hamilton Ave, Fairbanks	02-090-0040	36.1	29.6***	84.2***	50
NCore	809 Pioneer Road, Fairbanks	02-090-0034	26.6	27.5	76.3	43
State Office Building	675 7th Avenue, Fairbanks	02-090-0010	Site closed in 2019, monitor equipment relocated to A Street location.			
*monitor location previously referred to as North Pole Fire Station. **data in this table includes monitor days in 2022 that the state flagged as influenced by wildfires. ***Monitor data in 2021 and 2022 impacted by data completeness issues.						

Source: EPA 2022 AQS Design Value Report

1. Comments and Responses

Comment: As noted in the prior paragraphs of this preamble, in the context of commenting on environmental justice concerns in the Fairbanks $PM_{2.5}$ Nonattainment Area, a commenter questioned the adequacy of monitoring in the area. The commenter stated that the environmental justice concerns highlight the need for more Federal Reference Monitors (FRM) in the Fairbanks $PM_{2.5}$ Nonattainment Area. Specifically, the commenter states that three monitors are insufficient for the nonattainment area, that Alaska should reestablish the State Office Building monitoring site, and establish additional sites, including in the Bjerremark neighborhood.

Response: As stated in Section II.B of this preamble, the EPA is finalizing action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan based on a determination of whether these plans meet applicable CAA requirements. Regarding the adequacy of the

existing monitoring network, the EPA's review and approval of Alaska's $PM_{2.5}$ monitoring network for the Fairbanks 2006 $PM_{2.5}$ Nonattainment Area is outside the scope of this action. The EPA separately evaluates the adequacy of the State's monitoring network in the context of the Annual Monitoring Network Plans (ANP) developed and submitted by the State to the EPA pursuant to 40 CFR part 58, or in the context of an Infrastructure SIP submission for a new or revised NAAQS.

The commenter specifically questioned the State's decision to shut down the State Office Building monitor location and to relocate the monitor to the A Street monitor location. Alaska documented the basis for this change and requested the site relocation in a letter to the EPA dated May 15, 2019, per 40 CFR 58.14(b). The EPA approved the relocation of the State Office Building monitoring site to A Street and the establishment of the A Street station as a SLAMS station, including the site relocation, as meeting the requirements of 40 CFR part 58, Appendix D in a letter dated June 26, 2019.[18] This network modification was also documented in Alaska's 2019 ANP dated June 28, 2019,[19] which the EPA approved on November 21, 2019. Prior to submitting its 2019 ANP, Alaska offered a 32-day public comment period starting on May 23, 2019, during which members of the public could submit comments on the adequacy of the ANP.

The EPA notes that 40 CFR part 58, Appendix D sets the minimum monitoring network design criteria state ambient air networks must meet. Alaska submitted their

[18] Letter from Debra Suzuki, EPA Region 10 Air Planning, State/ Tribal Coordination Branch to Barbara Trost, Alaska Department of Environmental Conservation, Air Monitoring and Quality Assurance Program, June 26, 2019, included in the docket for this action.
[19] 2019 Annual Air Quality Monitoring Network Plan, Alaska Department of Environmental Conservation, June 28, 2019, at p 33, available at: https://dec.alaska.gov/air/air-monitoring/monitoring-plans.

2022 ANP on June 28, 2022.[20] Prior to submitting the 2022 ANP, Alaska held a 30-day public comment period. On September 21, 2022, the EPA approved Alaska's 2022 ANP as meeting the requirements of 40 CFR part 58, Appendix D. The EPA is not revisiting its prior ANP approvals as part of this action. Most recently, Alaska submitted its 2023 ANP on June 30, 2023. The 2023 ANP was available for public comment from May 21 – June 21, 2023. The EPA has 120 days to review and approve Alaska's 2023 ANP. Neither the CAA nor 40 CFR part 58, Appendix D preclude the State from exceeding these minimum requirements, including deploying additional monitors beyond the minimum number required.

If the commenter has specific concerns with the adequacy of the monitoring network, then the appropriate place to raise these issues is with the State during the public comment period for their next ANP. State ANPs typically are posted for public comment annually in late May to allow for a 30-day comment period before the ANP is due to the EPA on July 1. States are required to include and address all comments in their final ANP submission per 40 CFR 58.10(a)(1).

Comment: Several commenters raised concerns with the ambient air monitors. Specifically, one commenter stated that monitors were sited in the worst areas and not representative of air quality in the Fairbanks $PM_{2.5}$ Nonattainment Area. Other commenters asserted that the monitors are outdated, inaccurate below negative 20 degrees Fahrenheit, and do not distinguish between hydroxymethanesulfonate (HMS) from inorganic sulfate and organic mass and $PM_{2.5}$. These commenters stated this is

[20] 2022 Annual Air Quality Monitoring Network Plan, Alaska Department of Environmental Conservation, Final Draft, June 28, 2022.

creating problems with monitors in the North Pole and Fairbanks portions of the nonattainment area, respectively.

Response: As previously discussed, in this action, the EPA is evaluating whether the Fairbanks Serious Plan and Fairbanks 189(d) Plan meet applicable requirements for nonattainment plans. These commenters raised concerns about the adequacy of the monitor network. The EPA's review and approval of Alaska's $PM_{2.5}$ monitoring network for the Fairbanks $PM_{2.5}$ Nonattainment Area is outside the scope of this action. The EPA is finalizing action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan. These SIP submissions do not contain Alaska's monitoring plans. Such monitoring plans are contained in Alaska's ANP developed and submitted to the EPA pursuant to 40 CFR part 58. The EPA approved these monitoring network plans as meeting the requirements of 40 CFR part 58,[21] including that the monitoring stations are representative of area-wide air quality and that Alaska sited at least one monitoring station at neighborhood or larger scale in an area of expected maximum concentration.[22] Alaska also measures SO_2 at the Hurst Road site in North Pole, and speciated $PM_{2.5}$ at both Hurst Road and the Fairbanks National Core multipollutant (NCore) monitoring station.

Table 2 of this preamble contains details on the make and model of air samplers Alaska has deployed as part of the ambient air monitoring network in the Fairbanks $PM_{2.5}$ Nonattainment Area.

Table 2: Air quality samplers in the Fairbanks $PM_{2.5}$ Nonattainment Area

[21] 2022 Annual Air Quality Monitoring Network Plan, Alaska Department of Environmental Conservation, Final Draft, June 28, 2022. Letter from Debra Suzuki, Manager Air Planning, State/Tribal Coordination Branch, EPA Region 10, to Barbara Trost, Division of Air Quality, Alaska Department of Environmental Conservation, September 21, 2022.
[22] See Section 4.7.1(b) of Appendix D to 40 CFR part 58.

Monitoring Station	**Air Samplers**
NCore/ Fairbanks 02-090-0034	Thermo Scientific Sequential Partisol 2025i (VSCC)-FRM Thermo Scientific Partisol 2000i (VSCC)-FRM
A Street/Fairbanks 02-090 -0040	Thermo Scientific Sequential Partisol 2025i (VSCC)- FRM Met One BAM 1020 (SCC) non-FEM
Hurst Road/ North Pole 02-090-0035	2 Thermo Scientific Sequential Partisol 2025i (VSCC)-FRM Met One BAM 1020 (SCC) non-FEM

Although outside the scope of this action, and not relevant to the action on these SIP submissions, the EPA notes that it has approved each of these monitoring methods as meeting the FRM or Federal Equivalent Method (FEM) pursuant to 40 CFR part 53.[23] Furthermore, Alaska performs the required quality assurance and quality control measures pursuant to 40 CFR part 58, Appendix A.

Scientific studies being conducted as part of the Alaskan Layered Pollution and Chemical Analysis (ALPACA) research project being led by the University of Alaska Fairbanks are expected to focus on state-of-the-science measurements of Fairbanks air quality, including measurements of HMS. The EPA will consider the results of peer-reviewed journal articles from ALPACA studies that are relevant to Alaska's future annual network plans or a future SIP submission for the Fairbanks $PM_{2.5}$ Nonattainment Area.

[23] U.S. Environmental Protection Agency, Center for Environmental Measurements & Modeling, Air Methods & Characterization Division, List of Designated Reference and Equivalent Methods, June 15, 2023, available at https://www.epa.gov/system/files/documents/2023-06/List_of_FRM_FEM_%20June%202023_Final.pdf.

D. Clean Air Act Requirements for $PM_{2.5}$ Serious Area Plans and Serious $PM_{2.5}$ Areas That Fail to Attain

1. Summary of Proposal

The Proposal contains a summary of the statutory and regulatory requirements for Serious area plans for $PM_{2.5}$ nonattainment areas and requirements for CAA section 189(d) plans and will not be restated here. In the Proposal, the EPA proposed combined requirements for $PM_{2.5}$ Serious areas and Serious areas that fail to attain. Specifically, the EPA explained in the Proposal that the CAA does not contain provisions that address precisely how a state should meet all of the planning requirements for a Serious nonattainment area, in the case where the area has already failed to attain the NAAQS by the Serious area attainment date, but before the state has met all of the planning requirements for Serious nonattainment areas. By extension, the CAA does not account for potential conflicts between the required plan provisions for Serious area plans and CAA section 189(d) plans, particularly with respect to the attainment projected inventory, attainment demonstration, reasonable further progress (RFP), and quantitative milestone (QM) plan provisions. These elements are required for all $PM_{2.5}$ nonattainment plans and are dependent on a single projected attainment date that complies with the statutory requirements governing the area. Thus, in the event that a state is obligated to submit both a Serious area plan and a CAA section 189(d) plan, a conflict arises between the applicable attainment date by which states should structure these plan provisions and against which the EPA should evaluate them.

Accordingly, the EPA proposed that it should evaluate any previously unmet Serious area plan requirements based on the current, applicable attainment date for nonattainment areas subject to CAA section 189(d), and not the original Serious area

attainment date December 31, 2019.[24] In this instance, in the Fairbanks 189(d) Plan, the State identified December 31, 2024, as the target attainment date that would represent attainment as expeditiously as practicable. Thus, the EPA proposed to evaluate the Fairbanks Serious Plan and Fairbanks 189(d) Plan submissions based on the combined requirements included in Table 3 of this preamble (Table 2 in the Proposal).

Table 3. Combined Fairbanks Serious Plan and Fairbanks 189(d) Plan requirements

CAA planning requirements for $PM_{2.5}$ Serious Areas and Areas that Fail to Attain	
Description	**Legal/ regulatory requirement**
Base year emissions inventory for Serious areas subject to CAA section 189(b)*	CAA section 172(c)(3)[25]; 40 CFR 51.1008(b)(1)
Base year emissions inventory for areas subject to CAA section 189(d)	CAA section 172(c)(3); 40 CFR 51.1008(c)(1)
Attainment projected emissions inventory	CAA section 172(c)(1)[26]; 40 CFR 51.1008(c)(2)
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 $PM_{2.5}$ and $PM_{2.5}$ precursors are implemented in the area	CAA section 189(b)(1)(B)[27]; 40 CFR 51.1010(a)
Additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as RACM/RACT,	CAA section 189(d)[29]; 40 CFR 51.1010(c)

[24] 86 FR 53150, September 24, 2021, at p. 53155. In accordance with CAA section 172(a)(2) and 179(d) and 40 CFR 51.1004(a)(3), "The projected attainment date for a Serious $PM_{2.5}$ nonattainment area that failed to attain the $PM_{2.5}$ NAAQS by the applicable Serious area attainment date shall be as expeditious as practicable, but no later than 5 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."
[25] 42 U.S.C. 7502(c)(3).
[26] 42 U.S.C. 7502(c)(1).
[27] 42 U.S.C. 7513a(b)(1)(B).
[29] 42 U.S.C. 7513a(d).

BACM/BACT, and MSM[28] (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 emission of direct $PM_{2.5}$ or any $PM_{2.5}$ plan precursor. The state must 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.	
Attainment demonstration and modeling	CAA sections 188(c)(2) and 189(b)(1)(A)[30]; 40 CFR 51.1003(c) and 51.1011
Reasonable further progress (RFP) provisions	CAA section 172(c)(2)[31]; 40 CFR 51.1012
Quantitative milestones	CAA section 189(c)[32]; 40 CFR 51.1013
An adequate evaluation by the state of sources of all four $PM_{2.5}$ 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 $PM_{2.5}$ levels that exceed the standard.**	CAA section 189(e)[33]; 40 CFR 51.1006
Contingency measures applicable to Serious areas subject to CAA section 189(b)	CAA section 172(c)(9)[34]; 40 CFR 51.1014
Contingency measures applicable to Serious areas subject to CAA section 189(d)	CAA section 172(c)(9); 40 CFR 51.1014

[28] 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 Serious Nonattainment Area.
[30] 42 U.S.C. 7513(c)(2) and 7513a(b)(1)(A).
[31] 42 U.S.C. 7502(c)(2).
[32] 42 U.S.C. 7513a(c).
[33] 42 U.S.C. 7513a(e).
[34] 42 U.S.C. 7502(c)(9).

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)[35]
EPA finalized approval of this requirement on September 24, 2021 (86 FR 52997).* * EPA finalized approval of this requirement applicable to Serious areas subject to CAA section 189(b) on September 24, 2021 (86 FR 52997).*	

2. Final Rule

The EPA is finalizing the approach to evaluating the Fairbanks Serious Plan and Fairbanks 189(d) Plan submissions as proposed.

3. Comments and Responses

We received three comments regarding the proposed requirements. One commenter agreed with the EPA's interpretation of the CAA with respect to the attainment date. The second commenter opposed the EPA's interpretation of the control strategy requirement for CAA section 189(d) areas. The final commenter opposed the EPA's statutory and constitutional authority to regulate air quality in the State of Alaska.

Comment: In its comment, Alaska stated that because CAA section 189(d) does not itself supply a specific attainment date for CAA section 189(d) areas, the EPA interprets the CAA to impose the attainment date requirements of CAA sections 172 and 179, and as interpreted in 40 CFR 51.1004(a)(3), rather than the date imposed in CAA section 188(c)(2),[36] and as interpreted in 40 CFR 51.1004(a)(2). Alaska agrees with the EPA's interpretation of the CAA and that 51.1004(a)(3) applies, which provides for 5 years past the finding of failure to attain for the Serious area and may be extended up to 10 years if deemed appropriate by the Administrator.

[35] 42 U.S.C. 7502(c)(5), 7513a(b)(3), 7513a(d), and 7513a(e). In the Proposal, the EPA inadvertently omitted reference to CAA sections 172(c)(5), 189(d), and 189(e), 40 CFR 51.1003(b)(1)(viii), and 40 CFR 51.1003(c)(1)(viii).
[36] The EPA understands the intended reference here to be CAA section 172(c).

Response: The EPA agrees with Alaska that the attainment date for the Fairbanks $PM_{2.5}$ nonattainment area is governed by CAA sections 172 and 179 and 40 CFR 51.1004(a)(3), which require that the new attainment date must be as expeditious as practicable, but no later than five years from the date of publication in the *Federal Register* of the EPA's determination that the area failed to attain the relevant NAAQS. In addition, the EPA may extend the attainment date by up to five additional years (thus up to 10 years from the date of publication of the notice of finding of failure to attain by the applicable attainment date for the area) if the EPA deems it appropriate "considering the severity of nonattainment and the availability and feasibility of pollution control measures."

The EPA notes that any extension to the attainment date pursuant to CAA section 172(a)(2)(A) must be predicated on a SIP submission that demonstrates that attainment within five years from the date of publication in the *Federal Register* of the EPA's determination that the area failed to attain the relevant NAAQS is infeasible and identifies the most expeditious date by which attainment is feasible considering the severity of nonattainment and the availability and feasibility of pollution control measures. Absent such a SIP submission, the EPA does not have a basis to extend the attainment date nor to identify the most expeditious attainment date.

Comment: Another commenter disagreed with the EPA's determination that Alaska did not need to identify, adopt, and implement MSM as part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan. The commenter stated that the EPA determined that MSM is not applicable to the Serious Plan or the 189(d) plan because MSM "is applicable if the EPA has previously granted an extension of the attainment date under

CAA section 188(e)" and "EPA denied Alaska's [previous] request to extend the Serious area attainment date." However, the commenter stated that CAA section 188(e) provides that Alaska must demonstrate that its SIP includes MSM before an extension may be granted, not if an extension has been "previously granted." The commenter asserted that an approval of the Fairbanks Serious Plan under a 2024 attainment date would amount to a de facto extension of the attainment date, and that MSM should be applicable to the parts of the SIP submission being evaluated under Serious SIP requirements.

Response: The EPA disagrees with the commenter that the State is required to identify, adopt, and implement MSM under these circumstances. In accordance with CAA section 188(e) and 40 CFR 51.1005(b), upon application by the state, the EPA may extend the attainment date for a Serious area beyond the date required by CAA section 188(c)(2) and 40 CFR 51.1004 if, inter alia, the state demonstrates that the attainment plan for the area includes MSMs that are included in the attainment plan of any state or are achieved in practice in any state, and can feasibly be implemented in the area. Thus, identifying, adopting, and implementing MSM is a necessary condition of the EPA granting an extension to the Serious area attainment date under CAA section 188(e). MSM is not, however, an independent requirement for all Serious area plans under CAA section 189(b), nor for all CAA section 189(d) plans.

The CAA provides for the scenario whereby the state either never applies for an attainment date extension under CAA section 188(e), or the state requests an extension but the EPA denies such request because the state failed to meet the conditions in CAA section 188(e). If either of these scenarios occur and the state fails to attain the 2006 24-hour $PM_{2.5}$ NAAQS by the Serious area attainment date, then the statutory consequence

is that the state is subject to the planning requirements of CAA section 189(d).[37] A state would only have to comply with the MSM requirements of CAA section 188(e) if the state had sought, and the EPA had granted, an extension of the Serious area attainment date and then failed to attain by that extended attainment date.

On September 2, 2020, the EPA determined that the Fairbanks $PM_{2.5}$ Nonattainment Area failed to attain by the Serious area attainment date.[38] As part of that same action, the EPA denied Alaska's request to extend the Serious area attainment date under CAA section 188(e). As a result of this action, the State became subject to the requirements of CAA section 189(d). Neither CAA section 189(d) nor the $PM_{2.5}$ SIP Requirements Rule under these circumstances require that the State SIP include MSM, unless the EPA previously approved the State's request to extend the Serious area attainment date under CAA section 188(e). The regulation at 40 CFR 51.1010(c)(2)(i) provides that: "For the sources and source categories represented in the emission inventory for the nonattainment area, the state shall identify the most stringent measures for reducing direct $PM_{2.5}$ and $PM_{2.5}$ plan precursors adopted into any SIP or used in practice to control emissions in any state, *as applicable*." (Emphasis added). As made clear in the response to comments to the $PM_{2.5}$ SIP Requirements Rule, the EPA included the phrase "as applicable" in this regulation to make clear that a state is only required to identify and impose MSM if the EPA has previously extended the Serious area

[37] The $PM_{2.5}$ SIP Requirements Rule at 40 CFR 51.1005(c) implements this statutory prescription, stating: "If a Serious area fails to attain a particular $PM_{2.5}$ NAAQS by the applicable Serious area attainment date, the area is then subject to the requirements of section 189(d) of the Act, and, for this reason, the state is prohibited from requesting an extension of the applicable Serious area attainment date for such area."
[38] Determination of Failure To Attain by the Attainment Date and Denial of Serious Area Attainment Date Extension Request; AK: Fairbanks North Star Borough 2006 24-Hour Fine Particulate Matter Serious Nonattainment Area, 85 FR 54509, September 2, 2020.

attainment date.[39] Thus, the requirement to identify, adopt, and implement MSM as part of the control strategy for this NAAQS does not apply to the Fairbanks $PM_{2.5}$ Nonattainment Area.[40]

Comment: One commenter questioned the Federal government's authority generally and the EPA's authority and jurisdiction specifically to regulate air quality in the State of Alaska. The commenter stated that the Bill of Rights contains restrictions on the Federal government's power and that the Tenth Amendment to the United States Constitution states that the power not delegated to the United States nor prohibited to the states are reserved to the states and the people. The commenter further stated: "There's nowhere in the constitution that talks about a multitude of alphabet agencies the Federal government has created, and you actually are the ones that are in violation. You're talking about how we're in violation of your air standards, but you're the agency that's in violation of our constitutional limitations against you. You have no jurisdiction. You're violating due process in separat[ion] of powers."

Response: The EPA disagrees with the commenter that the Federal government generally, and the EPA specifically, lack the authority to regulate air quality in Alaska as in all other states. In the CAA, Congress authorized the EPA to exercise numerous obligations related to air quality, including establishing the NAAQS, designating areas that fail to attain the NAAQS, and reviewing and approving or disapproving state SIP

[39] "In the event the area previously had received an extension of the Serious area attainment date pursuant to section 188(e), the reevaluation of control measures referenced in section 51.1010(c)(2) should include a reevaluation of MSM. (For this reason, section 51.1010(c)(2)(i) refers to the reevaluation of MSM "as applicable.") If, however, the area did not previously request and receive an extension of the Serious area attainment date under section 188(e), the MSM requirement does not apply." Response to Comments on the Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements, July 29, 2016, Docket No. EPA-HQ-OAR-2013-0691-0145 at p. 155.

[40] The EPA notes, however, that the state needs to consider implementing MSMs as contingency measures.

submissions required to provide for attainment and maintenance of the NAAQS.[41] Congress also granted the EPA general rulemaking authority to administer and implement the CAA.[42] The United States Supreme Court has acknowledged the Federal government's and the EPA's authority to regulate national air quality in the manner laid out in the Clean Air Act.[43] Thus, the EPA has the statutory authority and obligation to act on Alaska's SIP submissions for the Fairbanks $PM_{2.5}$ Nonattainment Area. Furthermore, the EPA's exercise of such authority—either in general or specific to these Plans—is within the Federal government's constitutional authorities and does not violate any individual constitutional or civil rights.

E. Review of the Fairbanks Serious Plan and Fairbanks 189(d) Plan

1. Emission Inventories

i. Summary of Proposal

The EPA proposed to approve the 2019 base year emissions inventory on the basis that it met the requirements of CAA section 172(c)(3) and 40 CFR 51.1008. The EPA stated that calendar year 2019 was an appropriate base year for the Fairbanks 189(d) Plan because it was one of the three years for which the EPA used monitored data to determine that the area failed to attain the $PM_{2.5}$ NAAQS by the applicable Serious area

[41] CAA sections 107, 109, 110, 171-192, 42 U.S.C. 7407, 7409, 7410, 7501-4514a; see also *Sierra Club v. EPA*, 671 F.3d 955, 958-959 (9th Cir. 2012).
[42] CAA section 301(a), 42 U.S.C. 7601(a) ("The Administrator is authorized to prescribe such regulations as are necessary to carry out his functions under this chapter.").
[43] *Train v. Nat'l Resources Def. Council, Inc*., 421 U.S. 60, 64-65 (1975) ("[The 1970 Clean Air Act] Amendments sharply increased Federal authority and responsibility in the continuing effort to combat air pollution."); *Union Elec. Co. v. EPA*, 427 U.S. 246, 249-250 (1976) ("[T]he Amendments reflect congressional dissatisfaction with the progress of existing air pollution programs and a determination to 'tak(e) a stick to the States,' in order to guarantee the prompt attainment and maintenance of specified air quality standards. The heart of the Amendments is the requirement that each State formulate, subject to EPA approval, an implementation plan designed to achieve national primary ambient air quality standards those necessary to protect the public health.").

attainment date.[44] The base year emissions inventory was a seasonal inventory, based on two historical meteorological episodes judged by the EPA to be representative of the range of meteorological conditions that lead to exceedances of the 24-hour NAAQS. This was an appropriate temporal scope for a base year emissions inventory. Exceedances of the 24-hour NAAQS, other than those exceedances attributable to non-anthropogenic emissions, occur primarily in the colder months during fall, winter, and spring when home heating sources are widely used. The State provided a justification that for purposes of the emissions inventory, the baseline emissions inventory season should be from October 1 to March 31, and the EPA agrees with this.

The EPA proposed to disapprove the projected emissions inventory on the basis that the Fairbanks 189(d) Plan did not satisfy the requirement of 40 CFR 51.1008(c)(2) regarding an attainment projected emission inventory for the most expeditious attainment date. The Fairbanks 189(d) Plan contained an attainment projected emissions inventory, and Alaska projected attainment by December 31, 2024. The EPA noted that the control strategy does not contain all required control measures. Therefore, the attainment projected emissions inventory does not necessarily take into consideration all required emissions reductions. Because the State did not properly evaluate and adopt control measures for all relevant source categories and pollutants, it was neither possible nor appropriate to determine that the projected emission inventory was consistent with the level of emissions needed to meet the overarching requirement for attainment of the NAAQS in the area as expeditiously as practicable. We do note that on September 25,

[44] 85 FR 54509, September 2, 2020.

2023, Alaska withdrew is SO_2 BACT determinations and analysis for major stationary sources in the Fairbanks $PM_{2.5}$ Nonattainment Area.[45]

In addition, the EPA observed that Alaska's proposed attainment date of 2024 is predicated on a modeling platform that is in need of improvement, including development of a quantitative performance evaluation for the Hurst Road monitor in North Pole that is based on recent meteorological episodes and $PM_{2.5}$ speciation data.

ii. Final Rule

The EPA is finalizing approval of the base year 2019 emission inventory. The EPA is finalizing disapproval of the projected attainment year emission inventory.

iii. Comments and Responses

Comment: Alaska stated that the EPA should avail itself of the opportunity to incorporate new data with the modeling updates described in Alaska's Technical Analysis Protocol which, until this year, were unavailable. The State suggested that the cumulative effect of new data combined with the extensive modeling updates will strengthen planning documents, improve accuracy, and expedite attainment.

Response: The EPA's final action is based on the SIP submissions before it. As discussed in section II.A of this preamble, the EPA has a mandatory duty to approve, disapprove, or conditionally approve the Fairbanks Serious Plan and Fairbanks 189(d) Plan. Alaska intended these submissions to meet applicable CAA requirements for Serious areas and Serious areas that fail to attain by the Serious area attainment date. Within these SIP submissions, Alaska based the attainment projected emissions

[45] "Fairbanks SIP submissions for the Serious area and 189(d) plans" Letter from Emma Pokon, Acting Commissioner, Alaska Department of Environmental Conservation, to Casey Sixkiller, Regional Administrator, EPA Region 10, September 25, 2023. Included in the docket for this action.

inventories and modeled attainment demonstrations on the 2008 episodes. Alaska thus represented that these episodes met CAA requirements for the attainment projected inventory.

The EPA is disapproving the attainment projected emissions inventory and modeled attainment demonstration in the Fairbanks 189(d) Plan for the reasons stated in the Proposal and in this final action. To the extent that the State elects to incorporate new data and new modeling updates in a subsequent SIP submission, it may do so. The EPA anticipates that the State will make a new SIP submission to address the deficiencies that required disapproval in this action. The EPA notes that CAA sections 110 and 179 provide a process whereby states may rectify disapprovals through a subsequent SIP submission and thereby avoid the potential for mandatory sanctions and a FIP. To that end, the EPA has been coordinating with Alaska on the monitoring and modeling analyses described by the State. The EPA will review the modeled attainment demonstration, and the associated attainment projected emission inventory, as updated by the State in subsequent SIP submissions for compliance with applicable requirements.

Comment: GVEA stated that the trends and changing nature of residential wood combustion need further attention. GVEA noted that both the availability and projected demand for dried wood need to be solidly developed and included in the projected emissions inventory. GVEA stated that since residential wood combustion is demonstrated to be an important contributor to $PM_{2.5}$ concentrations in the Fairbanks $PM_{2.5}$ Nonattainment Area, that trend and associated emissions reductions need to be assessed and included in a robust modeling analysis that demonstrates compliance with the $PM_{2.5}$ Ambient Air Quality Standards.

Response: The EPA agrees with GVEA that usage of residential wood combustion and the availability of dry wood are key factors that the state needs to consider in an updated assessment of control measures and expeditious attainment. We do note that Aurora Energy has established one dry wood kiln in Fairbanks (using the waste heat from the Chena Power Plant) with plans to expand operations. Ultimately, we anticipate that as part of a subsequent SIP submission, Alaska will evaluate the contributions of emissions from the solid fuel burning source category and evaluate the various emission reductions attributable to the suite of control measures, including the dry wood requirements.

Comment: A number of commenters stated that much of the pollution in Fairbanks comes from overseas from countries such as Russia and China.

Response: International contributions to air quality in the Fairbanks $PM_{2.5}$ Nonattainment Area are part of the boundary conditions input to the photochemical model that is used to evaluate relevant sources. Neither the State nor the EPA have identified a significant contribution from overseas emissions to ambient $PM_{2.5}$ levels in the area. Absent further evidence, the EPA will continue to assess the impacts of sources of emissions in the area, and control requirements for those sources, as identified in Alaska's analysis.

2. Pollutants Addressed

i. Summary of Proposal

Alaska submitted as part of the Fairbanks 189(d) Plan comprehensive precursor demonstrations for existing sources of NO_x and VOC emissions. Alaska did not submit a

precursor determination for existing sources of SO_2 and NH_3 emissions.[46] Moreover, Alaska did not submit a nonattainment new source review (NNSR) precursor demonstration for any $PM_{2.5}$ precursor. Alaska regulates all $PM_{2.5}$ precursors under its NNSR program. The EPA approved Alaska's NNSR program on August 29, 2019 (84 FR 45419). In the Proposal, the EPA evaluated the State's precursor demonstration included in the Fairbanks 189(d) Plan consistent with the $PM_{2.5}$ SIP Requirements Rule and the recommendations in the May 30, 2019, $PM_{2.5}$ Precursor Demonstration Guidance.[47]

The EPA proposed to approve the State's demonstration that NO_x and VOC emissions do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the 2006 24-hour $PM_{2.5}$ NAAQS in the Fairbanks $PM_{2.5}$ Nonattainment Area for purposes other than nonattainment new source review (NNSR) program requirements. As a result, Alaska would not be required to identify and impose control measures for NO_x and VOC emission sources in Fairbanks, other than for NNSR purposes. Likewise, the State would not be required to impose motor vehicle emission budgets for NO_x and VOC emissions.

The EPA noted that the concentration-based modeling analysis of VOC emissions demonstrates that anthropogenic VOCs have impacts on $PM_{2.5}$ concentrations in the Fairbanks $PM_{2.5}$ Nonattainment Area that are well below the 1.5 microgram per cubic meter ($\mu g/m^3$) significance threshold. The EPA also proposed that the weight of evidence presented in the Fairbanks Serious Plan and Fairbanks 189(d) Plan suggested that NO_x emitted from all sources is an insignificant contributor to local $PM_{2.5}$ concentrations.

[46] According to Alaska, there is a negligible amount of NH_3 associated with coal-fired boilers, fuel oil-fired turbines or diesel engine emissions and this amount is not in the emissions inventory. *See* State Air Quality Control Plan, Vol II, Chapter III.D.7.7.8.1.
[47] Memorandum from Scott Mathias, Acting Director, Air Quality Policy Division and Richard Wayland, Director, Air Quality Assessment Division, to Regional Air Division Directors, Regions 1 – 10, Fine Particulate Matter ($PM_{2.5}$) Precursor Demonstration Guidance, May 30, 2019.

ii. Final Rule

The EPA is finalizing approval of Alaska's $PM_{2.5}$ precursor demonstrations for NO_x and VOC emissions included in the Fairbanks Serious and 189(d) Plans. The EPA reiterates that Alaska did not submit a precursor determination for SO_2 and NH_3 emissions, which remain subject to control requirements under subparts 1 and 4 of part D, title I of the Act. Similarly, Alaska did not submit NNSR precursor demonstrations. Thus, consistent with its approved SIP, the State will continue to regulate NO_x, SO_2, VOCs, and NH_3 as precursors to $PM_{2.5}$ with respect to NNSR program requirements.

iii. Comments and Responses

Comment: Citizens for Clean Air, a project of Alaska Community Action on Toxics, and the Sierra Club Alaska Chapter commented that each day, 15.73 tons of NO_X are emitted in Fairbanks. These compounds are "precursors" that undergo chemical reactions to form $PM_{2.5}$. In September 2021, the EPA approved Alaska's 2019 precursor demonstrations for VOCs and NO_x, finding that Alaska had sufficiently demonstrated that VOCs and NO_x do not significantly contribute to the $PM_{2.5}$ problem in Fairbanks. To meet its CAA section 189(d) obligations, the State submitted an updated precursor analysis in 2020. This updated analysis included one new NO_x model run, and Earthjustice noted that the EPA proposed to find that the weight of evidence suggested that NO_x emitted from all sources is an insignificant contributor to local $PM_{2.5}$ concentrations.

The commenters disagreed with the EPA's approval of Alaska's new NO_x model run as satisfying precursor demonstration requirements for the purposes of CAA 189(d). The commenters noted that this modeling consisted of "a 50% knock-out quantitative

analysis" for NO_x emissions. Of note, when the State uses the terminology "50% knock-out" analysis, they are referring to a modeling evaluation where a model run that includes all emission sources in the nonattainment area (a baseline model run) is compared to a model run where 50% of the NO_x emissions from anthropogenic sources in the nonattainment area have been removed. Based on this modeling, the State demonstrated that "the maximum 24-hour average $PM_{2.5}$ concentrations due to anthropogenic NO_x emissions were ≤ 1.22 μg/m^3 in 2019 for all model grid cells containing regulatory monitors, and therefore were below the 1.5 μg/m^3 threshold." However, the commenter noted that the EPA's Precursor Demonstration Guidance recommends "modeling reductions of 30-70 percent" for such sensitivity analyses. Earthjustice questioned why, when a 50% knock-out analysis showed concentration results up to 1.22 μg/m^3—approaching the 1.5 μg/m^3 threshold—it was not appropriate to require a 70% knock-out analysis, or an emissions control analysis to support the demonstration. The commenters noted that the State has previously run 75% knock-out demonstrations, and there is no adequate justification for its choice not to run a 70-75% knock-out demonstration as part of the Fairbanks 189(d) Plan. The commenters concluded that the EPA should require Alaska to better justify its rejection of the need to regulate NO_x.

Response: While the State only completed one new model run (a run with a 50% reduction of NO_x emissions from anthropogenic sources) for the precursor demonstration in the Fairbanks 189(d) Plan, the EPA also considered the NO_x precursor model runs from the Fairbanks Serious Plan when evaluating the NO_x precursor demonstration. The State decided it did not need to re-run all of the Fairbanks Serious Plan precursor demonstration model runs because there were not significant changes in emissions or air

quality in the Fairbanks $PM_{2.5}$ Nonattainment Area or to the modeling platform between the Fairbanks Serious Plan and the Fairbanks 189(d) Plan. When evaluating the NO_x precursor demonstration submitted by the State, the EPA reviewed several model runs, focusing on both the average and maximum modeled $PM_{2.5}$ concentrations.

First, a major source precursor analysis where a baseline model run was compared to a control model run with a 100% reduction of NO_x emissions from major stationary sources (presented in the Fairbanks Serious Plan).

Second, a comprehensive precursor analysis where a baseline model run was compared to a control model run with a 100% reduction of NO_x emissions from anthropogenic sources (presented in the Fairbanks Serious Plan).

Third, a sensitivity precursor analysis where a baseline model run was compared to a control model run with a 75% reduction of NO_x emissions from anthropogenic sources (presented in the Fairbanks Serious Plan).

Fourth, a sensitivity precursor analysis where a baseline model run was compared to a control model run with a 50% reduction of NO_x emissions from anthropogenic sources (presented in the Fairbanks 189(d) Plan and referenced by the commenter).

In addition, the EPA reviewed supplementary information related to the model runs (e.g., changes in emissions inventories between 2013 and 2019, which were the two years used for the precursor model runs). The EPA also considered source apportionment analyses that have been conducted for the Fairbanks area (Kotchenruther, 2016; Ward, 2013).[48]

[48] Kotchenruther (2016). Source apportionment of $PM_{2.5}$ at multiple Northwest U.S. sites: Assessing regional winter wood smoke impacts from residential wood combustion. *Atmospheric Environment,* 142, 210-219. Available at: https://doi.org/10.1016/j.atmosenv.2016.07.048.

Based on all of these data sources, the EPA agrees with the State that NO_x is not a significant contributor to $PM_{2.5}$ measured in the nonattainment area.

3. Control Strategy

Alaska submitted as part of the Fairbanks Serious Plan BACM and BACT analyses intended to identify and evaluate potential BACM and BACT controls for the stationary area sources and source categories, stationary point sources, and mobile sources in the baseline emissions inventory. Alaska submitted an update to the analysis of control measures for stationary area sources and mobile sources in the Fairbanks 189(d) Plan. Alaska did not update the analysis for stationary point sources, including major stationary sources.

The EPA proposed to approve Alaska's determination that there are no specific NH_3 emission controls for the major stationary or area sources or source categories in the baseline emissions inventory discussed in section II.E.2 of this preamble and that certain measures designed to reduce direct $PM_{2.5}$ emissions also reduce NH_3 emissions. Thus, the EPA proposed to determine that Alaska has satisfied the requirement to identify, adopt and implement BACM and BACT for the sources and source categories of NH_3 discussed in section II.E.2 of this preamble. Thus, the EPA proposed to determine that no additional controls of NH_3 are required to meet the BACM or BACT requirements for these specific source categories for the Fairbanks Serious Plan or the Fairbanks 189(d) Plan. The EPA also proposed to approve the State's SIP submissions with respect to BACM and BACT requirements for pot burners, fuel oil boilers, incinerators, and portions of the solid fuel

Ward (2013). The Fairbanks, Alaska $PM_{2.5}$ Source Apportionment Research Study Winters 2005/2006-2012/2013, and Summer 2012. University of Montana-Missoula Center for Environmental Health Sciences. Available at: https://dec.alaska.gov/air/anpms/communities/fbks-pm2-5-science/.

heating device and mobile emission source categories. The EPA proposed to disapprove the State's SIP submissions with respect to BACM and BACT requirements for wood seller requirements, coal-fired heating devices, coffee roasters, charbroilers, used oil burners, weatherization and energy efficiency, oil-fired heating devices, and portions of the mobile emission source category.

The EPA is finalizing partial approval of portions of Alaska's BACM and BACT analyses and associated adopted and submitted rules to impose the control measures, as described in table 4 of this preamble. The EPA is finalizing approval of the BACM and BACT analysis for which the EPA proposed approval, including Alaska's BACM determinations for NH_3 controls. Based on comments, the EPA is also finalizing approval of certain portions of Alaska's supplemental BACM and BACT analysis for stationary areas sources and mobile sources, as explained further in section II.E.3 of this preamble. Alaska submitted comments on the Proposal that provided additional analysis to demonstrate that that potential control measures for certain source categories are either technologically or economically infeasible at this time. Measures that the EPA agrees are infeasible in the area at this time include: an ultra-low sulfur diesel (ULSD) requirement for residential and commercial fuel oil combustion; controls on charbroilers and used oil burners; and certain transportation measures. The EPA is finalizing disapproval of the remaining portions of Alaska's BACM analysis and adopted rules as proposed. Table 4 of this preamble provides an overview of the final action.

Table 4. Summary of the EPA's final evaluation of Alaska's BACM and BACT analysis for stationary areas sources and mobile sources

Emissions source category	EPA evaluation of specific BACM measures	State rules relevant to adopted BACM	Specific BACM measures, as

			identified by Alaska
Solid fuel burning	Approve: wood-fired heating device requirements and resulting emissions	18 AAC 50.075, except (d)(2); 18 AAC 50.077, except (g) and (q);	BACM Measures: 1-30, 33-47, 63, 65-66, R1, R4-R7, R9-R12, R15, R16-R17, R29
	Disapprove: Wood seller/ dry wood requirements; coal-fired heating devices	18 AAC 50.076(k); 18 AAC 50.079(d), (e), and (f)	BACM Measures: 31-32; 48-49
Residential and commercial fuel oil combustion	Approve: pot burners, waste oil; fuel oil boilers; ULSD as heating oil (economically infeasible)	18 AAC 50.078(b)	BACM Measures: 51, 52-53, 61-62
Small commercial area sources	Approve: incinerators (no sources identified); charbroilers (economically infeasible); used oil burners (economically infeasible)	18 AAC 50.078(c)	BACM Measures: 68-70
	Disapprove: coffee roasters	18 AAC 50.078(d)	BACM Measure: 67
Energy efficiency measures	Disapprove: weatherization and energy efficiency		BACM Measure: 64
Emissions from mobile sources	Approve: CARB standards; school bus retrofits; road paving; other transportation measures; vehicle idling- heavy-duty vehicles (economically infeasible)		BACM Measures: 54-59, 60 (in part), R20
	Disapprove: light-duty vehicle idling at schools and commercial establishments		BACM Measure: 60 (in part)

i. Solid fuel burning

a. Summary of Proposal

The solid fuel burning source category includes a number of measures that the State adopted as part of the Fairbanks Serious Plan and relied on in the Fairbanks 189(d) Plan. These measures address direct $PM_{2.5}$, SO_2, and NH_3 emissions.

Alaska adopted a number of regulations based on the BACM review for this source category.[49] We proposed to find that Alaska's analysis and adoption of control measures for this source category meet BACM and BACT requirements for $PM_{2.5}$ and SO_2 emissions. We also proposed to approve Alaska's analysis that found no available controls that specifically reduce NH_3.[50] We noted that the EPA has previously approved as federally enforceable SIP-strengthening 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).

We noted that Alaska's two-stage woodstove curtailment program, included in the Fairbanks Emergency Episode Plan,[51] is at least as stringent as comparable curtailment programs in Idaho, Utah, and California. Alaska accounts for the differences in natural gas availability, seasonal climate conditions, and woodstove changeout incentives in

[49] Alaska state regulations 18 AAC 50.075 (e)(3), (f)(2); 18 AAC 50.076 (d) – (e), (g), (j) – (l); 18 AAC 50.077(a) – (m); 18 AAC 50.078(b); 18 AAC 50.079(f).
[50] Note that the EPA inadvertently indicated that it proposed to disapprove the Fairbanks Serious Plan and Fairbanks 189(d) Plan as not meeting BACT requirements for NH_3 in Section V of the Proposal. This was in error. The EPA made clear in the preamble to the Proposal that it was proposing to approve Alaska's determinations that no NH_3 controls existed for each of the stationary sources listed.
[51] State Air Quality Control Plan, Vol. II, Chapter III.D.7.12. This portion of Alaska's SIP is distinct from the Alaska's emergency powers under Alaska Statutes 46.03.820 and 18 AAC 50.245-50.246 that authorize ADEC to declare an air alert, air warning, or air advisory to notify the public and prescribe and publicize curtailment action. In prior actions, the EPA has determined that these authorities are consistent with CAA section 110(a)(2)(G) and 40 CFR 51.150 through 51.153. See 83 FR 60769, November 27, 2018, at p. 60772.

establishing the two-stage thresholds at 20 µg/m^3 (Stage 1) and 30 µg/m^3 (Stage 2), respectively. Alaska also has an advisory level set at 15 µg/m^3 as part of the curtailment program. Alaska has placed further limitations on the No Other Adequate Source of Heat (NOASH) exemption waivers that limit applicability to those who have economic needs based on objective criteria and limited the number of years NOASH waivers are available. Therefore, we proposed to approve the wood stove curtailment program and associated updates to the NOASH waivers/temporary exemption as meeting the BACM requirement for the solid fuel burning source category (i.e., Alaska State regulations 18 AAC 50.075 (e)(3), (f)(2)) for the control of $PM_{2.5}$ and SO_2 emissions.

Alaska identified and evaluated as BACM the heating device performance standards adopted previously by Missoula County, Montana.[52] Alaska adopted a regulation modeled after the rule in Missoula County. Under 18 AAC 50.077(c), Alaska's regulations require that woodstoves meet emissions standards that are more stringent than the EPA's New Source Performance Standards (NSPS) requirement and also include 1-hour testing requirements to ensure only the lowest-emitting woodstoves are allowed to be sold and installed in the nonattainment area. We proposed to find that Alaska adopted measures sufficient to meet the BACM requirement for the solid fuel burning source category (i.e., 18 AAC 50.077 (a - j) for $PM_{2.5}$ and SO_2 emissions.

Alaska's regulation 18 AAC 50.075(f), applicable to the Fairbanks $PM_{2.5}$ 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

[52] Missoula City-County Air Pollution Control Program, Rule 9.203(1)(a), available at: https://www.missoulacounty.us/government/health/health-department/administration/regulations-ordinances/air-pollution-control-program.

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 operation of the device such that visible emissions cross property lines. These opacity limits provide a visual indicator for the proper operation of a solid fuel heating device (for a discussion of the EPA's SSM policy, see the Proposal). The EPA proposed to approve this measure as BACM for this source category.[53]

The EPA proposed to approve and incorporate by reference Alaska's rule 18 AAC 50.075(f) as BACM because it is a permanent and enforceable measure that contributes to attainment of the 2006 $PM_{2.5}$ 24-hour NAAQS. This provision includes limits on emissions that apply during all modes of source operation and impose continuous emission controls on solid fuel heating devices consistent with the requirements of the CAA applicable to SIP provisions. In addition, the provision supports progress toward attainment of the 2006 $PM_{2.5}$ NAAQS in the Fairbanks $PM_{2.5}$ Nonattainment Area.

The EPA also proposed to find that the State's additional removal or render inoperable restrictions placed on non-certified EPA woodstoves, non-pellet outdoor hydronic heaters, coal-fired heating devices, and EPA-certified woodstoves greater than 25 years old meet BACM requirements for $PM_{2.5}$ and SO_2 emissions. Owners of these

[53] The regulation at 18 AAC 50.075(f)(2) specifies 40 CFR part 60, Appendix A, Method 22 as the monitoring method for determining compliance with the visible emissions standard in 18 AAC 50.075(f)(1). One of the purposes of Method 22 is to determine through visual observation the presence of smoke from a combustion source. 40 CFR part 60, Appendix A-7 Method 22 at Section 1.0. Thus, Method 22 is the appropriate monitoring method to ensure compliance with this standard. The regulation does not prescribe mandatory recordkeeping and reporting obligations. However, the EPA has determined that this standard is enforceable as a practicable matter without mandatory recordkeeping and reporting. The standard applies to a multitude of area and point sources, most of which are owned by individuals. Importantly, Method 22 observations can be made without special training—thus enabling the owner and operator of the source, Alaska, the EPA, and members of the public to readily determine and enforce compliance without the need for recordkeeping and reporting. See 40 CFR part 60, Appendix A-7 Method 22 at Section 2.3.

devices will need to remove or render them inoperable by December 31, 2024, or if a building or residence with such a device is sold prior to that date (or if a woodfired heating device is 25 years old prior to that date).[54] The EPA proposed to find that 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 represent BACM for $PM_{2.5}$ and SO_2 emissions for the solid fuel burning source category. These include Alaska State regulations 18 AAC 50.076 (d – e), (g), (j - l).

The EPA proposed to disapprove revisions to 18 AAC 50.076(k) as lacking sufficient monitoring to be enforceable as a practical matter and thus meet BACM and BACT requirements. Likewise, the EPA proposed to disapprove the regulations at 18 AAC 50.079(d), (e), and (f) that impose a removal requirement on owners of coal-fired heating devices. The EPA proposed to disapprove these regulations because 18 AAC 50.079(d) allows the owners to test out of the mandatory removal requirements, 18 AAC 50.079(e) includes an unbounded waiver provision, and 18 AAC 50.079(f) does not specify a process to confirm the device was rendered inoperable.[55]

The regulations at 18 AAC 50.076(d)–(e) are registration requirements for wood sellers, and thus are part of Alaska's overall strategy with monitoring and recording compliance with the dry wood requirements of 18 AAC 50.076. Alaska ensures compliance with 18 AAC 50.076(g) through moisture testing and documentation requirements. The regulation at 18 AAC 50.076(*l*) prohibits non-commercial wood sellers

[54] State Air Quality Control Plan, 18 AAC 50.077 (l) – (m).
[55] Alaska ensures compliance with the installation and conveyance restrictions and removal requirements via the registration requirements in 18 AAC 50.077(h). The regulations mandate certain recordkeeping and reporting obligations to ensure the practical enforceability of the requirements and restrictions in 18 AAC 50.077.

from selling wet wood in the Fairbanks $PM_{2.5}$ Nonattainment Area. Compliance with this prohibition is monitored and enforced through the registration requirements in 18 AAC 50.076(d)–(e).

Collectively, the EPA proposed to find that Alaska met the BACM and BACT requirements for the solid fuel burning source category for $PM_{2.5}$ and SO_2 emissions. However, the proposed approval excluded the dry wood requirements for wood sellers in 18 AAC 50.076(k) and coal-fired heating devices in 18 AAC 50.079(d), (e), and (f), due to the lack of practical enforceability of the dry wood requirement and the unbounded exemptions for the coal-fired heating devices noted in section II.E.3.i.a of this preamble. The EPA also proposed to approve Alaska's analysis that found no NH_3-specific emission controls for this source category.

b. Final Rule

The EPA is finalizing partial approval of the solid fuel device heating requirements as BACM. The EPA is finalizing partial disapproval of Alaska's measures regarding dry wood seller requirements and coal-fired heating devices. The EPA recommends 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 recommends 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. Once Alaska submits a SIP revision resolving the identified deficiencies, the EPA will evaluate whether the updated rules meet BACM requirements.

c. Comments and Responses

Comment: Several commenters opposed the EPA's approval of the State's control measures on solid fuel burning devices, specifically wood-fired heating devices as meeting BACM requirements for this source category. Specifically, several commenters expressed general concern over restrictions on the sale and use of wood stoves. Other commenters stated that the measures should include exemptions for the elderly, people with financial difficulty, and people who only live in the nonattainment area in the summer.

Response: Alaska adopted several restrictions and requirements for the sale, distribution, and operation of solid fuel burning devices in the Fairbanks Serious Plan and Fairbanks 189(d) Plan. Specifically, the State has determined that it is appropriate to include restrictions on the installation, reinstallation, sale, leasing, distribution, and conveyance of solid fuel burning devices.[56] Among other requirements for this source category, the State has specified that only stoves that meet certain emission standards may be sold, conveyed, or installed in the nonattainment area.[57]

In addition, Alaska adopted a regulation that requires a person who owns a woodstove or pellet stove that does not have a valid certification from the EPA under 40 CFR 60.533 or a non-pellet fueled wood-fired outdoor hydronic heater shall render the device inoperable before December 31, 2024; or before the device is sold, leased, or conveyed as part of an existing structure, whichever is earlier.[58]

[56] 18 AAC 50.077(a) - (f).
[57] *Id.*
[58] 18 AAC 50.077(*l*).

The EPA's position is that these, as well as other, measures are necessary to control direct $PM_{2.5}$ emissions and SO_2 emissions from the solid fuel heating device source category. Alaska adopted these controls after determining that they are technologically and economically feasible. As explained in the Proposal and of this preamble, the EPA agrees with the State's determination that these restrictions are appropriate and meet BACM requirements for this source category.

These measures are a critical component of Alaska's overall strategy to phase out older, more polluting wood stoves for liquid or gas fired heating devices, or newer, cleaner-burning stoves. Adoption of these controls was necessary to satisfy the BACM and BACT requirements of the CAA and the overall requirement to achieve attainment as expeditiously as practicable.

Comment: One commenter opposed the dry wood requirements as being too costly.

Response: The EPA disagrees with the commenter that the dry wood requirement is too costly or otherwise economically infeasible. Alaska adopted a measure to mandate that users of wood-fired heating devices only burn dry wood.[59] Alaska also imposed requirements on commercial wood sellers to ensure that they sell dry wood in the Fairbanks $PM_{2.5}$ Nonattainment Area.[60] Alaska determined that these measures were technologically and economically feasible. The EPA concurs with this assessment. Absent a determination and supporting documentation that these measures are infeasible,

[59] 18 AAC 50.076.
[60] 18 AAC 50.076(g).

neither Alaska nor the EPA have a basis to not adopt and implement these measures as necessary components of the control strategy required by the CAA.

Comment: Several comments opposed the EPA's approval of the control measures for solid fuel burning devices, arguing that Alaska should instead ban all wood stoves in the nonattainment area.

Response: As part of development of the Fairbanks Serious Plan, Alaska specifically assessed the feasibility of banning woodstoves all together[61] and the feasibility of banning woodstoves in new construction.[62] In both cases Alaska determined these bans were not technologically or economically feasible. The EPA reviewed these determinations and concurs with Alaska's determinations. The EPA agrees with Alaska's determination that residents require the option of heating their homes with wood—thus both bans are technologically infeasible at this time. There are many residents whose only source of heat in the winter is wood. Alaska and several commenters pointed out that the area experiences power outages in the winter that necessitate use of a space heating device that does not need electricity to operate. While natural gas is available in the nonattainment area, and access has increased in recent years, it remains significantly limited across the nonattainment area.

The EPA notes that, in lieu of woodstove bans, Alaska adopted a suite of controls on solid fuel burning devices, including the woodstove curtailment program.[63] Under the curtailment program, Alaska issues burn bans based on forecasted concentrations of $PM_{2.5}$. Once Alaska issues a burn ban, wood stove operators must withhold fuel from

[61] ADEC also reviewed this measure as part of development of the Moderate Area Plan.
[62] *See* State Air Quality Control Plan, Vol. III, Appendix III.D.7.7-62.
[63] 18 AAC 50.075(e); 18 AAC 50.030(a); State Air Quality Control Plan Vol. II, Chapter III.D.7.12.

wood stove devices (other than exempt devices) and ensure that combustion has ceased within three hours of the effective time of the declaration.[64]

Comment: One commenter opposed the EPA's approval of the woodstove curtailment program as meeting BACM requirements. The comment asserted that the program cannot meet BACM requirements because Alaska does not adequately enforce the program. According to the commenter, Alaska estimated the compliance rate for the program in 2019 was 30 percent and will achieve 45 percent by 2024. The commenter also stated that meaningful enforcement could be accomplished by granting the Alaska Department of Environmental Conservation citation authority. The commenter also argued that Alaska's current "three-strikes" approach to enforcement is ineffective and does not deter noncompliance. Finally, the commenter argued that the EPA should not approve the woodstove curtailment program as meeting BACM requirements without further assurances from the State that it will practice meaningful enforcement.

Response: The EPA disagrees with the commenter that the woodstove curtailment program, as adopted via 18 AAC 50.075(e) and the Fairbanks Emergency Episode Plan, does not meet the requirements for BACM for the solid fuel burning emission source category. Consistent with 40 CFR 51.1010(a)(2), the state identified the curtailment program and corresponding curtailment thresholds through surveying other NAAQS nonattainment areas. In reflection of lower curtailment thresholds adopted in other jurisdictions, the State lowered the curtailment thresholds—making the measure more stringent than the measure submitted as part of the Fairbanks PM2.5 Moderate area plan

[64] 18 AAC 50.075(e)(3).

(Fairbanks Moderate Plan) to meet RACM requirements.[65] Thus, the woodstove curtailment program meets the requirements as BACM for the wood-fired heating device emission source category. Since adoption, Alaska has employed a model to forecast days with high $PM_{2.5}$ concentrations, regularly issued Stage 1 and Stage 2 alerts, monitored compliance, and issued notices of noncompliance.[66] Alaska issues compliance letters, advisory letters, and Notice of Violation letters each year. During the 2021-22 winter season, Alaska sent 136 compliance or advisory letters.[67] Thus, Alaska is implementing the measure.

With respect to compliance, the EPA understands the commenter's concern that there is insufficient compliance and that compliance can affect the effectiveness of a control measure. Alaska is likewise aware of issues regarding compliance, and has taken steps to try to assure better compliance. When assessing whether a specific control measure meets BACM requirements, however, the EPA is evaluating whether the measure as formulated meets applicable stringency requirements and other requirements for SIP provisions, including that the measure is legally and practically enforceable. A lack of total compliance (actual or projected) does not necessarily disqualify a measure as BACM. Concerns about compliance rates with the requirement are reflected in other ways, such as in the amount of SIP emissions reduction credit the State claims and the EPA provides for a given measure (e.g., a measure with 50 percent compliance receives

[65] 82 FR 42457, September 8, 2017.
[66] *See* Alaska Department of Environmental Conservation (ADEC) Curtailment and Alerts in the Fairbanks North Star Borough Nonattainment Area, available at https://dec.alaska.gov/air/anpms/communities/fbks-pm2-5-curtail-alert/. *See also*, State Air Quality Control Plan Vol. II, Chapter III.D.7.12 Fairbanks Emergency Episode Plan. *See, e.g.*, Alaska Department of Environmental Conservation, Division of Air Quality, FNSB Air Quality Stage 2 Alert, March 1, 2019 (included in Docket).
[67] 2nd Annual Report, Air Quality Control Program Implementation Status, Fairbanks North Star Borough $PM_{2.5}$ Nonattainment Area, Alaska Department of Environmental Conservation and Fairbanks North Star Borough, available at: https://dec.alaska.gov/air/anpms/communities/progress-annual-reports/.

50 percent credit towards other requirements such as the attainment projected emissions inventory, RFP, QMs, and the modeled attainment demonstration). In addition, consistent with CAA section 110(a)(2)(C), states are required to have a program to enforce SIP requirements. Similarly, the EPA determined that the State met the requirements for CAA section 110(a)(2)(E) with respect to adequacy of state legal authority, personnel, and resources need to implement the SIP. The EPA determined that Alaska satisfied these requirements in its latest approval of the State's $PM_{2.5}$ infrastructure SIP submission.[68] We note that a state's failure to implement a control measure could be the basis for a finding under CAA section 179 and that is likely the more appropriate authority to address any failure to enforce SIP measures. The EPA has made no such finding for Alaska, generally, nor the Fairbanks $PM_{2.5}$ Nonattainment Area, specifically.

Comment: One commenter questioned why use of electrostatic precipitators (ESPs) is not part of the control strategy.

Response: Alaska and the Fairbanks North Star Borough (FNSB) reviewed a requirement to install ESPs on woodstoves as part of its BACM analysis in the Fairbanks Serious Plan.[69] In the Fairbanks Serious Plan, the State also included a summary of current ESP requirements and the FSNB's research and assessment of the feasibility of using ESPs.[70] Ultimately, Alaska determined that requiring installation of ESPs was technologically infeasible. In addition, Alaska raised concerns that exempting persons

[68] Air Plan Approval; AK: Fine Particulate Matter Infrastructure Requirements, 83 FR 60769, November 27, 2018, at p. 60771.
[69] State Air Quality Control Plan, Volume III, Appendix III.D.7.07, at pp. 109-110, Adopted November 19, 2019.
[70] State Air Quality Control Plan, Volume II, Chapter III.D.7.07 at pp. 101-103, adopted November 19, 2019.

who install ESPs from having to comply with the curtailment program would be less stringent than the current requirements.

The EPA proposed to approve Alaska's determination that requiring ESPs is not technologically feasible. The EPA is finalizing this approval as proposed. Alaska's feasibility assessment identified several technological challenges to implementing the measure, including lack of professional installers, lack of standard performance certification methods, frequent system degradation, and frequent maintenance requirements from trained professionals.[71] The comment does not provide information to call Alaska's assessment into question. Alaska and the FNSB may continue to research the feasibility and efficacy of ESPs and potentially incorporate a requirement to install and operate ESPs into a future plan. Any future SIP revisions, however, must be consistent with CAA section 110(*l*).

Comment: One commenter requested that the EPA not approve the requirement to destroy woodstoves. The commenter asserted that backup heating sources are necessary. The commenter requested that the SIP allow change-outs without the need to destroy the existing woodstove.

Response: The EPA disagrees with these comments. First, in this action the EPA is evaluating the specific suite of control measures that the State identified, adopted, and submitted to the EPA to meet the BACM requirement for this source category. The EPA does not have the authority under the CAA to modify a SIP submission unilaterally or to disapprove a SIP provision in whole or in part on the basis of it being too stringent.[72]

[71] State Air Quality Control Plan Vol. III, Appendix III.D.7.7 at pp. 134-135.
[72] See CAA sections 110(k) and 116, 42 U.S.C. 7410(k) and 7416; see also *Union Elec. Co. v. EPA*, 427 U.S. 246, 256-257 (1976).

Second, the requirements that older, uncertified devices be rendered inoperable are an important component of Alaska's control strategy in the Fairbanks Serious Plan and Fairbanks 189(d) Plan.[73] Alaska's SIP requires, in pertinent part, that a person who owns a device that may not be reinstalled within the area to ensure the device is rendered inoperable when it is removed. The EPA agrees that this approach is technologically and economically feasible and is appropriate to assure that necessary emission reductions from this source category actually occur.

Alaska has also identified, adopted, and submitted provisions that requires an owner of a woodstove or pellet stove that does not have a valid certification from the EPA or a non-pellet fueled wood-fired hydronic heater to render the device inoperable before December 1, 2024, or before the device is sold, leased, conveyed as part of an existing structure, whichever is earlier. In each instance, the State has determined that the requirement to render the device inoperable is important to ensuring the emissions reductions are permanent and that older, uncertified devices are not reinstalled in a home or business. Again, the EPA agrees that this approach is technologically and economically feasible and is appropriate to assure that necessary emission reductions from this source category actually occur.

In addition, the FNSB operates a Wood Stove Change Out Program using EPA Targeted Airshed Grant funding.[74] A requirement to receive reimbursement for the new stove or furnace is to turn in the old device for recycling and to submit a Deed Restriction that restricts future installations of wood, pellet, and coal burning appliances on the

[73] See 18 AAC 50.077(*l*) - (m); 18 AAC 50.079(f).
[74] For information on the EPA's Targeted Airshed Program, see: https://www.epa.gov/air-quality-implementation-plans/targeted-airshed-grants-program.

property.[75] The conditions are important components to ensuring the integrity of the Wood Stove Change Out Program and the permanence of emissions reductions.

Comment: Several commenters suggested additional controls for the solid fuel heating device source sector including utilizing temperature sensors on woodstove flues to ensure compliance with the curtailment program and switching energy generation from fossil fuels to solar, hydro, and nuclear.

Response: The EPA understands the perspective of the commenters, but the commenters do not provide any specific support or explanation for why the additional measures they advocate are technologically or economically feasible as BACM measures in the Fairbanks $PM_{2.5}$ Nonattainment Area. In this action, the EPA is evaluating whether the control measures that the State has identified, adopted and submitted constitute BACM for this source category. Alaska conducted a review of available controls for the solid fuel heating device source category and did not identify temperature sensors or converting to renewable energy generation as potential control measures in the nonattainment area. Alaska's BACM identification and evaluation process for the solid fuel burning source category meets CAA requirements. Based on the analysis in the Fairbanks Serious Plan and the Fairbanks 189(d) Plan, the EPA has concluded that the existing measures do meet BACM and does not agree that the additional control strategies that the commenter suggest are required at this time.

To the extent that more measures may be required for attainment and maintenance of the NAAQS in this area in the future, the commenters may wish to continue to

[75] Voluntary Solid Fuel Burning Appliance Change Out Program Application, available at https://www.fnsb.gov/DocumentCenter/View/811/WoodPelletCoal-Appliance-Change-Out-Program-Application-PDF.

advocate for them in future SIP development processes. In addition, consistent with CAA section 116, Alaska has authority to adopt measures that are more stringent than required under the CAA, within certain limitations, and may elect to do so.

ii. Residential and commercial fuel oil combustion

a. Summary of Proposal

In order to satisfy the SO2 BACM and BACT requirements for the residential and commercial fuel oil combustion source category, Alaska adopted the regulation at 18 AAC 50.078(b) that imposes a limit of 1,000 parts per million sulfur (diesel #1) for residential and commercial heating. This is a switch from the currently available diesel #2 (approximately 2,000 parts per million sulfur) to diesel #1. However, as part of its BACM analysis, Alaska identified 10 other states and large municipal areas that have instituted ULSD home heating requirements and found this measure to be technologically feasible and economically feasible at a cost of $1,819 per ton SO_2 removed (SO_2 is a significant precursor in the Fairbanks nonattainment area). Alaska provided a number of community-based considerations were Fairbanks to undergo the switch from diesel #2 to ULSD. These considerations included potential collateral environmental impacts caused by greater fuel transportation requirements required to maintain an adequate ULSD supply in the Fairbanks $PM_{2.5}$ Nonattainment Area through the winter months.

The EPA noted that a state must adopt and implement an identified BACM unless the state demonstrates the potential measure is either technologically or economically infeasible. Alaska identified the ULSD requirement as BACM for this source category and its own analysis indicates this requirement is feasible. While the EPA acknowledged in the Proposal that implementing a fuel switch from #2 to ULSD may be challenging,

The EPA also stated that the challenges identified by Alaska in the Fairbanks Serious $PM_{2.5}$ and the Fairbanks Section 189(d) Plan were insufficient to support an infeasibility demonstration. The EPA stated in the Proposal that this is particularly so when many jurisdictions have successfully required ULSD as a control measure. The EPA also noted in the Proposal that reducing SO_2 emissions from this source category is particularly important to achieving expeditious attainment because conversions to liquid-fueled heating devices constitute the vast majority of activity in the woodstove changeout program. Thus, we proposed to disapprove Alaska's determination that the less stringent control measure imposing only the requirement to use diesel #1 under 18 AAC 50.078(b) meets BACM requirements for $PM_{2.5}$ and SO_2 emissions. However, we proposed to approve Alaska's analysis that found no NH_3-specific emission controls for this source category.

b. Final Rule

Based on comments received, the EPA is finalizing approval of portions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan, pertaining to the regulation at 18 AAC 50.078(b), as meeting the SO_2 BACM and BACT requirements for the residential and commercial fuel oil combustion source category. The EPA received significant comments, including a revised economic feasibility analysis from Alaska, that demonstrate that requiring ULSD for this source category is not economically feasible at this time. However, as discussed in detail in, Section II.D.7 of this preamble, this measure appears to be feasible as a contingency measure that, if adopted, could partially rectify deficiencies in the contingency measures submitted as part of the Fairbanks Serious Plan and Fairbanks 189(d) Plan.

c. Comments and Responses

The EPA summarizes major comments and responses below. For a detailed summary of relevant comments and the EPA's responses on this requirement, see the Response to Comments document included in the docket for this action.[76]

Comment: Several commenters questioned the technological feasibility of mandating ULSD use for the residential and commercial fuel oil combustion source category. These commenters argued that supplying sufficient ULSD to interior Alaska was not logistically feasible considering constrained rail and highway capacity.

Response: The EPA disagrees that requiring the use of ULSD for the residential and commercial fuel oil combustion source category is technologically infeasible. In the Fairbanks Serious Plan and Fairbanks 189(d), Alaska evaluated the logistical challenges but at that time Alaska concluded that this measure was technologically feasible.[77] While Alaska updated this information, we do not find that the updated information is sufficient to determine that the States' initial technological evaluation was flawed.

There are already sources in the Fairbanks $PM_{2.5}$ Nonattainment Area that are currently using ULSD fuel, so it is self-evident that it is technologically and logistically feasible for some amount of this fuel to be available today. Based on the comments, there appear to be options available to minimize wintertime logistical and supply issues. To address supply concerns, Alaska did evaluate the potential for building local storage. Commenters have asserted that refining ULSD locally has economic challenges, but we have not received any economic data to support this assertion.

[76] Response to Comments Regarding Best Available Control Measure Requirements for Residential and Commercial Fuel Oil Combustion on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan EPA-R10-OAR-2022-0115.
[77] State Air Quality Control Plan, Vol. III, Appendix III.7.7-5396, adopted November 18, 2020.

Comment: As part of its comments, Alaska submitted a revised economic feasibility assessment for mandating ULSD for this source category. In total, Alaska made eight distinct revisions to the cost-effectiveness analysis that Alaska submitted for ULSD with the Fairbanks 189(d) Plan. For example, Alaska updated the fuel use impacts from switching from 2,000ppm sulfur fuel to ULSD and changes in price premium for ULSD. Considering a number of scenarios in Alaska's updated analysis, Alaska revised its BACM determination to state that ULSD cost-effectiveness was calculated to range from $58,252 per SO_2 ton removed under low baseline oil market prices to $73,816 per SO_2 ton removed under high baseline oil market price conditions that currently exist in early 2023.

Response: The EPA evaluated Alaska's methodology for producing its cost effectiveness calculation submitted as part of its comments. The EPA agrees with some of Alaska's methods and variables and disagrees with others. The EPA produced a separate cost effectiveness calculation that builds off Alaska's comment, but incorporates only those methods and variables that the EPA determined are reasonable and well supported. The EPA's cost effectiveness calculation is located in the docket for this action.[78]

Overall, the EPA's updated cost effectiveness analysis leads to an overall cost ranging from $13,046 and $22, 893 per SO_2 ton removed. The lower-end of the range reflects incorporation of Alaska's estimate of individuals substituting fuel use for wood use—thus reducing overall ULSD expenses—in reaction to the price increase associated

[78] See the EPA FR Technical Support Document – ULSD residential and commercial fuel oil combustion, included in the docket for this action.

with using ULSD. The upper-end of the range does not incorporate this estimate. Given the variability in fuel prices and speculative basis for estimating residents' economic behavior given the ULSD mandate, the EPA believes that the upper-end of the estimate reflects more accurate and conservative assumptions about the cost effectiveness of mandating ULSD.

iii. Small commercial area sources

a. Summary of Proposal

Alaska identified BACM and BACT requirements for small area source categories as part of the Fairbanks Serious Plan and then updated those findings as part of the Fairbanks 189(d) Plan.

Alaska adopted a control measure for coffee roasters at 18 AAC 50.078(d) that required installation of an emissions control device unless the coffee roaster can demonstrate technological or economical infeasibility. In the Proposal, the EPA stated that, as written, the State rule purporting to implement this measure does not appear to be enforceable as a practical matter. The rule does not require use of emissions controls once installed, specify any emission limits, nor monitoring requirements with which the subject sources must comply. In addition, the rule contains a waiver provision based on the facility providing information demonstrating that the control technology is technologically or economically infeasible. This provision is not adequately specific or bounded and, thus, may bar effective enforcement (see 81 FR 58010, August 24, 2016, at p. 58047). In addition, the State must adopt permanent and enforceable control measures for this source category even if certain sources within the source category have existing

emissions controls. Therefore, the EPA proposed to disapprove Alaska's determination that 18 AAC 50.078(d) satisfies BACM for coffee roasters.

Alaska required commercial charbroilers to submit information to Alaska related to the type, operation, and performance of the device as part of the Fairbanks Serious Plan.[79] Based on the information provided, Alaska then conducted an economic analysis as part of the Fairbanks 189(d) Plan that assessed the cost of installing an available control measure, catalytic oxidizers, on each of the charbroilers in the nonattainment area. The State estimated the cost of installing catalytic oxidizers at $47,786 per ton of $PM_{2.5}$ removed (adjusted to 2019 dollars). Thus, Alaska ultimately determined that BACM is economically infeasible for this source.

While the EPA found that Alaska's economic analysis is a reasonable estimate of the cost of installing one potential emission control device, Alaska did not evaluate all available control measures. Currently available emission control devices include electrostatic precipitators (ESP), wet scrubbers, and filtration.[80] Moreover, Alaska did not explain whether there are chain-driven or underfire charbroilers in the Fairbanks Nonattainment Area, which have different considerations for emission controls.[81]

[79] 18 AAC 50.078(c).
[80] *See* Gysel, et al. (2018). Particulate matter emissions and gaseous air toxic pollutants from commercial meat cooking operations. *Journal of Environmental Sciences*, 65, 162– 170; Yang, et al. (2021). Transient plasma-enhanced remediation of nanoscale particulate matter in restaurant smoke emissions via electrostatic precipitation. *Particuology* 55, 43-47; New York City Department of Environmental Protection (February 2021). Certified Emission Control Devices for Commercial Under-Fired Char Broilers. Available at https://www1.nyc.gov/assets/dep/downloads/pdf/air/approved-under-fired-technology.pdf; Francis & R.E. Lipinski (2012). Control of Air Pollution from Restaurant Charbroilers. *Journal of the Air Pollution Control Association*, 27:7, 643-647, available at: https://doi.org/10.1080/00022470.1977.10470466.
[81] Yang, et al. (2021). Transient plasma-enhanced remediation of nanoscale particulate matter in restaurant smoke emissions via electrostatic precipitation. *Particuology,* 55, pages 43-47.

Therefore, the EPA proposed to disapprove Alaska's evaluation of, and BACM determination for, charbroilers.

Alaska identified and evaluated the prohibition of used oil burners as a potential BACM-level control measure. Alaska issued a regulation at 18 AAC 50.078(c) requiring owners and operators of used oil burners to provide certain information to assist Alaska in evaluating the feasibility of imposing the prohibition. Ultimately, Alaska did not adopt and submit any controls on used oil burners as part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan.

Alaska updated the BACM analysis in the Fairbanks 189(d) Plan to address environmental impacts if used oil burning were restricted in the Fairbanks $PM_{2.5}$ Nonattainment Area. According to the State, the only way to dispose of used oil in the nonattainment area is through burning and that limiting this disposal method would likely lead to dumping the used oil on land or water. While one factor the State may consider in demonstrating the technological infeasibility of a measure is collateral environmental impacts, the EPA stated in the Proposal that Alaska's evaluation is insufficient to demonstrate that prohibiting used oil burners is technologically infeasible. Notably, illegal dumping of used oil is prohibited under State and Federal laws.[82] Thus, the State and the EPA have a basis for preventing or mitigating any environmental impacts that may result from prohibiting used oil burning. The EPA indicated that requiring used oil generators to collect and ship used oil to a central disposal facility appears feasible. Because Alaska imposed no controls on this source category and did not adequately demonstrate that BACM for this emission source is technologically or economically

[82] 18 AAC 60.020; 33 U.S.C. 1321; 40 CFR 279.12.

infeasible, we proposed to disapprove Alaska's BACM evaluation and determination for use oil burners.

Similarly, incinerators are another source category subject to the information requirements under 18 AAC 50.078(c). However, after receiving information related to this source category, Alaska determined that there are no emission sources identified as incinerators in the Fairbanks nonattainment area and thus, evaluation of emissions controls is not necessary. We proposed to find that Alaska reasonably determined that there were no affected sources for this source category, therefore Alaska did not need to identify, adopt, or implement BACM and BACT for this source category in the Fairbanks $PM_{2.5}$ Nonattainment Area.

Overall, for small commercial area sources, we proposed to approve Alaska's BACM determination for incinerators (18 AAC 50.078(c)(2)). We proposed to disapprove Alaska's BACM determination for coffee roasters, charbroilers, and used oil burners for the reasons stated above (18 AAC 50.078(c)(1); 18 AAC 50.078(c)(3); 18 AAC 50.078(d)).

b. Final Rule

The EPA is finalizing approval of Alaska's BACM determination for incinerators. Based on comments received, the EPA is also finalizing approval of Alaska's BACM determination for charbroilers and used oil burners. By extension, the EPA is approving 18 AAC 50.055 as $PM_{2.5}$ BACM and BACT for the chairbroiler source category. The EPA is finalizing disapproval of Alaska's BACM determination for coffee roasters.

c. Comments and Responses

Comment: Several commenters generally opposed the EPA's proposed disapproval of Alaska's determinations with respect to small commercial areas sources on various grounds, including that these sources are insignificant contributors to pollution; focusing staff resources on evaluating controls on these sources diverts attention to addressing major contributors, such as woodstoves; and review of these sources would not be necessary if the EPA better administered the wood heater NSPS.

Response: The EPA disagrees with these comments. First, under the CAA and $PM_{2.5}$ SIP Requirements Rule, BACM and BACT are required for all sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors. In the $PM_{2.5}$ SIP Requirements Rule, the EPA expressly determined that given the nature of $PM_{2.5}$ that typically results from the combined emissions of many sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors that in the aggregate contribute to nonattainment, there should be no de minimis source category exemption.[83] Thus, even accepting the commenter's assertion that these small commercial areas sources are insignificant contributors to the overall nonattainment problem in Fairbanks, that would not be a valid basis for not identifying, adopting, and implementing BACM and BACT on these sources.

Second, the EPA acknowledges that evaluating potential controls on these sources takes time and requires staff and/or contractor resources. For this reason, the EPA engaged with ADEC early in the SIP development process for the Fairbanks Serious Plan and Fairbanks 189(d) Plan to provide guidance on these requirements so that ADEC would have the maximum amount of time to fulfill its obligations. The EPA disagrees, though, that evaluating controls, adopting regulations, and implementing and enforcing

[83] 81 FR 58010, August 24, 2016, at p. 58082.

those regulations are mutually exclusive. The CAA requires that states with a $PM_{2.5}$ nonattainment area to identify, adopt, and implement BACM and BACT. Moreover, the CAA requires that the state provide necessary assurances that, inter alia, it has adequate personnel, funding, and authority to carry out the SIP. Thus, Alaska was aware of the extent of its analytical, rulemaking, and enforcement obligations and ought to retain sufficient personnel to carry out those obligations. To the extent Alaska is reflecting on the burden of satisfying its obligations in the context of comments submit of this rulemaking, the EPA reiterates that it apprised Alaska of these obligations long before the instant action. Moreover, the EPA repeated the CAA BACM and BACT requirements in two comment letters submitted as part of the State's public comment processes for the Fairbanks Serious Plan and Fairbanks 189(d) Plan.[84]

Third, the EPA disagrees with the commenters' assertion that evaluating and imposing controls on small commercial area sources would not be necessary if the EPA better implemented the wood heater NSPS. The CAA and $PM_{2.5}$ SIP Requirements Rule required Alaska to implement BACM and BACT regardless of whether the EPA issued any NSPS for wood heaters. Moreover, BACM and BACT is generally independent of attainment needs. Thus, implementation of the NSPS does not alter Alaska's BACM and BACT obligations under the CAA.

Comment: Alaska asserted that, based on monitoring data, Alaska's control strategy has made significant progress towards attainment.

[84] ''EPA Comments on 2020 Department of Environmental Conservation (DEC) Proposed Regulations and SIP Amendments'' Letter from Krishna Viswanathan, Director, EPA Region 10 Air and Radiation Division to Alice Edwards, Director, ADEC Division of Air Quality, October 29, 2020; ''EPA Comments on 2019 DEC Proposed Regulations and SIP—Fairbanks North Star Borough Fine Particulate Matter'' Letter from Krishna Viswanathan, Director, EPA Region 10 Air and Radiation Division to Alice Edwards, Director, ADEC Division of Air Quality, July 19, 2019.

Additionally, some commenters referenced the improvement in air quality based on measured concentrations at the monitors in the Fairbanks $PM_{2.5}$ Nonattainment Area. Commenters specifically noted that concentrations have been cut in half generally and are below the NAAQS at the "downtown" monitor. There are three regulatory monitors currently operating in the Fairbanks $PM_{2.5}$ Nonattainment Area: Hurst Road, A Street, and NCore. The Hurst Road monitor, located in North Pole, has historically measured the highest concentrations of $PM_{2.5}$. The EPA acknowledges that measured concentrations of $PM_{2.5}$ at the Hurst Road Monitor have declined from 158 $\mu g/m^3$ in 2012 to 72 $\mu g/m^3$ based on 2019-2021 data.

Response: The EPA disagrees with the comment that the "downtown" monitor is measuring attainment of the NAAQS. The most recent monitor data at the NCore monitoring station, arguably the closest air quality monitor to the City of Fairbanks' downtown area, indicate concentrations of 43 $\mu g/m^3$. The A Street monitor, located in a portion of Fairbanks of expected maximum $PM_{2.5}$ concentrations, has not yet established an official 3-year Design Value to compare to the NAAQS. More importantly, however, all regulatory monitors in a nonattainment area must have three-year design values at or below the standard for the EPA to issue a Clean Data Determination or redesignate the area to attainment.[85] In addition, neither the A Street nor NCore monitoring stations have a complete three-year design value below the NAAQS. Finally, the EPA notes that Alaska established the A Street monitor location as a SLAMS $PM_{2.5}$ monitoring station to characterize expected maximum concentrations in the Fairbanks portion of the Fairbanks $PM_{2.5}$ Nonattainment Area. Thus, the A Street monitoring station, rather than the NCore

[85] 40 CFR 50.13(a) & (c); 40 CFR part 50, Appendix N, Section 3.0(a); 40 CFR 51.1015.

monitoring station is more representative of expected maximum concentrations in the Fairbanks portion of the nonattainment area. Finally, the EPA notes that an area's progress towards attainment does not affect the CAA's nonattainment planning obligations, particularly the BACM and BACT requirements. By extension, the BACM and BACT requirements are not suspended with a Clean Data Determination issued under 40 CFR 51.1015.[86] Thus, to the extent the commenters are suggesting that the control strategy in the Fairbanks Serious Plan and Fairbanks 189(d) Plan meet CAA requirements by virtue of reductions in measured air quality, EPA disagrees.

Comment: In its comments on the Proposal, Alaska proposed to develop a new regulation, replacing 18 AAC 50.078(d), to address the EPA's concerns and make its coffee roaster controls enforceable. Alaska plans to create a new regulation that will address the EPA's concerns and be submitted in a future SIP revision. The regulation will be structured as a 'permit-by-rule' which will contain substantive requirements that apply to coffee roasters over the 24 pounds per year emission threshold.

Alaska further noted that the coffee roasters in the Fairbanks $PM_{2.5}$ Nonattainment Area emit a very small amount of direct $PM_{2.5}$—far less than the solid fuel burning device source category. By extension, Alaska commented that spending time and resources on regulating coffee roasters diverts limited resources away from addressing the more significant sources of pollution and ultimately hinders expeditious attainment.

Response: The EPA proposed disapproval of Alaska BACM determination for coffee roasters because the State rule applicable to this source category, 18 AAC

[86] 40 CFR 51.1015(b) ("Upon a determination by the EPA that a Serious $PM_{2.5}$ nonattainment area has attained the $PM_{2.5}$ NAAQS, the requirements for the state to submit an attainment demonstration, reasonable further progress plan, quantitative milestones and quantitative milestone reports, and contingency measures for the area shall be suspended.").

50.078(d), was not enforceable as a practical matter. The EPA appreciates that Alaska indicated in its comments that the State is planning to address the identified deficiencies in this rule in a manner that meets BACM and BACT requirements and provides for basic enforceability. The EPA will evaluate the merits of the revised rule when the State submits it to the EPA as a SIP revision. The rule before the EPA remains insufficient for BACM and BACT purposes and we are finalizing the disapproval of this specific rule because it does not meet the BACM and BACT requirement.

Comment: In comments, Alaska revised its prior analysis of charbroilers located in the Fairbanks $PM_{2.5}$ Nonattainment Area and updated its cost analysis for emission controls. Alaska examined survey responses and queried other agencies to determine which types of charbroilers are present in the nonattainment area and found that only underfired charbroilers are present. As such, Alaska amended its analysis because it previously analyzed the cost-effectiveness of catalytic oxidizers, but that control technology is not viable for underfired charbroilers. Alaska stated that, based on the EPA's suggestion and its review of the literature and other SIPs, ADEC evaluated the feasibility of electrostatic precipitators (ESPs), wet scrubbers, and filtration as potential control technologies for underfired charbroilers.

Alaska stated that the EPA did not incorporate the visible emission limits in 18 AAC 50.055 as being part of BACT for charbroilers despite Alaska's inclusion of that regulation in its description of BACM for this emission category. Alaska further commented that the EPA must evaluate 18 AAC 50.055 as part of BACM for the underfired charbroilers in the Fairbanks $PM_{2.5}$ Nonattainment Area.

Alaska noted that, although Alaska believes this technology can be properly dismissed under Step 3 of the BACM analysis (related to technological infeasibility), Alaska also evaluated the economic feasibility of ESPs, wet scrubbers, and filtration as BACM for underfired charbroilers. ADEC analyzed the cost-effectiveness of these control technologies based on the most comprehensive economic analysis available, which was developed by the San Joaquin Valley Air Pollution Control District (SJVAPCD)[87]. Alaska adjusted the costs for inflation and the difference in labor costs between California and Alaska, plus projected shipping costs from the continental United States to Alaska.

Alaska stated that, according to SJVAPCD, it reported combined costs for ESP and filtration technologies as a range rather than a single number due to the variables involved in the cost estimates, including equipment type, simple or complicated configuration, age of the restaurant's infrastructure, and more. Installing new controls on existing restaurants can be expensive, requiring structural, electrical, or plumbing modifications, compared to new restaurants that can integrate emission controls into the design. Based on SJVAPCD's reasoning, Alaska chose to use this same approach of presenting cost-effectiveness as a range rather than as a single number.

For the Fairbanks $PM_{2.5}$ Nonattainment Area, Alaska found the range of cost-effectiveness for installing an ESP for an underfired charbroiler to be between $41,467 and $528,940 per ton of $PM_{2.5}$ removed, based on a removal efficiency of 86 percent. Alaska found the range of cost-effectiveness of installing a filtration system for an

[87] Review of the San Joaquin Valley 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards, *California Air Resources Board*, Staff Report, December 21, 2018; Revision to the California State Implementation Plan for $PM_{2.5}$ Standards in the San Joaquin Valley, *California Air Resources Board*, Staff Report, April 24, 2020. Both documents are included in the docket for this action.

underfired charbroiler to be between $44,577 and $568,610 per ton of $PM_{2.5}$ removed, based on a removal efficiency of 80 percent.

Alaska stated that the cost-effectiveness analysis for filtration represents wet scrubbers, because wet scrubbers require filtration. Alaska stated that a wet scrubber is essentially a fine stream of water and detergent that washes the particulates from the underfired charbroiler's exhaust, which passes through a filtration system before discharging to the sewer. Therefore, Alaska stated that the cost estimates developed for ESP and filtration systems conservatively represent the cost estimates for wet scrubbers, because wet scrubbers are an additional cost upstream of filtration systems.

Alaska stated that its review demonstrates that control measures for underfired charbroilers are technologically and economically infeasible for the Fairbanks $PM_{2.5}$ Nonattainment Area. Alaska based its prior analysis on chain-driven charbroilers and found that catalytic oxidizers were technologically but not economically feasible as BACM.[88] Updated information and further research indicated the presence of only underfired charbroilers in the nonattainment area, and the controls for underfired charbroilers are different. Alaska evaluated the technological and economic feasibility analysis for ESP, filtration systems, and wet scrubbers for underfired charbroilers and found all controls to be technologically and economically infeasible as BACM.

Response: In the Proposal, the EPA explained that the State had not adequately identified and evaluated potential control measures for this source category. For example, the State's analysis did not identify the types of charbroilers located in the Fairbanks $PM_{2.5}$ Nonattainment Area. Similarly, the State did not consider and evaluate different

[88] Note, in the Proposal, the EPA proposed to concur with this aspect of Alaska's analysis.

forms of control measures that exist for each of the two kinds of charbroilers. Instead, the State only identified one potential control measure for one type of source and claimed this this one form of control measure would not be economically feasible. Thus, the EPA explained that the State had not properly identified, evaluated, and adopted control measures to meet the BACM requirement for this source category.

Comments on the Proposal provided by Alaska have filled the analytical gaps. Alaska has gathered additional information to determine that all existing charbroilers in Fairbanks are underfired charbroilers. ADEC sent letters to restaurants requesting information on charbroilers at each establishment. Of all those who responded that the restaurant had a charbroiler, all stated that they were underfire charbroilers. Alaska further confirmed with the Alaska Department of Environmental Conservation's Environmental Health Division, State Fire Marshalls, and third-party inspectors that there were no chain-driven charbroilers in the area. The State also identified the range for potential control measures for this type of source, including an ESP, wet scrubber, or filtration, based on findings from San Joaquin Valley Air Pollution Control District staff reports. Alaska noted that The State evaluated the technological feasibility based on a review of charbroiler regulations from San Joaquin Valley Air Pollution Control District, South Coast Air Quality Management District, Bay Area Air Quality Management District, Utah Department of Environmental Quality, and the New York City Department of Environmental Protection. Finally, Alaska performed a cost analysis for each of these control technologies and provided an estimated range of costs for installing relevant emission controls, which is included in the docket for this action.

Alaska evaluated the annual costs of installing emission controls for under-fire charbroilers in new and existing restaurants. An ESP device was estimated to have an 86 percent control efficiency, while filtration was estimated to have 80 percent (wet scrubbers were assumed to perform similar control efficiency as filtration). Estimated costs were based on prior analyses by SJVAPCD and adjusted for higher costs in Alaska. Alaska estimated that installation costs in existing restaurants are twice the cost of new restaurants. Alaska's analysis estimates an annual cost in new restaurants ranging from $12,817 to $157,447, to install and operate emission controls. Such a range was based on equipment type, simple or complicated configuration, age of the restaurant's infrastructure, and more. Based on the control efficiencies, estimated cost effectiveness figures for ESP in new restaurants ranged from $41,467 to $506,171; while filtration ranged from $50,696 to $568,610.

The EPA finds that Alaska's cost calculations are appropriate for each of the control options and agree with the State that installing charbroiler emission controls is economically infeasible at this time. The EPA is thus finalizing approval of Alaska's $PM_{2.5}$ BACT and BACT determination that controls for charbroilers are economically infeasible at this time. The EPA agrees with Alaska's comment that the visible emission limit in 18 AAC 50.055 limit the direct $PM_{2.5}$ emissions from charbroilers. As a result, the EPA finds that the visible emission limit in 18 AAC 50.055 constitutes BACM for the charbroiler source category.

Comment: In its comments, Alaska evaluated the technological and economic feasibility of shipping used oil via the FNSB Solid Waste Division facility (Option 1). Alaska also evaluated the option of purchasing, operating, and maintaining a centrifuge

facility in Fairbanks to process used oil from all used oil generators in the community (Option 2).

In evaluating both options, Alaska reviewed data from 2010 and 2020 on used oil. In 2010, Alaska surveyed 25 local auto shops on used motor oil usage data. The survey estimated the total amount of unprocessed used motor oil used for burning purposes to be 135,100 gallons per year. In 2020, after adopting 18 AAC 50.078(c), Alaska sent 129 requests to possible businesses that may have a used oil burner in the Fairbanks $PM_{2.5}$ Nonattainment Area. Alaska received 47 responses to the requests for information. Of the responses received, 31 verified that there is no used oil burner present at the business location and 16 verified that there is a used oil burner present at the location. Some businesses had multiple used oil burners for a total of 19 used oil burners. Due to varied results concerning the fuel quality and quantity, Alaska did not find the 2020 collected data to be useful information. Thus, between the two data collection efforts, Alaska found the survey information obtained in 2010 to be comprehensive and based its evaluation of Options 1 and 2 on this information.

Alaska noted that the local solid waste facility already has a program in place as described above for accepting used oil from residents and very small quantity generators limited to 26 gallons (approximately 100 kilograms) of used oil per month. However, the facility does not accept used oil from large-quantity generators producing greater than 26 gallons per month. Due to this limitation, Alaska would have to explore other alternatives for large-quantity generators of used oil and Option 1, therefore, is only partly technologically feasible.

In evaluating economic feasibility, Alaska assumed the emissions reduction to be 50 percent since there is no information on the fraction of used oil used for direct combustion versus disposal (while shipping the used oil compared to disposal will result in 100 percent emissions reduction, replacing used oil for combustion will not result in 100 percent reduction as burning used oil results in additional emissions). As demonstrated by the cost-effectiveness calculations provided along with this comment, the cost-effectiveness for Option 1 is found to be $730,182 per ton of $PM_{2.5}$ emissions reduction. The higher shipping cost per gallon and a lower reduction in emissions drive the higher cost-effectiveness numbers.

To evaluate the technological feasibility of Option 2, Alaska reached out to commercial vendors and referred to publicly available information from online vendors and the Fairbanks North Star Borough Solid Waste Division. Based on that information, Alaska found Option 2 to be technologically feasible (in terms of shipping and maintenance required for different components of the centrifuge facility).

In evaluating economic feasibility, Alaska assumed 100 percent emissions reduction by processing the used oil at the centrifuge facility. Costs to establish a centrifuge facility consist of building costs, equipment costs (consisting of centrifuge, tankage, and forklift), labor, and operational and maintenance costs. Discussions with commercial vendors highlighted that centrifuging used oil (e.g., motor oil, cooking oil, and oil containing animal fat) is a labor-intensive process as the oil must be separated due to the differences in boiling point. As demonstrated by the cost-effectiveness calculations provided along with this comment, the cost-effectiveness for Option 2 is found to be $653,989 per ton of $PM_{2.5}$ emissions reduction.

Based on Alaska's additional technological and economic feasibility analysis, Alaska's dismissal of Measure 70 is unchanged. The combustion of used oil is the only acceptable disposal method available in the Fairbanks $PM_{2.5}$ Nonattainment Area without shipping the used oil to a central facility at Anchorage or processing it at a centrifuge facility in Fairbanks. While Alaska found both options to be partly or fully technologically feasible, the economic analysis resulted in high cost-effectiveness numbers due to higher costs and minimal emissions reduction. Due to economic infeasibility, Alaska dismissed this measure as BACM in the Fairbanks $PM_{2.5}$ Nonattainment Area.

An additional comment noted that burning used oil is cost efficient and responsible compared to trucking it off site.

Response: The EPA proposed to disapprove Alaska's BACM analysis for used oil burners because Alaska's initial justification for not adopting control measures was not sufficient to demonstrate the measure was infeasible. In comments, Alaska provided additional information concerning potential control strategies that would achieve emission reductions and has assessed the economic feasibility these strategies.

Based on the additional facts and analysis that the State has provided, the EPA agrees that there is a significant cost to reducing $PM_{2.5}$ for this emission source category. However, we observed in the data provided by Alaska that for the waste oil emission estimates there are considerably more SO_2 emissions than $PM_{2.5}$ emissions, and thus potential for greater reductions in SO_2.[89] Alaska estimated SO_2 emissions of 0.0185 tons per day from waste oil (compared to 0.0026 tons per day for $PM_{2.5}$). Alaska estimates

[89] ADEC comments on the Proposal, Docket Identification No. EPA-R10-OAR-2022-0115-0353-A5.

135,150 gallons per year of waste oil is produced Fairbanks. By applying the SO_2 emission factor (instead of $PM_{2.5}$) into the cost calculations for each of the two options, the EPA estimates a cost effectiveness value of $102,838 per SO_2 ton reduced for Option 1 and $92,107 per SO_2 ton reduced for Option 2. While considering SO_2 emission reductions provides a more reasonable estimate of benefits, we agree with Alaska that Measure 70 – banning used oil burners is economically infeasible as BACM at this time.

iv. Energy efficiency and weatherization measures

a. Summary of Proposal

In the Proposal,[90] the EPA proposed disapproval of Alaska's BACM analysis with respect to potential energy efficiency and weatherization measures. The State had provided a number of reasons for declining to adopt and implement any such measures, each of which the EPA proposed to reject as bases to not adopt weatherization and energy efficiency measures. Specifically, the EPA noted the State and local government have the authority to require adequate insulation in buildings, particularly new construction. Therefore, the State's reliance on the ostensible lack of authority is not a valid justification for rejecting this type of control measure. In addition, the EPA stated in the Proposal that the just because emissions benefits are hard to quantify does not mean there are no emissions benefits. As stated above, the BACM requirement is generally independent of attainment needs. Finally, a state cannot reject a measure just because another jurisdiction has not adopted and implemented the measure.[91].

b. Final Rule

[90] The EPA Technical Support Document – control measures. EPA-R10-OAR-2022-0115-000004, at p. 34.
[91] See 81 FR 58010, August 24, 2016, at p. 58085.

The EPA is finalizing disapproval of Alaska's BACM analysis and determination that no weatherization or energy efficiency type measures are required for purposes of BACM in the Fairbanks area. As noted in the responses to comments, the EPA encourages Alaska to evaluate this type of control measure and to identify, adopt, and implement all feasible measures as part of a subsequent SIP submission.

c. Comments and Responses

Comment: Several commenters asserted that improving building energy efficiency and weatherization practices are important strategies for reducing wood burning and improving air quality in the Fairbanks $PM_{2.5}$ Nonattainment Area. One commenter stated that most homes in the Fairbanks North Star Borough were built in the 1970s and 1980s.

Response: The EPA agrees with the commenters that improving energy efficiency and weatherization practices is an important strategy for reducing the amount of wood, and other fuels, combusted in the Fairbanks $PM_{2.5}$ Nonattainment Area and, thus, improving air quality. This is particularly important given the age of many homes in the Fairbanks $PM_{2.5}$ Nonattainment Area, because older homes may not meet modern energy efficiency building standards. In conjunction with other measures that Alaska has imposed to address source categories such as wood fired heating devices, reducing the usage of such sources through improved weatherization and energy efficiency would further reduce resulting emissions from these sources.

Comment: One commenter opposed the EPA's proposed disapproval of Alaska's rejection of weatherization measures, asserting that such measures are unrealistic.

Response: The comment does not provide a basis for its assertion that weatherization requirements are unrealistic or that imposing any weatherization

requirement or program will be harmful. Nor does the comment provide a basis for demonstrating that all weatherization measures or programs are infeasible in the Fairbanks $PM_{2.5}$ Nonattainment Area.

The EPA notes that the Alaska Community Development Corporation offers a weatherization assistance program using Alaska Housing Finance Corporation and U.S. Department of Energy Funding.[92] This program reflects the energy efficiency benefits of weatherization and demonstrates the feasibility of implementing weatherization programs in Alaska. The EPA also notes there has been significant research and technological advances related to building and retrofitting homes in arctic and sub-arctic environments that also illustrates the feasibility of such measures.[93] Thus, the comment does not provide a basis for the EPA to approve Alaska's rejection of any weatherization and energy efficiency measures as BACM and BACT for sources in Fairbanks $PM_{2.5}$ Nonattainment Area.

Comment: Alaska commented that, in response to the EPA's proposed disapproval with respect to this issue, the State conducted a thorough review of weatherization and energy efficiency programs throughout the continental United States. Alaska also performed a deeper investigation of local efforts that it had not accounted for in Alaska's SIP submission to evaluate an emissions reduction commitment in the SIP. Based on this review, Alaska identified weatherization programs that fall into three board categories: (1) Public Education and Outreach Programs; (2) Energy Audits; and (3) Building Energy Codes.

[92] *See* Alaska Community Development Corporation, Weatherization Assistance Program, http://www.alaskacdc.org/weatherization-assistance-program.html.
[93] *See* Cold Climate House Research Center, Retrofits, available at http://cchrc.org/retrofits/.

With respect to public education and outreach programs, Alaska identified existing weatherization related programs implemented by the San Joaquin Valley Air Pollution Control District and Sacramento Metropolitan Air Quality Management District. These programs include educating the public on the effects of air pollution on health and dissemination of weatherization information in the form of pamphlets, brochures, and other materials.

Alaska also identified and evaluated weatherization-type controls implemented though building energy codes. Alaska identified several jurisdictions that incorporate building energy codes in SIP provisions, including the South Coast Air Quality Management District ("SCAQMD") and Dallas-Ft Worth Texas Commission of Environmental Quality.

In addition, Alaska evaluated programs that perform energy audits. Alaska identified energy audit programs implemented in the City of Berkeley, San Francisco, California; Boulder, Colorado; Burlington, Vermont; and Ann Arbor, Michigan. According to Alaska, the City of Berkeley adopted its Building Energy Saving Ordinance ("BESO") in 2015. BESO requires homeowners to complete energy efficiency assessments and publicly report the building's energy efficiency information. This assessment and reporting requirement is triggered by a sale, transfer, or renovation, and at specified intervals based on a phase-in schedule.

Alaska noted that it has several voluntary programs to provide weatherization measures, provide education and outreach, and improve energy efficiency. For example, the Alaska Housing Finance Corporation ("AHFC") energy programs have continued to be implemented in the Fairbanks nonattainment area since Alaska adopted them as a

voluntary measure under the Fairbanks Moderate Plan. Currently, AHFC offers an energy efficiency interest rate reduction ("EEIRR") program, home energy loan program, and weatherization program. These programs are designed to make homes more energy efficient and reduce the amount of fuel and electricity required for power and heating purposes thereby leading to reduced emissions and air quality benefits.

In Fairbanks, the program is implemented by Interior Weatherization, Inc., ("Interior Weatherization") a non-profit corporation founded in 1985. The program provides low- and moderate-income households with improvements to their homes at no cost to increase the energy efficiency of a dwelling. The organization's website states that it weatherizes approximately 500 homes each year and that it has improved over 5,000 homes since its inception.

Alaska also identified the Heating Assistance Program, administered by the Alaska Department of Health, which offsets the cost of home heating for households with income at or below 150% of the Federal poverty income guidelines, the Alaska Energy Authority's Energy Efficiency and Conservation education and outreach campaign, and the Southwest Alaska Municipal Conference's low-cost energy audits and grant assistance to small businesses and commercial fishers as ongoing voluntary programs.

With respect to building codes, according to Alaska, the AHFC has established Building Energy Efficiency Standards ("BEES") to improve energy efficiency in the construction of new buildings. The BEES set standards for thermal resistance, air leakage, moisture protection, and ventilation. The AHFC requires these standards to be met only for buildings built on or after January 1, 1992, if the owner applies for AHFC financial assistance.

Alaska noted in its comments that implementation of these types of programs in Alaska varies depending on the availability of contractors to perform the work, funding levels, and changes in congressional authorizations. Alaska made clear that all such programs are voluntary and therefore do not provide enforceable emission reductions.

Alaska commented that it does not intend to adopt any building energy efficiency codes or mandatory weatherization requirements due to limitations on ADEC's legal authority. Alaska stated that the City of Fairbanks is a home rule municipality that has exclusive authority to enforce a specific building code and the City has, indeed, enacted several discrete code provisions that could authorize certain weatherization measures. Because the City is a home rule entity with certain constitutional powers, the State would have to enact a statute to preempt the City's building code authority before Alaska could issue a regulations package requiring additional or new insulation. Thus, as of the date of this comment, neither the State nor the Borough has the authority to enact and enforce a building code measure that overlaps the authority of the City.

Alaska stated that outside Fairbanks city limits, but within the Fairbanks North Star Borough, the Borough implements the $PM_{2.5}$ Air Quality Control Program which includes voluntary home heating source removal funding. However, in 2018 voters approved the Home Heating Reclamation Act which precludes the Borough from "in any way" regulating, prohibiting, curtailing, banning, or issuing fines or fees associated with the sale, distribution, installation, or operation of solid fuel heating appliances or any type of combustible fuels. Thus, according to Alaska, even though the Borough may have the authority to provide for air pollution control by virtue of Alaska Statute (AS) 29.35.210

and AS 46.14.400, the Borough cannot exercise that authority. According to Alaska, the Borough does not have the authority to enact and enforce a building code.

Alaska commented that it may have some State law authority to adopt and enact weatherization measures such as insulation requirements pursuant to AS 46.03.020 (10) and AS 46.14.030 within the Borough. However, Alaska commented that it lacks the technical expertise to implement such a measure and that such measures would be economically infeasible due to the implementation and enforcement costs and small emission reduction benefits.

Alaska also commented that weatherization and energy efficiency measures would not be necessary or required if the EPA had not failed to correctly test and certify wood stoves under the NSPS. Alaska commented that improving the efficiency of the residence is necessarily subsequent to the heating process – it is a reaction to the source (e.g. the stove). According to Alaska, the heating source was purchased and installed on the basis that it did not exceed emission standards and was tested and certified as such. Thus, Alaska concluded, consideration and adoption of weatherization and energy efficiency measures is only necessary due to the EPA's failure to property test and certify wood stoves.

Finally, Alaska commented that to address the EPA's disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan for lack of energy efficiency and weatherization control measures it will propose a regulation requiring a robust advertising and education program to the citizens of Fairbanks North Star Borough and will include 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 also commented that it will disseminate weatherization information in the form of pamphlets or brochures.

In addition, Alaska commented that it plans to implement a regulation requiring energy efficiency audits for buildings at the time of conveyance. The regulation will consist of a building owner completing an energy efficiency assessment with a licensed energy assessor. This measure will require the owners to pay for the audit. Any improvements identified by the assessor are voluntary. Alaska noted the difficulty of implementing this measure due to lack of qualified energy auditors in the Fairbanks North Star Borough.

Response: The EPA disagrees with the Alaska's view that no weatherization- or energy efficiency-type control measures are needed to meet BACM requirements in the Fairbanks area. The EPA appreciates that the State did further investigation and analysis of the types of measures that, if adopted, might meet BACM requirements for the Fairbanks $PM_{2.5}$ Nonattainment Area. This additional analysis illustrates the types of measures that other jurisdictions have enacted as SIP provisions to achieve this objective.

The EPA acknowledges the various voluntary incentive programs in Alaska for energy efficiency upgrades and weatherization. These measures, however, do not appear to meet the EPA guidelines for enforceability and SIP emission reduction credit.[94] The EPA also notes that the City of Fairbanks and City of North Pole have adopted building and energy efficiency codes; however, these codes are not included in Alaska's SIP and

[94] See $PM_{2.5}$ SIP Requirements Rule, 81 FR 58010, August 24, 2016, at p. 58139; see also U.S. Environmental Protection Agency, Office of Air and Radiation, Incorporating Emerging and Voluntary Measures in a State Implementation Plan (SIP), September 2004, available at https://www.epa.gov/sites/default/files/2016-02/documents/emerging_vol_measures.pdf.

only cover a portion of the Fairbanks $PM_{2.5}$ Nonattainment Area.[95] Alaska's comment indicates that several jurisdictions have implemented different forms of energy efficiency and weatherization programs beyond Alaska's voluntary measures. This supports the EPA's disapproval of Alaska's rejection of these measures.

Alaska misconstrues the EPA's statements regarding authority. First, Alaska cited a lack of authority as a basis for technological infeasibility of weatherization and energy efficiency measures. In the Technical Support Document reviewing this determination, the EPA stated that the State and local governments have the authority to require adequate insulation in buildings, particularly new construction.[96] The CAA requires states to provide necessary assurances that "the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local government for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof)."[97]

By "State," the EPA did not mean merely ADEC, but the State of Alaska.[98] A state is required to have legal authority under state law to meet CAA requirements. A state may under state law elect to share its authority and responsibility for meeting CAA

[95] City of Fairbanks Ordinance 6153; City of North Pole Code 15.12.010.
[96] Jentgen, M. (September 27, 2022). *Technical support document for Alaska Department of Environmental Conservation's (ADEC) control measure analysis, under 40 CFR 1010(a) and (c)*. U.S. Environmental Protection Agency, Region 10, Air and Radiation Division.
[97] CAA section 110(a)(2)(E)(i), 42 U.S.C. 7410(a)(2)(E)(i).
[98] CAA section 302(d), 42 U.S.C. 7602(d).

requirements with local governments.[99] Having done so, however, it is not appropriate for a state to claim that it cannot meet a CAA requirement due to this division of authority and responsibility.

The legislative power of the State is vested in the Legislature.[100] Regarding Home Rule Cities and Boroughs, the EPA acknowledges that certain home rule cities and borough may have exclusive legislative powers under the Constitution of the State of Alaska, including building codes. This does not mean that no State or local government has authority to enact weatherization or energy efficiency measures, but merely means that the home rule city or borough must do so. The EPA approved SIPs often include city and county ordinances for this reason.[101] Such local control may mean that multiple city and borough ordinances need to be incorporated into a state's SIP and approved by the EPA to ensure coverage across a particular nonattainment area. With respect to the economic feasibility of implementing weatherization measures and building codes, the cost to the state or local agency of administering a control measure is not a valid consideration when evaluating the economic infeasibility of the measure nor a valid basis for not implementing an otherwise feasible measure.

The EPA also disagrees with the commenter's assertion that weatherization and energy efficiency measures are only necessary because certain woodstoves operated in the nonattainment area do not meet the NSPS. The EPA rejects the premise that weatherization and energy efficiency measures are necessarily a reaction to the heating source or that the emission performance of a space heater correlates to the energy

[99] 40 CFR 51.232.
[100] The Constitution of the State of Alaska, Article II, Section 1.
[101] *See, e.g.*, 40 CFR 52.70(c), Table 3.

efficiency or insulation of the home. Weatherization and energy efficiency measures, such as increased insulation, improve the retention of space heat regardless of the source of such heat and regardless of air pollutant emissions (if any) from that source.[102] Thus, improved weatherization and energy efficiency have the potential to reduce emissions from all space-heating source categories—not just the solid fuel burning source category.

Moreover, the EPA believes that improved heat retention means less fuel use, which means less cost to the resident.[103] As a result, better heat retention can reduce costs for all residents and may make switching to higher cost fuels more affordable for residents. In contrast, poor weatherization and energy efficiency can undermine advances in the emissions performance of space heaters because it forces the operator to burn more fuel to heat a volume of air. Thus, the EPA's position remains that disapproval of Alaska's rejection of this measure is appropriate.

In response to the Proposal, Alaska's comments indicate that the State intends to evaluate and adopt additional measures to address weatherization and energy efficiency. For example, the State indicated its intention to propose a regulation to require a more robust advertising and education program to advise residents of best practices to improve energy efficiency, and about available economic and practical mechanisms to improve energy efficiency, analogous to such efforts in other jurisdictions. Likewise, the State indicated that it intends to evaluate and adopt a regulation related to energy efficiency audits, analogous to efforts in other jurisdictions. The EPA will review Alaska's revised

[102] See U.S. Department of Energy, Energy Saver – Insulation, available at https://www.energy.gov/energysaver/insulation.
[103] *Id.* See also, U.S. Environmental Protection Agency, Energy Resources for State and Local Governments, Local Residential Energy Efficiency, available at https://www.epa.gov/statelocalenergy/local-residential-energy-efficiency.

energy efficiency and weatherization measures once Alaska formally submits them to the EPA as part of a SIP revision. Consistent with the CAA and $PM_{2.5}$ SIP Requirements Rule, the EPA encourages Alaska to identify, adopt, and implement all feasible energy efficiency and weatherization measures.

v. Emissions from mobile sources

a. Summary of Proposal

Alaska identified and evaluated several mobile source emission reduction measures and other transportation control measures as potential BACM for purposes of the 2006 24-hour $PM_{2.5}$ NAAQS in the Fairbanks $PM_{2.5}$ Nonattainment Area. These measures included: California Air Resources Board (CARB) vehicle standards (Measure 54); school bus retrofits (Measure 55); road paving (Measure 56); controls on road sanding and salting (Measure 58); a vehicle inspection and maintenance (I/M) program (Measure 59); vehicle idling restrictions (Measure 60); and Other transportation control measures (Measures 57 and R20) including high-occupancy vehicle (HOV) lanes, traffic flow improvements, non-motorized traffic zones; employer-sponsored flexible work schedules, diesel fleet retrofitting (school buses, transit fleets), an on-road vehicle I/M program; a heavy-duty vehicle I/M program, and a low-emission vehicle (LEV) program. Alaska rejected each of these measures as either technologically infeasible, economically infeasible, providing low emissions reductions benefits, or because emissions reductions benefits are difficult to quantify.

The EPA proposed to approve in part and disapprove in part Alaska's BACM determinations with respect to these potential measures. Specifically, the EPA proposed to approve Alaska's rejection of the CARB vehicle standards (Measure 54) as

economically infeasible. The EPA proposed to approve Alaska's rejection of school bus retrofits (Measure 55); road paving (Measure 56); and controls on road sanding and salting (Measure 58) as technologically infeasible. Finally, the EPA proposed to approve Alaska's rejection of a vehicle I/M program (Measure 59) because such a program only reduces NO_X and VOC emissions and the EPA proposed to approve Alaska's precursor demonstration that shows NOx and VOCs are not significant precursors to $PM_{2.5}$ formation in the Fairbanks $PM_{2.5}$ Nonattainment Area.

The EPA also proposed to approve Alaska's determination that no NH_3-specific emission controls exist for this source category. However, the EPA proposed to disapprove Alaska's rejection of vehicle idling restrictions (Measure 60) and other transportation measures (Measures 57 and R20)[104] as BACM. In support of its proposed disapproval, the EPA noted that Alaska did not demonstrate that these specific measures were either technologically or economically infeasible. The EPA further noted that BACM is generally independent of attainment needs and that Alaska cannot reject potential BACM merely because the emissions from a source category are de minimis. Finally, the EPA stated that certain on-going transportation programs for which Alaska took credit were not included in the SIP submission.

b. Final Rule

The EPA is finalizing approval of Alaska's rejection of the CARB vehicle standards (Measure 54) as economically infeasible, as proposed. The EPA is likewise finalizing approval of Alaska's rejection of school bus retrofits (Measure 55) road paving

[104] Measure R20 includes: HOV lanes; Traffic flow improvement program; Create non-motorized traffic zones; Employer-sponsored flexible work schedules; Retrofit diesel fleet (school buses, transit fleets); On-road vehicle I/M program; Heavy-duty vehicle I/M program; and State LEV program.

(Measure 56); and controls on road sanding and salting (Measure 58) as technologically infeasible, as proposed. The EPA is also finalizing approval of Alaska's rejection of a vehicle I/M program (Measure 59), as proposed. The EPA is also finalizing its approval of Alaska's determination that no NH_3-specific emission controls exist for this source category.

Based on comments received, the EPA is finalizing approval in part and disapproval in part of Alaska's rejection of vehicle idling restrictions (Measure 60) and Other Transportation Measures (Measures 57 and R20). Specifically, the EPA is finalizing approval of Alaska's rejection of vehicle idling restrictions for heavy-duty diesel vehicles as economically infeasible. The EPA is finalizing disapproval of Alaska's rejection of vehicle idling restrictions for light-duty vehicles at schools and commercial establishments. The EPA is finalizing approval of Alaska's rejection of other transportation measures (Measures 57 and R20) as either technologically infeasible (HOV lanes) or economically infeasible (traffic flow improvements, diesel retrofit projects, and ridesharing programs).

c. Comments and Responses

The EPA received no comments regarding its proposed approval of Alaska's rejection of the CARB vehicle standards (Measure 54), school bus retrofits (Measure 55), road paving (Measure 56); controls on road sanding and salting (Measure 58); and Vehicle I/M program (Measure 59) as either technologically or economically infeasible. The EPA received no comments regarding its proposed approval of Alaska's determination that no NH_3-specific emission controls exist for this source category.

The EPA received one comment supportive of imposing vehicle idling restrictions. The EPA received several comments opposing the EPA's Proposal to disapprove Alaska's rejection of vehicle idling restrictions (Measure 60) and other transportation measures (Measures 57 and R20).

Comment: One commenter stated that "vehicle pollution is a smaller component of the problem. Idling vehicles in parking lots create a lot of exhaust. Just like burning wood on bad days, vehicle idling needs to be curtailed."

Response: The EPA agrees with the commenter that idling vehicles in parking lots creates exhaust which degrades air quality, particularly during air stagnation events. The EPA also agrees that absent a credible technological or economic infeasibility demonstration, Alaska should impose vehicle anti-idling restrictions. As discussed in the following paragraphs of this preamble, the EPA is disapproving Alaska's determination that anti-idling measures are technologically and economically infeasible. The EPA encourages Alaska to adopt and implement an anti-idling regulation and incorporate this regulation into a subsequent SIP submission.

Comment: Alaska opposed the EPA's proposed disapproval of Alaska's rejection of vehicle idling restrictions and Other Transportation Measures on three main grounds: (1) Alaska did not predicate its rejection of the measures on a determination that the mobile source category is de minimis and its initial rejection of the measures was consistent with the CAA, $PM_{2.5}$ SIP Requirements Rule, EPA guidance, and other prior EPA actions on other state's SIPs; (2) certain measures are approved into the Alaska SIP; and (3) the measures are infeasible based on a supplementary analysis.

Alaska asserted that it did not reject the control measures based on a determination that the source category was de minimis. Alaska stated that it did not determine that the mobile source category had a de minimis contribution to $PM_{2.5}$ levels or predicate dismissal of the control measures on that basis. Rather, Alaska dismissed the measures as technologically infeasible. Alaska also noted that the EPA inconsistently interpreted and applied the $PM_{2.5}$ SIP Requirements Rule in proposing to disapprove Alaska's BACM analysis for the mobile source category. Specifically, Alaska cited to two prior EPA actions approving nonattainment plans submitted by South Coast Air Quality Management District and San Joaquin Air Quality Management District that rejected certain control measures as technologically infeasible on similar grounds as Alaska.

As to whether certain measures were SIP approved, Alaska asserted that the EPA approved expanded availability of plug-ins and an ordinance mandating electrification of outlets at certain temperatures as RACM in the Fairbanks Moderate Plan. Alaska also commented that all ongoing transportation programs in the approved Fairbanks Moderate Plan are transportation control measures for conformity purposes.

Finally, Alaska provided supplemental economic infeasibility demonstrations for HOV lanes, traffic flow improvements, anti-idling measures, diesel retrofit projects, and ridesharing programs. Regarding HOV lanes, ADEC evaluated the feasibility of constructing an HOV Lane on the Steese Expressway, a four-lane divided highway in the area. As part of its assessment, Alaska assumed peak hour volume and a conservative highway capacity. Alaska determined that even with these conservative assumptions, the Steese Expressway would experience a reasonably free-flow operations and free flow

speed. Thus, Alaska concluded that construction of an HOV lane on the Steese Highway or similar four-lane divided highways in the Fairbanks $PM_{2.5}$ Nonattainment Area would provide no emissions benefits and would be technologically infeasible.

With respect to Traffic flow improvements, Alaska conducted an economic feasibility assessment of traffic signal improvements and synchronization, roundabouts, and intersection improvement projects. Alaska determined that the cost effectiveness of each of these projects exceeded $1 million per ton of $PM_{2.5}$ removed.

For anti-idling measures, Alaska conducted economic feasibility assessments of implementing an anti-idling program of heavy-duty diesel vehicles, light-duty passenger vehicles at schools, and light-duty passenger vehicles at commercial establishments. Alaska determined that the cost effectiveness of implementing these programs ranged from $455,675.88 to $210,198,489 per ton of $PM_{2.5}$ reduced.

Alaska also evaluated the economic feasibility of diesel retrofit projects. Alaska referenced a Federal Highway Administration study that evaluated 27 diesel retrofit projects that consisted of retrofitting older diesel vehicle engines with emissions reduction technologies such as diesel particulate filters, selective catalytic reduction, diesel oxidation catalysts, and exhaust gas recirculation technologies. According to the study, the median cost effectiveness was $165,130 per ton of $PM_{2.5}$ reduced.

Similarly, Alaska evaluated the economic feasibility of implementing various ridesharing programs. Alaska referenced a Federal Highway Administration (FHWAI) study that evaluated 40 ridesharing programs. Based on the study, Alaska determined that the median cost effectiveness of implementing the programs would $6,010,024 per ton of $PM_{2.5}$ reduced.

In addition to Alaska, Fairbanks Area Surface Transportation (FAST) Planning opposed the EPA's proposed disapproval of Alaska's rejection of vehicle idling restrictions and other transportation measures. FAST Planning commented that Alaska did not predicate its rejection of the measures on a determination that the mobile source category is de minimis. FAST Planning also noted that the EPA was internally inconsistent in its Proposal—proposing to approve Alaska's rejection of vehicle I/M program (Measure 59) and proposing to disapprove Alaska's rejection of a similar I/M program evaluated as part of a suite measures included as other transportation control measures (Measure 57, Measure R20).

FAST Planning commented that the EPA is requiring the State to consider implementing transportation controls that will result in limited to no reductions of $PM_{2.5}$ emissions without regard to cost to the community. Similarly, FAST Planning commented that some measures are not warranted or appropriate for the Fairbanks nonattainment area. In particular, FAST Planning stated that HOV lanes are not appropriate for the Fairbanks $PM_{2.5}$ Nonattainment Area because they are meant for communities with much larger populations and severe congestion. Fairbanks has a comparatively small traffic size and has a lack of congested roadways.

FAST Planning also commented that the EPA did not provide credit to the state for existing and ongoing transportation control measures listed in the SIP. FAST Planning asserted that Alaska included a list of voluntary transportation measures in the SIP submission (such as the expansion of transit service, motor vehicle plug-ins, public education and outreach, and anti-idling measures). FAST Planning stated that these measures are not voluntary because the state is required to fund these measures.

Response on de minimis source category comments: The EPA acknowledges that Alaska did not explicitly designate the mobile source category as a de minimis source category in the Fairbanks Serious Plan and Fairbanks 189(d) Plan for the purposes of avoiding adopting and implementing BACM and BACT on mobile sources. The EPA's proposal to disapprove Alaska's rejection of these control measures for mobile sources was based on several factors: (1) low emissions benefits is not a valid basis to reject a measure as technologically infeasible; (2) BACM is generally independent of attainment needs; and (3) Alaska's rejection of all measures to control emissions from mobile sources appeared to implicitly determine that this source category was de minimis. The EPA notes that in its comments Alaska supplemented its infeasibility demonstrations for the mobile source control measures. These supplemental demonstrations alleviate the EPA's concern about effectively determining that the mobile source category is de minimis. The ensuing discussion provides further explanation for the EPA's proposed disapproval and position regarding technologically infeasibility demonstrations:

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. The EPA summarized these requirements in the proposed rule.[105] Of particular relevance here, in accordance with 40 CFR 51.1010(a), the state must adopt and implement the best available control measures and technologies 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

[105] 88 FR 1454, January 10, 2023, at pp. 1464 - 1465.

year following the effective date of designation of the area and may eliminate such whole or partial measure from further consideration.

In addition, 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 $PM_{2.5}$ NAAQS.[106] The EPA interprets the CAA requirement to impose BACM and 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.[107] Finally, states also may not decline to evaluate, or to control as necessary, sources or source categories on the basis that they are de minimis.[108]

Subsequently, for a state with a Serious $PM_{2.5}$ 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 (1) demonstrates that each year the area will achieve at least a 5 percent reduction in emissions of direct $PM_{2.5}$ or a 5 percent reduction in emissions of a $PM_{2.5}$ plan precursor based on the most recent emissions inventory for the area and (2) includes such other additional control measures necessary to achieve attainment as expeditiously as practicable consistent with the attainment date requirements under 40 CFR 51.1004(a)(3).[109] The regulation at 40 CFR 51.1010(c) required the state to 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.

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[106] Addendum to the General Preamble, 59 FR 41998, August 16, 1994, at p. 42011; 81 FR 58010, August 24, 2016, at p. 58081.
[107] *Id.*
[108] 81 FR 58010, August 24, 2016, at p. 58082.
[109] CAA section 189(d), 42 U.S.C. 7513a(d), and 40 CFR 51.1010(c).

Based on these requirements and interpretations, the EPA proposed to disapprove Alaska's rejection of certain control for the mobile source category (Measures 57, 60, and R20). Alaska's evaluation of other transportation control measures consisted of a review of measures evaluated as RACM for the Fairbanks Moderate Plan.[110] Alaska referenced the prior analysis as determining limited emission reduction benefits from these measures. Alaska also referenced the EPA and FHWA studies that indicated small emissions reductions from these measures.[111] In addition, while Alaska acknowledged that these measures are technologically feasible in the analysis,[112] it concluded that the measures are not technologically feasible in the Fairbanks area.[113] Alaska did not re-evaluate this analysis or conclusion as part of the Fairbanks 189(d) Plan.[114]

Alaska's evaluation of anti-idling programs (Measure 60) in the Fairbanks Serious Plan consisted of a study of the effects on carbon monoxide emissions of turning off a warmed-up vehicle compared to leaving it running.[115] Alaska concluded based on this study that further study of $PM_{2.5}$ emission reductions is necessary to determine whether anti-idling programs are feasible. Nevertheless, ADEC concluded that such a measure would produce no emissions benefit and was, therefore, technologically infeasible. Alaska modified this analysis slightly as part of the 189(d) Plan—drawing a connection

[110] State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at p. 166 (November 19, 2019).
[111] *Id.* at p. 167-168.
[112] *Id.* at 168 ("With regard to the BACM finding, transportation control measures are technologically feasible; they have been implemented all over the country. That said, independent studies have documented that while states and communities continue to adopt them, where funding is available, growing experience in lower-48 states has demonstrated emissions benefits are limited.").
[113] *Id.*
[114] State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at pp. 5435 – 538, adopted November 18, 2020.
[115] State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at pp.105-106, adopted November 19, 2019.

between low carbon monoxide (CO) emission benefits and low $PM_{2.5}$ benefits.[116] Alaska ultimately concluded anti-idling programs are technologically infeasible due to lack of evidence of emission benefits.

However, the emissions reduction benefit of a particular measure is not a factor assessing whether the measure is technologically feasible. Such considerations are more appropriate under an economic feasibility assessment. Alaska did not assess the economic feasibility of anti-idling programs or any of the other transportation control measures as part of the Serious Area Plan or 189(d) Plan. The EPA notes, however, that Alaska submitted supplemental infeasibility demonstrations as part of its comments.

Relatedly, the substantive basis for Alaska's rejection of these measures was that they provided limited emissions benefits, such benefits were difficult to quantify given the climate in Fairbanks, and/or that additional studies were necessary to understand the emissions reduction benefits. The EPA's position is that these are inadequate reasons for rejecting otherwise feasible measures.

Response to Alaska's comment on inconsistent application of the $PM_{2.5}$ SIP Requirements Rule: The EPA disagrees with Alaska that it interpreted and applied the $PM_{2.5}$ SIP Requirements Rule inconsistently with respect to the EPA's proposed disapproval of Alaska's BACM analysis for the mobile source category. Contrary to Alaska's assertions, a comparison of the EPA's actions on the South Coast Air Quality Management Plan and 2018 San Joaquin Valley $PM_{2.5}$ Plan with the EPA's review of the

[116] State Air Quality Control Plan, Vol. III, Appendix III.D.7.7 at pp. 5405 – 5406, adopted November 18, 2020.

Fairbanks Serious Plan and Fairbanks 189(d) evinces the EPA's consistent application of the CAA and $PM_{2.5}$ SIP Requirements Rule.

On April 27, 2017, the California Air Resources Board (CARB) submitted two SIP submissions to the EPA for the South Coast Serious nonattainment area for the 2006 $PM_{2.5}$ NAAQS.[117] One such submission was entitled Final 2016 Air Quality Management Plan (March 2017) (2016 AQMP) and contained, inter alia, control strategies for mobile sources. The EPA proposed to approve these SIP submissions as meeting CAA requirements for the 2006 $PM_{2.5}$ 24-hour NAAQS on October 3, 2018.[118] For the mobile source category, the EPA proposed to approve the control strategy for numerous reasons.

According to the 2016 AQMP, CARB and other State agencies implemented 24 individual mobile source and transportation control measures, including school bus idling measures, school bus retrofit program, and heavy-duty vehicle inspection program.[119] Pursuant to a SIP-approved transportation control measure selection and rollover process,[120] several government agencies in the South Coast area implemented numerous major transportation control measures in South Coast, including HOV lanes, regular transit bus, bus rapid and express bus, transit rail, and bikeway projects.[121]Appendix IV-C of the 2016 AQMP includes a list of TCM projects that are specifically identified and

[117] Approval and Promulgation of Implementation Plans; California; South Coast Serious Area Plan for the 2006 $PM_{2.5}$ NAAQS, 83 FR 49872, October 3, 2018, at p. 49873.
[118] *Id.* at 49872. The EPA finalized approval on February 12, 2019. Approval and Promulgation of Implementation Plans; California; South Coast Serious Area Plan for the 2006 $PM_{2.5}$ NAAQS, 84 FR 3305, February 12, 2019, at p. 3308.
[119] 2016 AQMP at Appendix IV-C-29.
[120] 40 CFR 52.220(c)(204)(i)(B)(*2*). The specific TCM selection and rollover process is identified in the 1994 South Coast AQMP as TCM-1 ("Transportation Improvements").
[121] 2016 AQMP at Appendix IV-C-34.

committed to in the plan, , including, among many other types of TCMs, traffic flow improvement projects.[122]

For the 2016 AQMP, in order to determine whether adoption of additional controls on mobile sources was necessary to satisfy the BACM requirement, the Southern California Association of Governments (SCAG) surveyed other nonattainment areas. SCAG is the region's metropolitan planning organization. SCAG found that, at the time of the survey, no other nonattainment areas were implementing measures beyond what CARB, SCAG and the local agencies already implemented.[123] Thus, SCAG reevaluated 24 measures previously rejected as RACM for potential implementation as BACM.[124] SCAG summarized its evaluation in Table 9 of Appendix IV-C of the 2016 AQMP. However, a more thorough analysis is included as Attachment B to Appendix IV-C of the 2016 AQMP. A review of Attachment B indicates that for each measure dismissed, SCAG correctly cited a technological or economic infeasibility basis. For example, SCAG evaluated numerous specific anti-idling measures and adopted some, while determining that others raised safety concerns or were economically infeasible.[125]

Alaska's comments appear to target measures that SCAG dismissed as providing no emissions benefits as the crux of its inconsistency argument. The EPA disagrees that SCAG's analysis or the EPA's subsequent approval of California's SIP submission demonstrate inconsistent application of the $PM_{2.5}$ SIP Requirements Rule. Measures that SCAG dismissed as providing no emissions benefits included banning left turns, limiting excessive car dealership vehicle starts, requiring pay-as-you drive insurance, and

[122] *Id.* at IV-C-51 – IV-C-74.
[123] *Id.* at IV-C-36 – IV-C-40.
[124] *Id.* at IV-C-40 - IV-C-50.
[125] *Id.* at 100-101.

demolishing impounded vehicles that are high emitters.[126] SCAG noted that some left turns were already banned and other rules incentivized destruction of high-emitting vehicles.[127] For a measure referred to as limiting excessive car dealership starts, SCAG noted that car dealerships need to start cars to avoid battery failure and that in contrast to colder climates where vehicles are started on a daily basis, and the South Coast Air Quality Management District had determined that vehicles in the South Coast are started less frequently. For pay-as-you-drive insurance, SCAG noted that there was no clear demonstration of emission reduction benefits. Given this context, the EPA has consistently interpreted and applied the $PM_{2.5}$ SIP Requirements Rule in its action on the 2016 AQMP and proposed action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan.

As for the San Joaquin $PM_{2.5}$ Nonattainment area, on March 27, 2020, the EPA proposed to approve the portions of the 2018 San Joaquin Valley Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (2018 SJVAPCD Plan) and the San Joaquin Valley Supplement to the 2016 State Strategy for the State Implementation Plan that pertain to the 2006 24-hour $PM_{2.5}$ NAAQS.[128] The EPA finalized its approval on July 22, 2020.[129] The EPA determined that CARB's control measures for the mobile source category constituted the most stringent control program currently available.[130] The 2018 SJVAPCD Plan includes existing measures and CARB and San Joaquin Air Quality

[126] *Id.* at 43 - 50.
[127] *Id.* at 43; 49.
[128] Clean Air Plans; 2006 Fine Particulate Matter Nonattainment Area Requirements; San Joaquin Valley, California; 85 FR 17382, March 27, 2020.
[129] 85 FR 44192, July 22, 2020.
[130] Clean Air Plans; 2006 Fine Particulate Matter Nonattainment Area Requirements; San Joaquin Valley, California, 85 FR 17382, March 27, 2020, at p. 17404.

Management District's identification and evaluation of additional measures.[131] The evaluation of mobile source controls is embodied in Appendix D – Mobile Source Control Measure Analyses to the 2018 SJVAPCD Plan. Notably, CARB implements the control measures Alaska rejected as part of the Fairbanks Serious Plan and Fairbanks 189(d) Plan, including a vehicle inspection program, school bus anti-idling measures (School Bus Airborne Toxic Control Measure in effect since July 16, 2003),[132] and a Heavy-Duty Diesel Vehicle Idling Reduction Program.[133]

Contrary to Alaska's assertion, CARB's BACM and MSM evaluation for mobile sources and the EPA's approval of the resultant SIP submissions indicates the EPA's consistent interpretation and application of the $PM_{2.5}$ SIP Requirements Rule. CARB demonstrated that for multiple mobile sources, it had already adopted the most stringent measures and committed to adopting additional measures. As with the 2016 AQMP, the EPA's action on the 2018 SJVAPCD Plan when compared to its proposed action on the Fairbanks Serious Plan and Fairbanks 189(d) does not indicate inconsistent interpretation or application of the $PM_{2.5}$ SIP Requirements Rule.

Response to Alaska's comment on prior SIP approvals: Regarding controls included in the Fairbanks Moderate Plan, the commenters correctly point out that the EPA previously approved the Moderate Plan, including RACM for the mobile source category.[134] The approved measures included: Fairbanks North Star Borough Ordinance No. 2001-17 that requires employers or businesses that have 275 or more parking spaces to provide power to electrical outlets at temperatures of 20 degrees F or lower for engine

[131] *Id.*
[132] 2018 SJVAPCD Plan at Appendix D, D-42.
[133] *Id.* at D-41 and D-42.
[134] 82 FR 42457, September 8, 2017.

block heaters; expanded availability of plug-ins; public education focused on the benefits of plugging-in and using the transit program; expanded transit service; commuter van pool program; anti-idling program for heavy-duty diesel vehicles focused on the purchase and installation of auxiliary heaters to reduce idle time; and the Federal motor vehicle control program.[135]

Save for the Fairbanks North Star Borough Ordinance and the Federal standards, these measures were designated as voluntary in the moderate plan and the EPA's approval.[136] These RACM, however, do not fully satisfy the CAA BACM requirements. As part of the BACM evaluation process, ADEC identified additional measures for the mobile source category or reevaluated measures previously rejected as part of development of the Moderate Plan. In accordance with 40 CFR 51.1010(a) and (c), Alaska must either adopt those measures or provide a demonstration that those measures are not technologically or economically feasible. Alaska did not adopt all identified measures and did not demonstrate that those measures were either technologically or economically feasible consistent with the $PM_{2.5}$ SIP Requirements Rule. Therefore, the EPA proposed to disapprove the Fairbanks Serious Plan and Fairbanks 189(d) plan, in part, on that basis.

Response to Alaska's supplemental feasibility analyses: Turning to ADEC's updated BACM analysis submitted as part of its comments, the EPA finds that Alaska has demonstrated that constructing HOV lanes is technologically infeasible at this time and anti-idling requirements on heavy-duty diesel vehicles, traffic flow improvements,

[135] 82 FR 42457, September 8, 2017; State Air Quality Control Plan, Volume III, Appendix III.D.5.7-43, adopted December 24, 2014.
[136] State Air Quality Control Plan, Volume III, Appendix III.D.5.7-24, adopted December 24, 2014; 82 FR 9035, February 2, 2017, at p. 9045.

diesel retrofit programs, and ridesharing programs are economically infeasible at this time. The EPA evaluated Alaska's cost-effectiveness calculations and confirmed the inputs and calculation methodology are sound and reasonable. The EPA finds that Alaska has not demonstrated that anti-idling requirements on light duty vehicles at schools and commercial establishments are either technologically or economically infeasible.

Regarding anti-idling restrictions on heavy-duty diesel vehicles, Alaska submitted, as part of its comments on our proposed action, an economic infeasibility assessment that concluded that such a measure has a cost per SO_2 ton reduced of $455,675.88. Alaska based its cost effectiveness calculations on information gained from a July 2011 anti-idling pilot project conducted by the Alaska Department of Transportation & Public Facilities.[137] According to its comments, Alaska estimated the heavy-duty vehicle fleet $PM_{2.5}$ idle emission rates using the MOVES3 model. The costs of implementing the program include purchasing and installing auxiliary heaters, such as cab heaters and hydronic coolant heaters. Alaska's cost effectiveness calculations appear sound. Thus, the EPA concurs with Alaska's assessment that anti-idling restrictions on heavy-duty diesel vehicles are economically infeasible at this time.

With respect to vehicle anti-idling restrictions for light-duty passenger vehicles at schools and commercial establishments, Alaska commented that imposing such anti-idling restrictions would pose an unacceptable safety risk. Alaska also included an economically infeasibility assessment. With respect to safety risks, Alaska stated, "ADEC has significant safety concerns regarding these measures. As was evidenced during the Public Hearing in Fairbanks on March 9, 2023, when temperatures are -20 to -

[137] State Air Quality Control Plan Vol. III, Appendix III.D.7.7 at p.19, adopted November 19, 2019.

60, idling is often done to ensure that small children and infants aren't exposed to frostbite conditions or to prevent cars from being stranded after being turned off without being plugged in to a heat source."

The EPA recognizes the potential safety risk posed to vehicle occupants of an absolute prohibition on idling. However, Alaska need not impose such a prohibition to adopt and implement idling restrictions that satisfy controls strategy requirements for Serious areas and Serious areas the fail to attain. A review of state and local anti-idling restrictions illustrates a variety of approaches to limiting idling.[138] Many of these examples include idling duration limits that vary depending on ambient temperature and provide exemptions for safety.[139] Likewise, Alaska may adopt an anti-idling regulation that takes into consideration the unique local conditions in the Fairbanks $PM_{2.5}$ Nonattainment Area.

Alaska did not provide data supporting the prevalence of cars failing to start or run in cold weather in the Fairbanks nonattainment area. The EPA searched for documentation of this issue and could not find any studies or data. The EPA did find information that indicates that frequent engine restarts have little impact on engine components and unnecessary vehicle idling can damage engine components and waste fuel.[140]

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[138] U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Compilation of State, County, and Local Anti-Idling Regulations, EPA420-B-06-004, April 2006, available at https://www.epa.gov/sites/default/files/documents/CompilationofStateIdlingRegulations.pdf.
[139] New Hampshire Administrative Code Env-A 1102.2 Idling Limitations for Motor Vehicles (providing an exemption when temperatures are below -10°F); Code of Village of Northport, § 289-2; City of Philadelphia Air Management Regulations Ch. IX, Section III Idling of Diesel Powered Motor Vehicles.
[140] State of Alaska Department of Transportation and Public Facilities, Vehicle/Equipment Idle Reduction, Policy and Procedure 02.01.110, January 29, 2014, available at https://dot.alaska.gov/admsvc/pnp/local/dot-jnu_122970.pdf.

The EPA reviewed the transcript from the public hearing for statements regarding idling cars to protect children and cars being stranded without being plugged into a heat source. The EPA found that one commenter raised concerns about electric vehicles failing to work in cold weather.[141] However, this comment was contradicted by another commenter who testified to owning an electric car that functions in -30°F.[142] Thus, Alaska has not demonstrated that vehicle anti-idling restrictions for light-duty passenger vehicles at schools or commercial establishments are technologically infeasible. The EPA reiterates that Alaska may craft the measure in a manner that accommodates safety concerns.

Regarding Alaska's economic infeasibility demonstration, Alaska estimated that imposing vehicle anti-idling restrictions for light-duty passenger vehicles at commercial establishments would have a cost effectiveness of between $20,420,145 to $10,837,330,902. Alaska derived these calculations in part by incorporating the annual salaries of two Fairbanks North Star Borough employees to patrol parking lots to enforce the program. Alaska estimated the annual salary of a Borough employee at $105,929. Based on Alaska's calculations, these salary costs are the dominant cost of the program.

Incorporating the cost of implementing and enforcing a control strategy is inconsistent with the CAA and $PM_{2.5}$ SIP Requirements Rule. Pursuant to CAA section 110(a)(2)(E), the State is required to provide necessary assurances that the State will have adequate personnel, funding, and authority under State law to carry out its implementation plan. In contrast, economic infeasibility assessments are focused on the

[141] EPA public hearing transcript, held on March 7, 2023, p. 22-23, included in docket for this action.
[142] EPA public hearing transcript, held on March 7, 2023, p. 35, included in docket for this action.

costs projected to be borne by the owner and operator of the subject source.[143] Setting aside the cost of Borough employee salaries, the measure appears to yield cost savings from estimated fuel savings. Thus, the EPA finds that Alaska has not demonstrated that vehicle anti-idling restrictions for light-duty passenger vehicles at commercial establishments and schools are economically infeasible.

Regarding constructing HOV lanes, the EPA finds Alaska's technological infeasibility demonstration as supplemented in the State's comments compelling. The EPA agrees this measure is technologically infeasible taking into consideration local conditions, including infrastructure, population, and traffic flow.

Regarding traffic flow improvements, Alaska determined that the cost effectiveness of each of these projects exceeded $1 million per ton of $PM_{2.5}$ removed. Alaska referenced the July 20, 2020 Congestion Mitigation and Air Quality Improvement (CMAQ) Program 2020 Cost-Effectiveness Tables Update produced by the FHWA (CMAQ Tables).[144] According to the CMAQ Tables, traffic flow improvements such as signal synchronization, roundabouts, and intersection improvements ranged in cost $250,000 to $2.9 million which amounted to a cost effectiveness of between $1,136,071 and $13,255,774 per ton of $PM_{2.5}$.[145] Based on this information, the EPA concurs with Alaska's determination that traffic flow improvements are economically infeasible for the Fairbanks $PM_{2.5}$ Nonattainment Area, at this time.

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[143] 40 CFR 51.1010; 81 FR 58010, August 24, 2016, at p. 58085.
[144] Office of the Natural Environment, Federal Highway Administration, U.S. Department of Transportation, Congestion Mitigation and Air Quality Improvement (CMAQ) Program 2020 Cost-Effectiveness Tables Update, July 20, 2020, available at https://www.fhwa.dot.gov/ENVIRonment/air_quality/cmaq/reference/cost_effectiveness_tables/fhwahep20039.pdf.
[145] *Id.* at 63-72.

With respect to diesel retrofits, Alaska cited the CMAQ Table as a basis for estimating a median cost effectiveness of $165,130 per ton of $PM_{2.5}$ reduced.[146] The EPA verified these calculations in the CMAQ Table and we concur with Alaska that diesel retrofits are economically infeasible in the Fairbanks $PM_{2.5}$ Nonattainment Area, at this time.

Finally, ADEC cited the CMAQ Tables as evidence that ridesharing programs are economically infeasible. Specifically, according to the CMAQ Tables, ridesharing programs have a median cost effectiveness of $6,010,024 per ton of $PM_{2.5}$ reduced.[147] The EPA verified these calculations in the CMAQ Table and concur with Alaska that ridesharing programs are economically infeasible, at this time.

vi. Alaska's identification and adoption of BACT

a. Summary of Proposal

The EPA proposed to partially approve and partially disapprove Alaska's identification and adoption of BACT for stationary sources. The EPA proposed to approve most of Alaska's $PM_{2.5}$ BACT determinations for stationary sources but proposed to disapprove the Fairbanks Serious Plan and Fairbanks 189(d) Plan due to lack of monitoring, recordkeeping, and reporting requirements necessary to ensure the BACT limits are enforceable as a practical matter. The EPA proposed to partially approve and partially disapprove Alaska's SO_2 BACT determinations for the stationary sources.[148] Finally, the EPA proposed to approve Alaska's NH_3 BACT determinations for all stationary sources. Details on the scope and basis of the EPA's proposed partial approval

[146] *Id.* at 75-82.
[147] *Id.* at
[148] On September 25, 2023, Alaska withdrew is SO_2 BACT determinations and analysis for major stationary sources in the Fairbanks $PM_{2.5}$ Nonattainment Area.

and partial disapproval are included in section III.C(3)(c) of the Proposal and will not be restated here.

Alaska noted that large stationary sources are a subgroup of emissions sources that have specific requirements in the BACM analysis. Alaska evaluated all stationary sources with potential to emit (PTE) greater than 70 tons per year (tpy) of $PM_{2.5}$ or $PM_{2.5}$ precursors for potential BACT-level controls. According to Alaska, sources with emissions below the 70 tpy threshold only require evaluation for BACM. Alaska states that this emissions threshold is in place to distinguish between the planning requirements for certain sources emitting above and below this threshold and is consistent with an emissions threshold in the 2016 $PM_{2.5}$ SIP Requirements Rule.[149]

The EPA disagrees with this assessment. All emissions sources identified in the emissions inventory are subject to BACM requirements, and the BACT evaluation process is merely a sub-set of BACM. Accordingly, all sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors are subject to BACM and BACT requirements regardless of PTE. There is no PTE threshold below which BACT requirements do not apply. The 70 tons per year PTE threshold cited by Alaska only has relevance in determining whether a new stationary source proposed to be constructed in a nonattainment area meets the definition of a major stationary source pursuant to the nonattainment new source review provisions. [150]

b. Final Rule

Please see the following paragraphs addressing each stationary source regarding the EPA's final determinations.

c. Comments and Responses

[149] The EPA notes that Alaska applied this threshold to emissions units at the GVEA Zehnder facility.
[150] 40 CFR 51.165(a)(1)(iv)(A)(*1*); see also 18 AAC 50.040(i).

For a summary of relevant comments and the EPA's detailed responses on this requirement, see the Response to Comments document included in the docket for this action.[151]

vii. Chena Power Plant

a. Summary of Proposal

The Chena Combined Heat and 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 State's BACT determination for the Chena Power Plant evaluated potential controls to reduce NOx, and $PM_{2.5}$ emissions from its four coal-fired boilers.[152] Regarding Alaska's analysis for $PM_{2.5}$ emission controls, Alaska noted that the source currently uses the baghouse to achieve 99.9 percent capture efficiency, but did not definitively determine this control was required as BACT or submit for SIP approval an enforceable requirement to operate the baghouse. Operation of the baghouse to achieve 99.9 percent capture efficiency is likely to be BACT for $PM_{2.5}$ for this source, but the

[151] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

[152] On September 25, 2023, Alaska withdrew its BACT determination and analysis for SO_2 controls and emission limits at the Chena Power Plant. Alaska evaluated potential NO_x controls for each emission unit, but because the EPA is approving Alaska's determination that NO_x emissions are not significant for $PM_{2.5}$ formation in the Fairbanks nonattainment area, Alaska is not required to identify, adopt, or implement BACM or BACT for NOx on any sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. See 40 CFR 51.1006, 51.1010(a)(2)(ii).

State must revise the SIP to include an enforceable requirement to operate the baghouse to achieve this level of control before we can determine whether BACT requirements are satisfied. Therefore, the EPA proposed to disapprove Alaska's BACT finding for $PM_{2.5}$ for the four coal-fired boilers at the Chena Power Plant.

For SO_2 emission controls, the EPA proposed to disapprove Alaska's infeasibility demonstrations on several grounds that are detailed in the Proposal and are not restated here.

We proposed to approve Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

Table 5. Chena Power Plant BACT summary

Chena Power Plant, Aurora Energy, LLC	
Pollutant	**Alaska's BACT determination, by source category**
Coal-fired boilers (EUs 4-7) – 3 boilers rated 76 MMBtu per hour and 1 boiler rated 269 MMBtu per hour	
$PM_{2.5}$	N/A (Alaska claims installed single full steam baghouse is highest rated control available, but no $PM_{2.5}$ BACT analysis or emission limitation was submitted)

Source: State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-10 and Section 7.7.8.2.5.

b. Final Rule

The EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the plans do not identify, adopt, and implement BACT for $PM_{2.5}$ and SO_2 for the Chena Power Plant. The EPA is finalizing approval of Alaska's BACT analysis for NH_3 emission controls for the Chena Power Plant.

c. Comments and Responses

For a summary of relevant comments and the EPA's detailed responses, see the Response to Comments document for this requirement, included in the docket for this action.[153]

viii. Fort Wainwright

a. Summary of Proposal

Fort Wainwright is an existing U.S. Army installation. Emission units located within the military installation include 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), a subsidiary of Doyon, Limited. Doyon, Limited is 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 additional emission units comprised of small and large emergency engines, fire pumps and generators, diesel-fired boilers, and material handling equipment. Alaska's BACT analysis evaluated potential controls to reduce NO_x and $PM_{2.5}$, emissions from each of these emissions units at the stationary source.[154]

[153] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

[154] On September 25, 2023, Alaska withdrew its BACT determination and analysis for SO_2 controls and emission limits at Fort Wainwright. Alaska evaluated potential NO_x controls for each emission unit, but because the EPA is approving Alaska's determination that NO_x emissions are not significant for $PM_{2.5}$ formation in the Fairbanks nonattainment area, Alaska is not required to identify, adopt, or implement BACM or BACT for NOx on any sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. See 40 CFR 51.1006, 51.1010(a)(2)(ii).

Table 6. Fort Wainwright BACT summary

Fort Wainwright, Doyon Utilities	
Pollutant	**Alaska's BACT determination, by source category**
Coal-fired boilers (EUs 1-6) – each unit rated 230 MMBtu per hour	
$PM_{2.5}$	• Operate and maintain a full stream baghouse at all times the units are in operation; • $PM_{2.5}$ emissions from DU EUs 1 through 6 shall not exceed 0.045 lb/MMBtu over a 3-hour averaging period; and • Conduct an initial performance test to obtain an emission rate.
Diesel-fired oil boilers (27 emissions units);	
$PM_{2.5}$	• $PM_{2.5}$ emissions from the diesel-fired boilers shall not exceed 0.012 lb/MMBtu averaged over a 3-hour period, with the exception of the waste fuel boilers which must comply with the State particulate matter emissions standard of 0.05 grains per dry standard cubic foot under 18 AAC 50.055(b)(1); • Limit combined operation of FWA EUs 8, 9, and 10 to 600 hours per year; and • Maintain good combustion practices by following the manufacturer's maintenance procedures at all times of operation.
Large diesel-fired engines, fire pumps, and generators (8 emissions units; greater than 500 horsepower)	
$PM_{2.5}$	• Limit combined operation of FWA EUs 11, 12, and 13 to 600 hours per year; • Limit operation of DU EU 8 to 500 hours per year; • $PM_{2.5}$ emissions from DU EU 8, FWA EUs 50, 51, and 53 shall not exceed 0.15 g/hp-hr; • $PM_{2.5}$ emissions from FWA EUs 11 through 13 and 54 shall not exceed 0.32 g/hp-hr; • Limit non-emergency operation of FWA EUs 50, 51, 53, and 54 to no more than 100 hours each per year; • Combust only ULSD; and • Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.
Small emergency engines, fire pumps, and generators (41 emissions units)	
$PM_{2.5}$	• Combust only ULSD; • Limit non-emergency operation of DU EUs 9, 12, 14, 22, 23, 29a, 30, 31a, 32, 33, 34, 35, 36, FWA EUs 26 through 39, and 55 through 65 to no more than 100 hours each per year;

	• For engines manufactured after the applicability dates of 40 CFR part 60 Subpart IIII, comply with the applicable particulate matter emission standards in 40 CFR part 60 Subpart IIII; • Maintain good combustion practices by following the manufacturer's operating procedures at all times of operation; and • Demonstrate compliance with the numerical BACT emission limits (emission limit of 0.015 – 1 g/hp-hr (3-hour average) varies by emission unit, listed in the State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-13) by maintaining records of maintenance procedures conducted in accordance with 40 CFR parts 60 and 63, and the EU operating manuals.
Material handling sources (6 emissions units; coal prep and ash handling)	
$PM_{2.5}$	• $PM_{2.5}$ emissions from the material handling equipment EUs 7a – 7c, 51a, and 51b shall be controlled by operating and maintaining fabric filters at all times the units are in operation; • $PM_{2.5}$ emissions from DU EU 7a shall not exceed 0.0025 gr/dscf; • $PM_{2.5}$ emissions from DU EUs 7b, 7c, 51a, and 51 b shall not exceed 0.02 gr/dscf; • $PM_{2.5}$ emissions from DU EU 52 shall not exceed 1.42 tpy. Continuous compliance with the $PM_{2.5}$ emissions limit shall be demonstrated by complying with the fugitive dust control plan identified in the applicable operating permit issued to the source in accordance with 18 AAC 50 and AS 46.14; and • Compliance with the $PM_{2.5}$ emission rates for the material handling units shall be demonstrated by following the fugitive dust control plan and the manufacturer's operating and maintenance procedures at all times of operation.

Source: State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-11 and Chapter III.D.7.7.8.3.4.

The EPA proposed to disapprove Alaska's BACT determination for $PM_{2.5}$ and SO_2 controls for each of the emission sources at the CHPP. Regarding $PM_{2.5}$ controls for the coal-fired boilers and material handling equipment and $PM_{2.5}$ and SO_2 controls for the small and large emergency engines, fire pumps, and generators, and diesel-fired boilers,

the EPA proposed to find Alaska's BACT determinations are appropriate. However, Alaska did not submit source-specific permits or rules with monitoring, recordkeeping, and reporting (MRR) requirements necessary to make these BACT requirements enforceable as a practical matter. Therefore, the EPA proposed to disapprove the BACT determination for these sources as not meeting the CAA requirement that the SIP include enforceable emission limitations. The EPA stated in the Proposal that Alaska may rectify this issue by submitting the MRR requirements necessary (such as the requirements included in the current operating permit) to ensure the BACT requirements are enforceable as a practical matter.

Regarding SO_2 emission controls, the EPA proposed to disapprove Alaska's SO_2 BACT determinations and associated infeasibility demonstrations on several grounds that are detailed in the Proposal and are not restated here.

The EPA proposed to approve Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

b. Final Rule

The EPA is finalizing a partial approval and partial disapproval of the Fairbanks Serious Plan BACT provisions for $PM_{2.5}$ controls for each of the emission sources at Fort Wainwright. The EPA is finalizing a partial approval because Alaska's BACT findings for $PM_{2.5}$ (embodied in State Air Quality Control Plan, Vol. II, Chapter III.D.7.7, Tables 7.7-11 and 7.7-13 and Chapter III.D.7.7.8.3.4) are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA is finalizing a partial disapproval because the Fairbanks Serious Plan and Fairbanks 189(d) Plan lack provisions necessary to ensure the

BACT determinations for $PM_{2.5}$ are enforceable as a practical matter as required by CAA Sections 110(a)(2)(A) and 172(c)(7).

On September 25, 2023, Alaska withdrew its SO_2 BACT determinations for Fort Wainwright. Therefore, the EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the plans do not identify, adopt, and implement BACT for SO_2 at Fort Wainwright. The EPA is finalizing approval of Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

c. Comments and Responses

For a summary of relevant comments and the EPA's detailed responses, see the Response to Comments document for this requirement, included in the docket for this action.[155]

ix. University of Alaska Fairbanks Campus Power Plant

a. Summary of Proposal

The Fairbanks Campus Power Plant is an existing stationary source owned and operated by University of Alaska Fairbanks (UAF) comprised of a circulating fluidized bed (CFB) dual fuel-fired boiler (coal and biomass) rated at 295.6 MMBtu per hour. UAF installed this emission unit in 2016-2018.[156] Other emission units at the source include a 13,266 horsepower (hp) backup diesel generator, 13 diesel-fired boilers, one classroom engine, one diesel engine permitted but not yet installed, and a coal handling system for the new dual-fuel fired boiler.

[155] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.
[156] The CFB dual fuel fired boiler replaced two coal-fired boilers installed in 1962.

The State's BACT determination for the Fairbanks Campus Power Plant evaluated potential controls to reduce NO_x and $PM_{2.5}$ emissions from each of the emissions units at the source.[157]

Table 7. University of Alaska Fairbanks Campus Power Plant – BACT Summary

University of Alaska Fairbanks	
Pollutant	**Alaska's BACT determination, by source category**
Dual fuel-fired boiler (EU 113) – unit rated at 295 MMBtu per hour; coal and woody biomass fuel; constructed in 2019	
$PM_{2.5}$	• Operate and maintain fabric filters at all times the unit is in operation; • $PM_{2.5}$ emissions from EU 113 shall not exceed 0.012 lb/MMBtu over a 3-hour averaging period; and • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures. • Conduct an initial performance test to obtain an emission rate.
Mid-sized diesel-fired boilers (EUs 3 and 4) – each unit rated 180 MMBtu per hour	
$PM_{2.5}$	• $PM_{2.5}$ emissions from EUs 3 and 4 shall not exceed 0.012 lb/MMBtu averaged over a 3-hour period while firing diesel fuel; • $PM_{2.5}$ emissions from EU 4 shall not exceed 0.0075 lb/MMBtu averaged over a 3-hour period while firing natural gas; • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures; and • Limit NO_x emissions from EUs 4 and 8 to no more than 40 tons per year combined.
Small-sized diesel-fired boilers (EUs 19-21) - each unit rated 6 MMBtu per hour	
$PM_{2.5}$	• Combined boilers operating limit of no more than 19,650 hours per year; • $PM_{2.5}$ emissions from EUs 19-21 shall not exceed 0.012 lb/MMBtu; and

[157] On September 25, 2023, Alaska withdrew its BACT determination and analysis for SO_2 controls and emission limits at the University of Alaska Fairbanks Campus Power Plant. Alaska evaluated potential NO_x controls for each emission unit, but because the EPA is approving Alaska's determination that NO_x emissions are not significant for $PM_{2.5}$ formation in the Fairbanks nonattainment area, Alaska is not required to identify, adopt, or implement BACM or BACT for NOx on any sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. See 40 CFR 51.1006, 51.1010(a)(2)(ii).

	• Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.
Large diesel-fired engine (EU 8) – unit rated 13,266 horsepower	
$PM_{2.5}$	• $PM_{2.5}$ emissions from EU 8 shall be controlled by operating positive crankcase ventilation and combusting only low ash diesel at all times of operation; • Limit NO_x emissions from EUs 4 and 8 to no more than 40 tons per year combined; • Limit non-emergency operation of EU 8 to no more than 100 hours per year; and • $PM_{2.5}$ emissions from EU 8 shall not exceed 0.32 g/hp-hr averaged over a 3-hour period.
Small diesel-fired engines (EUs 23-24, 26-29)	
$PM_{2.5}$	• Limit the operation of EU 27 to no more than 4,380 hours per year; • Limit non-emergency operation of EUs 24, 28, and 29 to no more than 100 hours per year each; • EU 27 shall comply with the Federal emission standards of NSPS Subpart IIII, Tier 3; • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures; and Demonstrate compliance with the numerical BACT emission limits (emission limit of 0.015 – 1 g/hp-hr (3-hour average) varies by emission unit, listed in State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-18) by maintaining records of maintenance procedures conducted in accordance with 40 CFR parts 60 and 63, and the EU operating manuals.
Pathogenic waste incinerator (EU 9a) – unit rated 533 lb per hour	
$PM_{2.5}$	• $PM_{2.5}$ emissions from EU 9A shall be controlled with a multiple chamber design; • Limit the operation of EU 9A to no more than 109 tons of waste combusted per year; • $PM_{2.5}$ emissions from EU 9A shall not exceed 4.67 lb/ton; • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures; and • Compliance with the proposed operational limit will be demonstrated by recording pounds of waste combusted for the pathogenic waste incinerator.
Material handling sources (EUs 105, 107, 109-111, 114, 128-130); coal prep and ash handling	

$PM_{2.5}$	• $PM_{2.5}$ emissions from EUs 105, 107, 109 through 111, 114, and 128 through 130 will be controlled by enclosing each EU; • $PM_{2.5}$ emissions from the operation of the material handling units, except EU 111, will be controlled by installing, operating, and maintaining fabric filters and vents; • Initial compliance with the emission rates for the material handling units, except EU 111, will be demonstrated with a performance test to obtain an emission rate; and • Comply with the numerical emission limits (emission limit of 0.003 - 0.050 gr/dscf and .00005 lb/ ton (EU 111) varies by emission unit listed in State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-18 – note double citation)

Source: State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-16 and Chapter III.D.7.7.8.6.

The EPA proposed to disapprove Alaska's BACT provisions for $PM_{2.5}$ and SO_2 controls for each of the emission sources at the Fairbanks Campus Power Plant. Regarding $PM_{2.5}$ controls for the dual fuel-fired boiler, backup diesel generator, diesel-fired boilers, and material handling sources; the $PM_{2.5}$ and SO_2 controls for the pathogenic waste incinerator; and the SO_2 controls for the diesel-fired engines, we proposed to determine that Alaska's BACT determinations are appropriate. However, Alaska did not submit as part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan the emission limits corresponding to Alaska's SO_2 or $PM_{2.5}$ BACT determinations for some emission units, Alaska also did not include the MRR requirements necessary to make these BACT requirements enforceable as a practical matter. Therefore, the EPA proposed to disapprove Alaska's $PM_{2.5}$ BACT requirements for these sources as not meeting the CAA requirement that the SIP include enforceable emission limitations.

The EPA noted that Alaska may rectify this issue by submitting the enforceable emission limitation and monitoring, recordkeeping, and reporting requirements necessary

to ensure the BACT requirements are enforceable as a practical matter.[158] The EPA also noted that the source-specific SIP requirement for the material handling unit, EU 111, should include the operational requirement that the building doors remain closed at all times that ash loading is occurring. Corresponding MRR conditions should be included to ensure no visible emissions escape the building.

Regarding the EPA's proposed disapproval of Alaska's BACT evaluation and determination for SO_2 controls for the dual fuel-fired boiler, the EPA based its proposed disapproval on several grounds that are detailed in the Proposal and are not restated here. The EPA proposed to approve Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

b. Final Rule

The EPA is finalizing disapproval of Alaska's BACT determination for $PM_{2.5}$ controls for the Small Diesel-Fired Engines (EU IDs 23, 26, and 27). The EPA is finalizing a partial approval and partial disapproval of the Fairbanks Serious Plan BACT provisions for $PM_{2.5}$ controls for the remaining emission units. The EPA is finalizing a partial approval because Alaska's BACT determinations embodied in State Air Quality Control Plan, Vol. II, Chapter III.D.7.7, Table 7.7-16 and Chapter III.D.7.7.8.6 are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA is finalizing a partial disapproval because the Fairbanks Serious Plan and Fairbanks 189(d) Plan lack

[158] Alaska did not submit source-specific permits or regulations at part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan. Rather these SIP submissions contain narrative provisions reflecting Alaska's BACT determinations, which list emission limits and summarize monitoring requirements. For certain BACT findings, Alaska in the narrative directs the owner and operator of the source to apply for a permit to implement the State's BACT determinations. Alaska could potentially rectify the enforceability issues with the current SIP submissions by submitting the resulting permits or portions thereof.

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).[159]

On September 25, 2023, Alaska withdrew its SO_2 BACT determinations for the Fairbanks Campus Power Plant. Therefore, the EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the plans do not identify, adopt, and implement BACT for SO_2 at the Fairbanks Campus Power Plant. The EPA is finalizing approval of Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

c. Comments and Responses

For a summary of relevant comments and the EPA's detailed responses, see the Response to Comments document for this requirement, included in the docket for this action.[160]

x. Zehnder Facility

a. Summary of Proposal

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 and two diesel-fired generators (electro-motive 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 electro-motive diesel primary fuel is stored in a 12,000 gallon above ground storage tank.

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[159] *See* supra, note 158**Error! Bookmark not defined.**.

[160] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

Alaska's BACT analysis for Zehnder evaluated potential controls to reduce NOx and $PM_{2.5}$ emissions from its simple cycle gas turbines, large diesel-fired engines, and diesel-fired boilers.[161]

Table 8. Zehnder facility BACT summary

Zehnder facility, Golden Valley Electric Authority	
Pollutant	**Alaska's BACT determination, by source category**
Fuel oil-fired simple cycle gas turbine (EUs 1 and 2) – each unit rated 268 MMBtu per hour	
$PM_{2.5}$	• Combust only low ash fuel; • $PM_{2.5}$ emissions from EUs 1 & 2 shall not exceed 0.012 lb/MMBtu over a 3-hour averaging period; • Initial compliance with the proposed $PM_{2.5}$ emission limit will be demonstrated by conducting a performance test to obtain an emission rate; and • Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.
Diesel-fired emergency generators (EUs 3 and 4) - each unit rated 28 MMBtu per hour	
$PM_{2.5}$	• Limit non-emergency operation of the large diesel-fired engines to no more than 100 hours per year each; • $PM_{2.5}$ emissions from EUs 3 and 4 shall not exceed 0.32 g/hp-hr over a 3-hour averaging period; • Demonstrate compliance with the numerical BACT emission limit by complying with 40 C.F.R 63 Subpart ZZZZ; and • Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.
Diesel-fired boilers (EUs 10 and 11) – each unit rated 1.7 MMBtu per hour	
$PM_{2.5}$	• $PM_{2.5}$ emissions shall not exceed 0.012 lb/MMBtu over a 3-hour averaging period; • Demonstrate compliance with the numerical BACT emission limit by complying with 40 CFR part 63 Subpart JJJJJJ; and

[161] On September 25, 2023, Alaska withdrew its BACT determination and analysis for SO_2 controls and emission limits at Zehnder. Alaska evaluated potential NO_x controls for each emission unit, but because the EPA is approving Alaska's determination that NO_x emissions are not significant for $PM_{2.5}$ formation in the Fairbanks nonattainment area, Alaska is not required to identify, adopt, or implement BACM or BACT for NOx on any sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. See 40 CFR 51.1006, 51.1010(a)(2)(ii).

	• Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.

Source: State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-14 and Chapter III.D.7.7.8.4.

The EPA proposed to disapprove Alaska's BACT determination for $PM_{2.5}$ and SO_2 controls for each of the emission sources at the Zehnder facility. Regarding $PM_{2.5}$ controls for the two fuel oil-fired simple cycle gas combustion turbines, two diesel-fired generators, and two diesel fired boilers, the EPA found Alaska's BACT determinations were appropriate. However, Alaska did not include the MRR requirements necessary to make these BACT requirements enforceable as a practical matter. Therefore, the EPA proposed to disapprove Alaska's $PM_{2.5}$ BACT requirements for these sources as not meeting the CAA requirement that the SIP include enforceable emission limitations. The EPA noted that Alaska can rectify this issue by submitting the emission limit, monitoring, recordkeeping, and reporting requirements necessary to ensure the BACT requirements are enforceable as a practical matter.[162]

The EPA proposed to disapprove Alaska's BACT determinations and analysis for SO_2 controls for each of the emissions units. The basis for EPA's proposed disapproval is included in the Proposal and is not restated here.

The EPA proposed to approve Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

b. Final Rule

The EPA is finalizing partial approval and partial disapproval of the Fairbanks Serious Plan BACT provisions for $PM_{2.5}$ controls for all emission units at Zehnder. The

[162] See supra, note 158.

EPA is finalizing a partial approval because Alaska's BACT determinations embodied in State Air Quality Control Plan, Vol. II, Chapter III.D.7.7, Table 7.7-14 and Chapter III.D.7.7.8.4 are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA is finalizing a partial disapproval because the Fairbanks Serious Plan and Fairbanks 189(d) Plan lack provisions necessary to ensure the $PM_{2.5}$ BACT determinations are enforceable as a practical matter as required by CAA sections 110(a)(2)(A) and 172(c)(7).

On September 25, 2023, Alaska withdrew its SO_2 BACT determinations for Zehnder. Therefore, the EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan because the plans do not identify, adopt, and implement BACT for SO_2 at Zehnder. The EPA is finalizing approval of Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

c. Comments and Responses

For a summary of relevant comments and the EPA's detailed responses, see the Response to Comments document for this requirement, included in the docket for this action.[163]

xi. North Pole Power Plant

a. Summary of Proposal

The North Pole Power Plant is an electric generating facility that combusts distillate fuel in combustion turbines to provide power to the GVEA grid. The power plant contains two fuel oil-fired simple cycle gas combustion turbines, two fuel oil-fired combined cycle gas combustion turbines, one fuel oil-fired emergency generator, and two

[163] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

propane-fired boilers. The State's BACT determination for the North Pole Power Plant evaluated potential controls to reduce NO_x and $PM_{2.5}$ emissions from its simple cycle gas turbines, combined cycle gas turbines, large diesel-fired engines, and propane-fired boilers.[164]

Table 9. North Pole Power Plant BACT summary

North Pole Power Plant, Golden Valley Electric Authority	
Pollutant	**Alaska's BACT determination, by source category**
Fuel oil-fired simple cycle gas turbine (EUs 1 and 2) – each unit rated 672 MMBtu per hour $PM_{2.5}$ potential to emit tons per year	
$PM_{2.5}$	• Combust only low ash fuel; • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures; • $PM_{2.5}$ emissions from EUs 1 & 2 shall not exceed 0.012 lb/MMBtu over a 3-hour averaging period; and • Initial compliance with the proposed $PM_{2.5}$ emission limit will be demonstrated by conducting a performance test to obtain an emission rate.
Fuel oil-fired combined cycle gas turbine (EUs 5 and 6) - each unit rated 455 MMBtu per hour	
$PM_{2.5}$	• $PM_{2.5}$ emissions from EUs 5 and 6 shall be limited by complying with the combined annual NOx limit listed in Operating Permit AQ0110TVP03 Conditions 13 and 12, respectively; • $PM_{2.5}$ emissions from EUs 5 & 6 shall not exceed 0.012 lb/MMBtu over a 3-hour averaging period; • Initial compliance with the proposed $PM_{2.5}$ emission limit will be demonstrated by conducting a performance test to obtain an emission rate; and • Maintain good combustion practices at all times of operation by following the manufacturer's operating and maintenance procedures.
Large diesel-fired engine (EU 7) – unit rated 400 kW/ 619 horsepower	
$PM_{2.5}$	• $PM_{2.5}$ emissions from EU 7 shall be controlled by operating with positive crankcase ventilation;

[164] On September 25, 2023, Alaska withdrew its BACT findings and analysis for SO_2 controls and emission limits at the North Pole Power Plant. Alaska evaluated potential NO_x controls for each emission unit, but because the EPA is approving Alaska's determination that NO_x emissions are not significant for $PM_{2.5}$ formation in the Fairbanks nonattainment area, Alaska is not required to identify, adopt, or implement BACM or BACT for NOx on any sources in the Fairbanks $PM_{2.5}$ Nonattainment Area. See 40 CFR 51.1006, 51.1010(a)(2)(ii).

	• $PM_{2.5}$ emissions from EU 7 shall be controlled by limiting operation to no more than 52 hours per 12 month rolling period; • $PM_{2.5}$ emissions from EU 7 shall not exceed 0.32 g/hp-hr over a 3-hour averaging period; and • Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.
Propane-fired boiler (EUs 11 and 12) – each unit rated 5 MMBtu per hour	
$PM_{2.5}$	• Burn only propane as fuel in EUs 11 and 12; • $PM_{2.5}$ emissions from EUs 11 and 12 shall not exceed 0.008 lb/MMBtu over a 3-hour averaging period; and • Compliance with the emission limit will be demonstrated with records of maintenance following original equipment manufacturer recommendations for operation and maintenance and periodic measurements of O_2 balance. • Maintain good combustion practices by following the manufacturer's operating and maintenance procedures at all times of operation.

Source: State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-14 and Chapter III.D.7.7.8.5.

The EPA proposed to disapprove Alaska's Fairbanks Serious Plan and Fairbanks 189(d) Plan BACT provisions for $PM_{2.5}$ and SO_2 controls for each of the emission sources at the North Pole Power Plant. Regarding $PM_{2.5}$ controls for the two fuel oil-fired simple cycle gas combustion turbines, two fuel oil-fired combined cycle gas combustion turbines, and large diesel-fired engine and $PM_{2.5}$ the EPA proposed to find Alaska's BACT determinations are appropriate. However, Alaska did not submit as part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan the enforceable emission limits and associated MRR requirements needed for determining compliance with all BACT limits or requirements and to make the limits or requirements enforceable as a practical matter. Therefore, the EPA proposed to disapprove Alaska's $PM_{2.5}$ BACT requirements for these sources as not meeting the CAA requirement that the SIP include enforceable emission limitations. The EPA noted that Alaska can rectify this issue by submitting the emission

limits and monitoring, recordkeeping, and reporting requirements necessary to ensure the BACT requirements are enforceable as a practical matter.[165]

Regarding SO_2 controls, the EPA proposed to find Alaska's BACT determination for SO_2 controls at the two propane-fired boilers embodied in State Air Quality were appropriate. However, Alaska also did not submit the MRR requirements needed for determining compliance with this BACT determination. The EPA proposed to disapprove Alaska's SO_2 BACT determinations for the simple cycle gas turbines and combined-cycle on several grounds included in the Proposal and not restated here.

The EPA proposed to approve Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

b. Final Rule

The EPA is finalizing partial approval and partial disapproval of the Fairbanks Serious Plan BACT provisions for $PM_{2.5}$ controls for all emission units at the North Pole Power Plant. The EPA is finalizing a partial approval because Alaska's $PM_{2.5}$ BACT determinations embodied in State Air Quality Control Plan, Vol II, Chapter III.D.7.7, Table 7.7-14 and Chapter III.D.7.7.8.5 are consistent with CAA section 189(b) and 40 CFR 51.1010(a). The EPA is finalizing a partial disapproval because the Fairbanks Serious Plan and Fairbanks 189(d) Plan lack 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).

On September 25, 2023, Alaska withdrew its SO_2 BACT determinations for the North Pole Power Plant. Therefore, the EPA is finalizing partial disapproval of the

[165] See supra, note 158.

Fairbanks Serious Plan and Fairbanks 189(d) Plan because the plans do not identify, adopt, and implement BACT for SO_2 at the North Pole Power Plant.

The EPA is finalizing approval of Alaska's analysis that found no NH_3-specific emission controls for the sources at this facility.

c. Comments and Responses

For a summary of relevant comments and the EPA's detailed responses, see the Response to Comments document for this requirement, included in the docket for this action.[166]

xii. Alaska's Identification and Adoption of Additional Measures and Demonstration of 5% Reduction in Emissions Pursuant to CAA section 189(d)

a. Summary of Proposal

The Fairbanks 189(d) Plan included a reevaluation of previously rejected control measures, as noted above. Alaska revised its control strategy in two primary ways as an outgrowth of this reevaluation. First, Alaska added a burn down period of 3 hours for solid fuel heating devices that begins upon the effective date and time of a curtailment announcement. Second, Alaska added specific requirements to document economic hardship as part of a NOASH curtailment program waiver for solid fuel devices.

As part of its reevaluation of control measures, Alaska provided additional information for a number of control measures considered in the BACM analysis. The Fairbanks 189(d) Plan included additional consideration of banning installation of solid fuel devices in new construction, limiting heating oil to ultra-low sulfur diesel, dry wood

[166] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

requirements, emissions controls for small area sources, mobile sources, and most stringent measures.[167] However, Alaska did not reevaluate BACT-level controls for stationary sources. Specifically, there were a number of SO_2 control technologies that were evaluated and dismissed under the Fairbanks Serious Plan that were not reconsidered in the Fairbanks 189(d) Plan. Therefore, the EPA proposed to find that Alaska had not sufficiently met the requirement under CAA section 189(d) to reevaluate additional measures that could lead to expeditious attainment.[168]

Regarding the requirement to demonstrate five percent annual reductions, Alaska included in the Fairbanks 189(d) Plan a control strategy analysis that demonstrates annual reductions of $PM_{2.5}$ are greater than five percent through 2024, Alaska's projected attainment year. However, CAA section 189(d) and 40 CFR 51.1010(c)(4) and (5) require that the control strategy contain not just measures required to achieve five percent annual reductions, but all required BACM and additional measures that collectively achieve attainment as expeditiously as practicable.

The EPA stated in the Proposal that Alaska did not adopt and implement all available and required control measures as part of the control strategy for either the Fairbanks Serious Plan or Fairbanks 189(d) Plan. Therefore, Alaska did not necessarily adopt and implement all control measures that collectively achieve attainment as expeditiously as possible. Thus, the EPA proposed to disapprove the control strategy included in the Fairbanks 189(d) Plan as not meeting the full requirements of CAA section 189(d) and 40 CFR 51.1010(c).

[167] State Air Quality Control Plan, Vol. II, Chapter III.D.7.7.12, adopted November 18, 2020.
[168] See 40 CFR 51.1010(c)(2)(ii). On September 25, 2023, Alaska withdrew its BACT determinations and analysis for SO_2 controls and emission limits at all major stationary sources.

b. Final Rule

The EPA did not receive comments on these requirements and is finalizing the disapproval as proposed.

4. Attainment Demonstration and Modeling

i. Summary of Proposal

The EPA proposed to determine that Alaska's attainment demonstration did not fully meet CAA requirements. The EPA noted that correct identification of the most expeditious attainment date requires an evaluation based upon expeditious implementation of the required emission controls. The EPA proposed to disapprove in part the Fairbanks Serious Plan and Fairbanks 189(d) Plan because Alaska did not adopt all control measures necessary to satisfy the BACM and BACT requirements and the requirement to adopt all measures necessary to achieve attainment as expeditiously as practicable. Therefore, the EPA could not assess whether Alaska identified the expeditious attainment date for modeling purposes.

Therefore, the EPA proposed to find that the attainment demonstration in the Fairbanks 189(d) Plan does not meet the requirements of 40 CFR 51.1011(b)(2). The EPA noted that Alaska is currently engaged in a multi-year effort to develop a new Fairbanks modeling platform, as outlined in State Air Quality Control Plan, Appendix III.D.7.8 of the Fairbanks 189(d) Plan. The EPA made clear in the Proposal that it continues to support Alaska's modeling efforts and will review updated modeling and attainment analysis when submitted by the State.

The EPA proposed to approve of the design value Alaska calculated for modeling purposes. For base year modeling purposes, the 64.7 $\mu g/m^3$ four-year average value is

appropriate as measured between 2016-2019 at the Hurst Road monitor in the North Pole portion of the Fairbanks Nonattainment Area. The base year emissions inventory Alaska used for its attainment demonstration in the Fairbanks 189(d) Plan represented one of the three years that the EPA used to determine that the area failed to attain by the Serious area attainment date. We stated that this base year is consistent with the requirements of 40 CFR 51.1011(b)(3).

Finally, the EPA proposed to partially disapprove Alaska's control strategy as not meeting the requirements of CAA section 189(b) and 40 CFR 51.1010. Accordingly, the control strategies modeled as part of Alaska's attainment demonstration are not consistent with the control strategies required pursuant to 40 CFR 51.1003 and 40 CFR 51.1010.[169] For these reasons, the EPA proposed to disapprove the attainment demonstration in the Fairbanks 189(d) Plan.

ii. Final Rule

The EPA is finalizing disapproval of the attainment demonstration in the Fairbanks 189(d) Plan as not meeting the requirements of 40 CFR 51.1011(b).

iii. Comments and Responses

Comment: Alaska commented that it has been working since 2017 to gather the necessary data and update known modeling deficiencies to satisfy the EPA's modeling requirements. Alaska stated that the Community Multiscale Air Quality (CMAQ) model is an EPA product upon which Alaska relies to satisfy its planning duties under the CAA. Alaska has been coordinating with the EPA and an international consortium of scientists to update the known deficiencies in the model. Alaska stated that after more than three

[169] 40 CFR 51.1011(b)(4).

years of interdisciplinary coordination, Alaska is now able to produce an air quality model that will rectify these known deficiencies. However, Alaska asserted that the EPA's intention to finalize this action guarantees that Alaska's work with the air quality model will "never see the light of day" because the EPA's final action sets into motion irreversible events including a sanction clock and a Federal Implementation Plan (FIP) clock that will expire before Alaska can complete the necessary modeling work, seek public comment, and formally submit the model as a SIP update to the EPA. Alaska noted that the EPA has made it clear in its proposed action to the Fairbanks 189(d) Plan that the model in its current state is not sufficient to meet the attainment demonstration requirements in the $PM_{2.5}$ SIP Requirements Rule, and the timing of this proposed Consent Decree guarantees the outcome of sanctions and a FIP.

Response: The EPA disagrees with Alaska that this final action ensures the imposition of mandatory sanctions or promulgation of a FIP. As discussed in the section IV of this preamble, the CAA provides time for the State to rectify any SIP deficiency before sanctions are triggered and before the EPA is required to promulgate a FIP. As discussed in the Proposal and previously in this preamble, the primary basis for the EPA's disapproval of the Fairbanks 189(d) Plan attainment demonstration is that neither the Fairbanks Serious Plan nor the Fairbanks 189(d) Plan fully meet the CAA control strategy requirements. Alaska may rectify these issues by adopting the necessary control requirements and incorporating the projected emissions reductions into its modeled attainment demonstration.

With respect to improving the modeling platform used to produce the attainment demonstration, the EPA supports Alaska's efforts to develop a new modeling platform

that addresses the identified deficiencies and has worked closely with the State to develop a new modeling platform for use in future attainment demonstrations. As detailed in Alaska's Technical Modeling Report[170] and per discussions between EPA Region 10 and ADEC staff, Alaska will begin the next round of attainment demonstration modeling in late summer or fall 2023 using the new modeling platform. Based on the effective date of this final action, sanctions will not be imposed until 2025, leaving ample time for Alaska to develop and submit an updated SIP. The EPA approval of the SIP, which is the event that would stop the sanctions from being implemented, requires that the submitted corrects all identified deficiencies.

Comment: Alaska acknowledged that the modeling platform the State used for the Fairbanks 189(d) Plan is outdated in that it does not reflect the current state of scientific knowledge about meteorological and photochemical processes contributing to $PM_{2.5}$ formation in Fairbanks. Additionally, Alaska stated that there is no quantitative performance evaluation for the North Pole (Hurst Road) monitor because there were not speciated $PM_{2.5}$ data for the time period of the model performance evaluation. Alaska noted that the modeling is based on 2008 meteorological episodes that have not been updated or replaced since development of the Moderate Area SIP.

Alaska noted that their Fairbanks modeling is now being updated to include: the use of updated CMAQ and WRF configurations, updated preprocessor modeling, model performance evaluation at both the Hurst Road monitor in North Pole and NCORE monitor in Fairbanks based on $PM_{2.5}$ speciation data from those monitors, and updated

[170] Alaska Department of Environmental Conservation (DEC) Division of Air Quality Technical Analysis Modeling Report for phase 1, 2, and 3 (Last Update February 10, 2023), available at https://dec.alaska.gov/media/25pfupho/121-technical-modeling-report-02-10-2023.pdf.

emission inventories. Alaska also stated that its updated model performance evaluation is based on a new meteorological episode representative of wintertime conditions in the nonattainment area. Alaska further detailed the ongoing efforts to improve meteorological model performance and update how atmospheric chemistry is coded into the model, with the goal of enhancing the model's capability to simulate secondary sulfate formation.

Alaska stated that with most modeling deficiencies resolved, Alaska can now conduct a major stationary source SO_2 sensitivity-based precursor demonstration. Alaska concluded that the EPA should avail itself of the discretion granted by the CAA and carefully consider compelling new information to remedy the problems created by the CMAQ model and delays inherent in working with that model.

Response: The EPA remains committed to working with Alaska on improving the modeling platform used for attainment modeling in the nonattainment area. The EPA agrees that model performance improvements have likely resulted in a more robust modeling platform for SIP modeling in the Fairbanks nonattainment area, and the EPA will review the updated attainment demonstration when it submitted by the State as part of a new SIP submission.

The EPA disagrees, however, with Alaska's assertion that updates to the model are or have been a prerequisite to meeting all CAA planning requirements for Serious $PM_{2.5}$ Nonattainment Areas or Serious $PM_{2.5}$ Areas that Fail to Attain. In particular, Alaska was required to identify, adopt, and implement BACM and BACT on all sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors. This requirement is generally independent of attainment needs. Per the CAA and $PM_{2.5}$ SIP Requirements Rule, Alaska was required to

adopt these controls before the Serious area attainment date of December 31, 2019.[171] After the Fairbanks $PM_{2.5}$ Nonattainment Area failed to attain by December 31, 2019, Alaska was required to adopt—by December 31, 2020—such additional measures as necessary to achieve attainment as expeditiously as practicable.[172] The updates to the modeling platform that Alaska is completing were not necessary to adopting the controls required by the CAA.

Similarly, to the extent Alaska is making these updates to support a future SO_2 precursor demonstration, this is not a required element of either a Serious plan or plan meeting the requirements of CAA section 189(d). Precursor demonstrations are optional components of these plans.[173] The EPA further notes that it considers the State's overall control strategy and attainment demonstration when determining the approvability of any $PM_{2.5}$ precursor demonstration for a nonattainment area.

Source apportionment studies of the region[174] have shown that sulfate is a substantial contributor to measured $PM_{2.5}$ concentrations in the nonattainment area. The EPA recognizes that modeling deficiencies were the primary reason that Alaska chose not to submit a major stationary source SO_2 precursor demonstration as part of the Fairbanks Serious Plan or Fairbanks 189(d) Plan. However, without additional analysis, data, or information submitted as a SIP revision, neither the Fairbanks Serious Plan nor the

[171] CAA section 189(b)(1)(B); 40 CFR 51.1010(a) and 40 CFR 51.1011(b)(5).
[172] CAA section 189(d); 40 CFR 51.1003(c)(2) and 40 CFR 51.1010(c).
[173] 40 CFR 51.1006.
[174] Kotchenruther (2016). Source apportionment of $PM_{2.5}$ at multiple Northwest U.S. sites: Assessing regional winter wood smoke impacts from residential wood combustion. *Atmospheric Environment,* 142, 210-219. Available at: https://doi.org/10.1016/j.atmosenv.2016.07.048.
Ward (2013). The Fairbanks, Alaska $PM_{2.5}$ Source Apportionment Research Study Winters 2005/2006-2012/2013, and Summer 2012. University of Montana-Missoula Center for Environmental Health Sciences. Available at: https://dec.alaska.gov/air/anpms/communities/fbks-pm2-5-science/.

Fairbanks 189(d) Plan contain support for the hypothesis that major stationary sources of SO_2 do not significantly contribute to measured sulfate concentrations in the nonattainment area.

As mentioned by the State, the ALPACA research study may result in peer-reviewed journal articles that provide insights on sulfate sources and chemistry in the nonattainment area. The EPA would weigh these peer-reviewed studies along with model performance, precursor model runs, and other available data and information when evaluating a major stationary source SO_2 precursor demonstration submitted as a SIP revision.

5. Reasonable Further Progress

i. Summary of Proposal

In the Proposal, the EPA explained that Alaska withdrew and replaced the State Air Quality Control Plan, Chapter III.D.7.10, as part of submission of the Fairbanks 189(d) Plan. The RFP provisions included in the Fairbanks189(d) Plan are based on Alaska's proposed control strategy designed to meet the requirements of CAA sections 189(b) and 189(d), and 40 CFR 51,1010(a) and (c), based on a projected attainment date of 2024. Therefore, the approvability of the plan with respect to RFP requirements is dependent, in part, on the approvability of the control strategy and attainment demonstration. Specifically, to meet the RFP requirement, the State must include a schedule describing the implementation of control measures required by 40 CFR 51.1010.[175] Moreover, the RFP projected emissions for each milestone year must be based on the anticipated implementation schedule for control measures required by

[175] 40 CFR 51.1012(a)(1).

40 CFR 51.1010.[176] Thus, if the control strategy does not include all required control measures, then the RFP provisions will be deficient.

Similarly, in the Proposal, the EPA stated that the purpose of the RFP requirement is to demonstrate that the attainment plan will achieve annual incremental reductions in emissions between the base year and the attainment date that is as expeditious as practicable.[177] Accordingly, if the attainment year does not reflect the most expeditious year practicable, then the State's evaluation of RFP will not accurately project progress towards the most expeditious attainment year. The EPA proposed to disapprove Alaska's attainment demonstration and to partially disapprove Alaska's control strategy. Therefore, the EPA proposed to disapprove the Fairbanks 189(d) Plan with respect to RFP requirements.

ii. Final Rule

The EPA is finalizing disapproval of the RFP provisions of the Fairbanks 189(d) Plan as proposed.

iii. Comments and Responses

Comment: Alaska cross referenced its comments regarding precursor demonstration and attainment demonstrations.

Response: The EPA incorporates its responses to Alaska comments regarding the optional SO_2 precursor demonstration and attainment demonstrations here. Given the inherent interrelationships between the control strategy, modeled attainment demonstration, and RFP, the deficiencies in the control strategy and attainment

[176] 40 CFR 51.1012(a)(2).
[177] 40 CFR 51.1012(a).

demonstration discussed in the Proposal and previously in this preamble render the RFP provisions of the Fairbanks 189(d) plan similarly deficient.[178]

Comment: One commenter noted that the EPA only allows the State to take credit for 50 percent compliance, but it should be 90 percent and the state ought to be held to this number.

Response: The EPA interprets the comment as referring to the RFP provisions of the Fairbanks 189(d) Plan in which Alaska projected 50% compliance with the solid fuel burning device curtailment program.[179] Specifically, Alaska projected 50% compliance with the curtailment program by 2026.[180] First, the EPA did not impose this number. Rather, Alaska projected this number based on its assessment of the compliance rate and taking into consideration that curtailments do not necessarily apply to all portions of the nonattainment area at the same time.[181] The EPA is not approving the RFP provisions as a whole and expects Alaska to re-evaluate the compliance rate in a subsequent SIP-submission. The EPA will evaluate the projection at that time. The EPA takes no position at this time as to whether the RFP provisions must assume a 90 percent compliance rate for the curtailment program. Any compliance rate must be supported by facts, and reasonable assumptions about future compliance. The EPA does note, however, that better compliance with the curtailment program will translate into significant reductions in direct $PM_{2.5}$ emissions. The EPA, thus, supports all efforts to fully implement and enforce this measure.

6. Quantitative Milestones

[178] *See* 40 CFR 51.1012.
[179] State Air Quality Control Plan Volume II, Chapter III.D.7.10, at p. 9, adopted November 18, 2020.
[180] *Id.*
[181] *Id.* at Vol. III, Appendix III.D.7.10 Fairbanks 5% Plan SIP Control Measures Benefits Spreadsheet.

i. Summary of Proposal

The EPA noted in the Proposal that, similar to the RFP requirements, Alaska withdrew and resubmitted State Air Quality Control Plan, Vol II, Chapter III.D.7.10 as part of submission of the Fairbanks 189(d) Plan. The quantitative milestones (QMs) are based on Alaska's proposed control strategy and attainment date of 2024. Therefore, the approvability of the QMs is dependent, in part, on the approvability of the control strategy and modeled attainment demonstration. Specifically, if the control strategy does not include all required control measures, then the QMs will necessarily be deficient. The EPA noted that Alaska will need to submit a new attainment demonstration with a new projected attainment date, and by extension, reevaluate whether the QMs for each milestone year are appropriate. The control strategy did not contain all required control measures. Therefore, the QMs are, by extension, deficient. Thus, the EPA proposed to disapprove the State Air Quality Control Plan, Vol II, Chapter III.D.7.10, with respect to QMs.

ii. Final Rule

The EPA did not receive any comments on this requirement and is finalizing disapproval of the quantitative milestone provisions in the Fairbanks 189(d) Plan as proposed.

7. Contingency Measures

i. Summary of Proposal

In the Proposal, the EPA explained that Alaska provided two specific measures intended to address the contingency measures requirement for purposes of the Fairbanks Serious Plan adopted in 18 AAC 50.077(n). Both of these measures pertain to removal of

certain wood fired heating devices upon the triggering of the contingency measure as a result of one of the four regulatory triggering events as required in 40 CFR 51.1014. The first of these measures requires owners of older EPA-certified wood fired heating devices, i.e., those manufactured at least 25 years prior to the triggering event, to remove the device upon sale of the property or by December 31, 2024, whichever is earlier. The second of these measures requires the owners of new EPA-certified wood fired hearing devices, i.e., those manufactured less than 25 years prior to the triggering event, to remove the device prior to reaching 25 years from the date of manufacture.

The EPA did not approve these measures as meeting contingency measure requirements, but did approve them as SIP strengthening on September 24, 2021 (86 FR 52997). By their terms, however, these measures were triggered on October 2, 2020,[182] the effective date of the EPA's finding that the area failed to attain the standard by the outermost serious area attainment date of December 31, 2019.

In the Proposal, the EPA also explained that Alaska provided one additional measure intended to meet the contingency measure requirements for purposes of the Fairbanks 189(d) Plan. This new provision in the Emergency Episode Plan, incorporates a requirement that, if triggered, would lower the air quality woodstove curtailment Stage 2 threshold from 30 $\mu g/m^3$ to 25 $\mu g/m^3$ within the Fairbanks $PM_{2.5}$ Area. The EPA proposed to approve the revisions to the Fairbanks Emergency Episode Plan as SIP strengthening because it would provide for emission reductions even though it would not meet applicable requirements for a contingency measure. The EPA proposed to

[182] Determination of Failure To Attain by the Attainment Date and Denial of Serious Area Attainment Date Extension Request; AK: Fairbanks North Star Borough 2006 24-Hour Fine Particulate Matter Serious Nonattainment Area, 85 FR 54509, September 2, 2020.

disapprove the Fairbanks Serious Plan, and Fairbanks 189(d) Plan submissions as not meeting the contingency measure requirements of CAA section 172(c)(9) and 40 CFR 51.1014. The EPA proposed to disapprove the Fairbanks Serious Plan for not meeting the contingency measure requirements because (1) the measures were already triggered and therefore were no longer conditional and prospective, (2) the measures would only achieve 0.01 tons per day reductions in the first year of implementation, and (3) the measures would not achieve emission reductions approximately equal to one-year's-worth of RFP at any time after being triggered.

The EPA proposed to disapprove the contingency measure included in the Fairbanks 189(d) Plan because (1) the measure would not achieve emission reductions approximately equal to one-year's-worth of RFP (2) the measure would not achieve emission reductions of all plan precursors, including SO_2 and NH_3, and (3) Alaska did not include an adequate reasoned justification for why any additional potential contingency measures were infeasible.[183]

ii. Final Rule

We note that on February 10, 2022, the EPA approved and incorporated 18 AAC 50.030(c) by reference into the SIP, State effective November 7, 2020 (87 FR 7722). The EPA has determined that this current, SIP-approved version of 18 AAC 50.030(c)

[183] The EPA notes that it indicated in the Proposal that it proposed to approve Volume II, Chapter II.D.7.11 Contingency Measures in the Proposal. This chapter summarizes Alaska's contingency measures and provides Alaska's explanation for why its measures meet CAA requirements. However, the EPA made clear in the Proposal that it proposed to disapprove the Fairbanks Serious Plan and Fairbanks 189(d) Plan as not meeting the contingency measure requirements. The EPA is finalizing the disapproval as proposed. Given that the EPA is disapproving the Fairbanks Serious Plan and Fairbanks 189(d) Plan as not meeting the contingency measure requirements as proposed, the EPA is also disapproving State Air Quality Control Plan Volume II, Chapter II.D.7.11 Contingency Measures. Approving Volume II, Chapter II.D.7.11 Contingency Measures would be inconsistent with the bases for disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan and confusing.

correctly provides for the four triggering events upon which continency measures should go into effect. In addition, on September 24, 2021 (86 FR 52997), the EPA approved and incorporated by reference the two measures from the Fairbanks Serious Plan related to replacement of wood-fired heating devices in 18 AAC 50.077(n) as SIP strengthening. In this action, the EPA has determined that these provisions do not meet contingency measures requirements because they are already triggered and implemented. In this action, the EPA is approving the new measure from the Fairbanks 189(d) Plan lowering the curtailment Stage 2 threshold from 30 µg/m^3 to 25 µg/m^3 as SIP strengthening, but the EPA has determined that this measure alone is insufficient to meet contingency measures requirements. Thus, the EPA is disapproving the Fairbanks Serious Plan and Fairbanks 189(d) Plan with respect to the contingency measures element. The State did not submit adequate control measures to meet the contingency measures requirements of CAA section 172(c)(9) and 40 CFR 51.1014.

iii. Comments and Responses

Comment: One comment from Citizens for Clean Air, Alaska Community Action on Toxics, Sierra Club Alaska Chapter supported the EPA's proposed disapproval. The commenter also identified a number of other items that the commenter described as "potential contingency measures."

Response: The EPA agrees with the commenter that the Fairbanks Serious Plan and Fairbanks 189(d) Plan do not satisfy the contingency measures requirements of the CAA section 172(c)(9) and 40 CFR 51.1014. The EPA agrees that the State should evaluate and adopt other measures to meet the contingency measure requirements, but

notes that many of the specific suggestions from the commenter also may not meet applicable statutory and regulatory requirements for contingency measures.

Comment: Alaska commented in support of the EPA's proposed approval of revisions to 18 AAC 50.030(c) as meeting the trigger mechanism requirements of 40 CFR 51.1014 and CAA section 172(c)(9).

Response: The EPA agrees that 18 AAC 50.030(c) meets the trigger mechanism requirements of 40 CFR 51.1014 and CAA section 172(c)(9) because it provides for the implementation of contingency measures in all four types of triggering events. Although this provision meets this critical requirement for the triggering and implementation of contingency measures for areas in general, and the EPA approved and incorporated the provision by reference into the SIP on February 10, 2022 (87 FR 7722), we have determined the rule does not suffice to meet other important requirements with respect to the Fairbanks $PM_{2.5}$ Nonattainment Area, such as that the measures actually achieve meaningful emission reductions in the event of a triggering event. Accordingly, approval of the new provision that correctly imposes the correct triggering events does not fully meet the contingency measures element of either the Fairbanks Serious Plan or the Fairbanks 189(d) Plan.

Comment: Alaska opposed the EPA's proposed disapproval of its contingency measures. Specifically, Alaska commented that failure of the contingency measure in the Fairbanks 189(d) Plan to achieve approximately one-year's-worth of RFP is not a valid basis for disapproval. The State argued that neither CAA section 172(a)(9) nor the EPA's regulations contain an explicit requirement that contingency measures must achieve approximately one-year's-worth of RFP. Alaska further asserted that the guidance upon

which the EPA relied on for the proposed disapproval was not subject to public notice and comment. Alaska also claimed that the EPA's guidance concerning the amount of emission reductions that contingency measures should achieve is "inconsistent with the plain language" of the CAA. In support of this contention, the State cited and quoted from the EPA's recent Draft Contingency Measures Guidance as evidence that the EPA's existing guidance is flawed.[184] Finally, Alaska asserted that it has adopted all technically and economically feasible measures as BACM, and that the CAA does not require additional measures as contingency measures.[185]

Response: The EPA disagrees with the commenter for a number of reasons. As an initial matter, the EPA notes that Alaska did not specifically address all the of the bases for the EPA's disapprovals for the contingency measures Alaska submitted as part of the Fairbanks Serious Plan and Fairbanks 189(d) Plan, respectively. The EPA disagrees with Alaska that the contingency measures included in either the Fairbanks Serious Plan or Fairbanks 189(d) Plan meet CAA requirements.

With respect to the two contingency measures the State submitted as part of the Fairbanks Serious Plan, the EPA noted several deficiencies—any one of which independently serve as a basis for disapproval. Most notably, the measures have already been triggered because the Fairbanks area failed to attain the NAAQS by the Serious area

[184] https://www.epa.gov/air-quality-implementation-plans/draft-contingency-measures-guidance.
[185] Alaska also appears to conflate the BACM requirements with the contingency measure requirements: "interpreting the OYW guidance as an additional requirement for BACM in Fairbanks is severely detached from the facts on the ground and could not be justified on review." Pursuant to CAA section 172(c)(9), 40 CFR 51.1003, and 40 CFR 51.1014 contingency measures are independent from and in addition to all other measures required to be included in the control strategy, including RACM/RACT, BACM/BACT, and MSM. Even when as a state has adopted and implemented all BACM/BACT as required, this is not a valid basis for not adopting contingency measures that meet CAA requirements. To the contrary, section 172(c)(9) imposes the contingency measure requirement as a separate obligation over and above BACM/BACT, RFP, the modeled attainment demonstration and other nonattainment plan requirements.

attainment date, thus are already implemented measures, and therefore are no longer conditional and prospective. The plain language of CAA section 172(c)(9) dictates that contingency measures must be both conditional and prospective, such that emissions reductions will occur only after a triggering event.[186] Courts have already ruled that the EPA may not approve measures that are already implemented, or the emission reductions that result from such already implemented measures, as contingency measures.[187] In addition to this fatal flaw in these two measures, the measures would only achieve 0.01 tons per day reductions of direct $PM_{2.5}$ in the first year of implementation. Specifically, the State did not design the measures to achieve meaningful emissions reductions if triggered prior to the State's target 2024 attainment date, such as a failure to meet RFP. This undercuts the purpose of contingency measures to ensure continued emission reduction progress towards attainment should any of the triggering events listed in 40 CFR 51.1014 occur. Finally, the EPA noted that these two contingency measures at maximum would achieve far less emissions reductions than one-year's-worth of RFP in any year of implementation. Given these deficiencies, Alaska's two contingency measures submitted as part of the Fairbanks Serious Plan (revisions to 18 AAC 50.077(n)) do not satisfy the CAA's contingency measure requirements.

With respect to the one additional contingency measure the State submitted as part of the Fairbanks 189(d) Plan, the EPA also disagrees with Alaska that this measure satisfies CAA contingency measure requirements. Alaska implies that because the statute does not impose an explicit requirement with respect to the amount of emission

[186] *Id.*
[187] *Bahr v. EPA*, 836 F.3d 1218, 1235-36 (9th Cir. 2016); *Sierra Club v. EPA*, 21 F.4th 815, 827-826 (D.C. Cir. 2021).

reductions contingency measures must achieve, the EPA must approve them even if they would result in little or no emission reductions. The EPA's position remains that contingency measures must achieve sufficient emission reductions of direct $PM_{2.5}$ and plan precursors following any of the triggering events. Accordingly, failure to achieve sufficient emissions reductions in general, failure to achieve sufficient emissions reductions of each plan precursor, or failure to achieve emissions reductions following one or more triggering events are valid bases to disapprove a contingency measure.

The statutory purpose of contingency measures is to ensure continued progress towards attainment following a plan failure, such as failure to meet RFP or failure to attain by the attainment date.[188] As the RFP requirement is the statutory basis to measure progress towards attainment,[189] RFP requirements are an appropriate and reasonable barometer for measuring the sufficiency of emissions reductions that the State estimates a contingency measure will achieve. The EPA has historically used RFP for this purpose, and even in more recent draft guidance continues to recommend use of RFP, albeit measured against a different emissions inventory.[190] Moreover, contingency measures should achieve sufficient emission reductions of both direct $PM_{2.5}$ and plan precursors, even if it may be appropriate under some circumstances to provide for inter-pollutant trading for contingency measures purposes.

[188] 59 FR 41998, August 16, 1994, at p. 42015; *Assoc. of Irritated Residents* v. *EPA,* 10 F.4th 937, at pp. 946–947 (9th Cir. 2021).
[189] CAA section 172(c)(2); 40 CFR 51.1012.
[190] U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Policy Division, DRAFT: Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter, March 17, 2023, at pp. 20-22.

The EPA first articulated these positions in the April 16, 1992 General Preamble[191] and the August 16, 1994 Addendum.[192] In the context of implementing the $PM_{2.5}$ NAAQS, contrary to the commenter's assertions, the EPA undertook notice and comment on this approach prior to finalizing the $PM_{2.5}$ SIP Requirements Rule.[193] At that time, commenters raised concerns about the challenges of identifying contingency measures in certain nonattainment areas in which states have already imposed aggressive control measures as part of the control strategy.[194] The EPA acknowledged these challenges, but reiterated its interpretations of the statute that: (1) section 172(c)(9) explicitly requires states to include contingency measures in Moderate area plans, Serious area plans, and 189(d) plans; and that (2) such contingency measures should provide emissions reductions approximately equivalent to one year's-worth of reductions needed for RFP in the area.[195]

Significantly, the EPA also indicated in the $PM_{2.5}$ SIP Requirements Rule that if a state is unable to identify contingency measures that would result in emission reductions equivalent to approximately one year's-worth of RFP, the state may provide a reasoned justification why the smaller amount of emissions reductions is appropriate.[196] Although

[191] 57 FR 13498, April 16, 1992, at pp. 13543-13544 ("The contingency measures to be implemented if an area does not attain the standards on schedule should be a portion of the actual emissions reductions required by the SIP control strategy to bring about attainment. Therefore, the contingency emissions reductions should be approximately equal to the emissions reductions necessary to demonstrate RFP for one year.").
[192] 59 FR 41998, August 16, 1994, at p. 42015 ("In designing its contingency measures, the State should also take into consideration the potential nature and extent of any attainment shortfall for the area. The magnitude of the effectiveness of the measures should be calculated to achieve the appropriate percentage of the actual emission reductions required by the SIP control strategy to bring about attainment. The EPA has recommended that contingency measures provide the emission reductions equivalent to one year's average increment of RFP.").
[193] Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements, Proposed Rule, 80 FR 15340, March 23, 2015, at pp. 15392, 15417, 15427.
[194] 81 FR 58010, August 24, 2016, at p. 58068.
[195] *Id.* at pp. 58068, 58093 and 58105.
[196] 81 FR 58010, August 24, 2016, at pp. 58067 and 58093.

the EPA indicated that this would only be appropriate in "the rare event" that a state is unable to identify any additional measures, the EPA did provide for this possibility if the state provides an adequate demonstration that no other measures are feasible. The EPA reiterated this interpretation in its comment letters on the Fairbanks Serious Plan and Fairbanks 189(d) Plan and recommended that Alaska either adopt additional contingency measures that would achieve more emission reductions or provide an adequate reasoned justification to establish that no other measures were feasible.[197] In the Fairbanks Serious Plan and the Fairbanks 189(d) Plan, the State did not provide an analysis that would provide such an adequate reasoned justification.

On March 17, 2023, the EPA made available "Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter" ("Draft Contingency Measure Guidance"). The Draft Contingency Measure Guidance addresses three issues with respect to the contingency measure requirements for ozone and $PM_{2.5}$ nonattainment areas. First, the Draft Contingency Measure Guidance addresses the method that air agencies should use to calculate the amount of emission reductions contingency measures should provide. Second, the Draft Contingency Measure Guidance provides air agencies with specific recommendations about how to develop reasoned justifications for why it cannot identify contingency measures that result in emissions reductions approximately equivalent to RFP. Third, the guidance addresses the time

[197] ''EPA Comments on 2019 DEC Proposed Regulations and SIP—Fairbanks North Star Borough Fine Particulate Matter'' Letter from Krishna Viswanathan, Director, EPA Region 10 Air and Radiation Division to Alice Edwards, Director, ADEC Division of Air Quality, July 19, 2019.at p. 11; ''EPA Comments on 2020 Department of Environmental Conservation (DEC) Proposed Regulations and SIP Amendments'' Letter from Krishna Viswanathan, Director, EPA Region 10 Air and Radiation Division to Alice Edwards, Director, ADEC Division of Air Quality, October 29, 2020 at p. 7.

period within which reductions from contingency measures should occur. On March 23, 2023, the EPA published in the *Federal Register* a notice of availability and public comment period on the draft guidance.[198] The comment period closed on April 24, 2023.

Alaska incorrectly asserted that the EPA's issuance of Draft Contingency Measure Guidance suggests that the Agency's longstanding interpretation of CAA section 172(c)(9) with respect to the amount of emission reductions that contingency measures should achieve is inconsistent with the statute. First, the EPA has not yet finalized this revised guidance. The EPA is currently evaluating comments on the Draft Contingency Measure Guidance and determining whether any changes are warranted. Until the EPA finalizes any revised guidance, the EPA continues to evaluate contingency measures based on the approach articulated above. Importantly, nowhere in the Draft Contingency Measure Guidance does the EPA state that its existing approach to contingency measures, including determining the sufficiency of emission reductions, is inconsistent with the CAA. To the contrary, the existing approach is reflective of recent court decisions acknowledging the linkage between RFP and contingency measures.[199] Rather, the draft guidance proffers a different approach that the EPA believes may also satisfy CAA requirements.

Significantly, even in the new draft guidance the EPA continues to recommend that states identify and adopt contingency measures that will achieve approximately one year's worth of progress, but suggests that it may be appropriate to base that calculation

[198] Draft Guidance on the Preparation of State Implementation Plan Provisions That Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter, 88 FR 17571, March 23, 2023.
[199] *Assoc. of Irritated Residents* v. *EPA,* 10 F.4th 937, at pp. 946–947 (9th Cir. 2021); Draft Contingency Measure Guidance at pp. 17-19.

on what one year's worth of progress would be in the attainment year, rather than one year based on the base year emissions inventory. In the event a state cannot identify sufficient measures to achieve this amount of emission reductions, the EPA's draft guidance follows the Agency's existing guidance with respect to the potential for states to provide a "reasoned justification" that no other measures are feasible to achieve additional emission reductions to meet the contingency measures requirement.

Ultimately, the EPA finds the contingency measure Alaska submitted as part of the Fairbanks 189(d) Plan lacking in several critical ways. First, the contingency measure only provides emissions reductions for direct $PM_{2.5}$ and not all plan precursors. Alaska did not provide any explanation in the SIP submission or the comments on the Proposal for why additional contingency measures specific to plan precursors are not feasible. Second, the contingency measure only provides emission reductions if the triggering event is a failure of the plan to obtain the NAAQS by the attainment date. If the contingency measure is triggered earlier, such as in the event of a failure to meet RFP, Alaska's SIP submission indicates that the contingency measures will achieve substantially less emissions reductions—particularly within the first year of implementation.[200] Finally, the maximum emissions reductions Alaska estimated the contingency measure would achieve, 0.08 $PM_{2.5}$ tons per day, is substantially less than one year's worth of RFP, which is 0.24 $PM_{2.5}$ tons per day. As the EPA suggested in the $PM_{2.5}$ SIP Requirements Rule, Alaska could have attempted to provide a reasoned justification and supporting information to establish that there are no other feasible measures to achieve additional emission reductions as contingency measures in the

[200] State Air Quality Control Plan Vol. II, Chapter III.D.7.10, at p. 13, adopted November 18, 2020.

Fairbanks area but Alaska did not do so. The EPA maintains that each of these deficiencies form an independent basis to disapprove Alaska's plan as meeting the contingency measure requirements.

Regarding the scarcity of potential contingency measures as a rationale for the low emission reductions, Alaska did not include in its submissions or comments on the Proposal a thorough evaluation of all potential contingency measures, including those measures the State deemed infeasible for BACM/BACT purposes. Another potential source of contingency measures are those measures qualifying as MSM. The EPA previously denied Alaska's request to extend the Serious area attainment date pursuant to CAA section 188(e) because the State failed to adopt MSMs for all sources and source categories.[201] Consideration of control measures that are more stringent than BACM/BACT and MSM is a logical starting point for identification of additional contingency measures. In addition, robust contingency measures are particularly important for the Fairbanks Nonattainment Area given the pervasiveness of the air quality problem.

As part of a subsequent SIP submission to cure the deficiencies with respect to the contingency measures requirements, the EPA encourages Alaska to evaluate all control measures Alaska previously rejected as either technologically or economically infeasible as BACM or BACT or as additional measures necessary for Serious areas that fail to attain and adopt those measures that can satisfy, in whole or in part, the contingency

[201] Determination of Failure To Attain by the Attainment Date and Denial of Serious Area Attainment Date Extension Request; AK: Fairbanks North Star Borough 2006 24-Hour Fine Particulate Matter Serious Nonattainment Area – Final Rule, 85 FR 54509, September 2, 2020; Determination of Failure To Attain by the Attainment Date and Denial of Serious Area Attainment Date Extension Request; AK: Fairbanks North Star Borough 2006 24-Hour Fine Particulate Matter Serious Nonattainment Area – Proposed Rule, 85 FR 29879, May 19, 2020, at p. 29881.

measure requirements. By definition, contingency measures are controls measures that are required over and above what a state is required to adopt to meet other nonattainment plan requirements such as BACM/BACT, RFP, and the modeled attainment demonstration showing expeditious attainment of the NAAQS. Alaska may also identify and adopt new measures it has not previously identified and evaluated as part of prior SIP submissions to satisfy the contingency measure requirements.

Further, as noted in section II.E.(3).(ii) of this preamble and in the EPA's Response to Comments document,[202] the EPA notes the tremendous emission reduction potential of adopting a ULSD control measure for residential and commercial fuel oil combustion (Alaska estimated emission reductions of 669 tons of SO_2 per year through ULSD adoption), in an area whose share of $PM_{2.5}$ is increasingly sulfate derived from SO_2 sources. Therefore, the EPA encourages Alaska to exercise its authority under CAA section 116 to adopt this measure as part of its control strategy or evaluate this requirement as a contingency measure.

8. Motor Vehicle Emission Budgets for Transportation Conformity

i. Summary of Proposal

The EPA proposed to disapprove the motor vehicle emission budgets submitted as part of the Fairbanks 189(d) Plan. The EPA explained in the Proposal that the Agency evaluated the motor vehicle emissions budgets against the adequacy criteria in 40 CFR 93.118(e)(4) as part of the EPA's review of the approvability of the budgets according to the process in 40 CFR 93.118(f)(2). The EPA noted in the Proposal that the budgets were

[202] Response to Comments Regarding Best Available Control Measure Requirements for Residential and Commercial Fuel Oil Combustion on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan EPA-R10-OAR-2022-0115.

clearly identified and precisely quantified using MOVES2014b, with appropriate consultation among Federal, State, and local agencies. However, the EPA stated in the Proposal that the budgets must be considered with other emissions sources, consistent with applicable RFP and attainment requirements, and be consistent with and clearly related to the emissions inventory and the control measures in the SIP.[203] Since the budgets must account for other control measures to determine the appropriate motor vehicle budgets, and the control strategy does not include all required control measures, then the budgets will necessarily be deficient. Therefore, the EPA proposed to disapprove the budgets for the Fairbanks $PM_{2.5}$ Nonattainment Area.

ii. Final Rule

The EPA is finalizing disapproval of the motor vehicle budgets for transportation conformity as proposed. The EPA is finalizing its disapproval without a protective finding for the motor vehicle emissions budgets, consistent with 40 CFR 93.120. Specifically, we note that in disapproving a control strategy implementation plan revision, the EPA would give a protective finding where a submitted plan contains adopted control measures or written commitments to adopt enforceable control measures that fully satisfy the emissions reductions requirements relevant to the statutory provision for which the implementation plan revision was submitted, such as reasonable further progress or attainment.[204] Based on the discussion in section II.E of this preamble, the Fairbanks Serious Plan and Fairbanks 189(d) Plan do not meet this criteria.

iii. Comments and Responses

[203] *See* 40 CFR 93.118(e)(4)(iv through v).
[204] 40 CFR 93.120(a)(3).

Comment: The EPA received two comments regarding its proposed disapproval of the motor vehicle emission budgets. One comment from Alaska stated, "Alaska addressed each individual control measure and provided either additional information to support dismissal or described the actions that Alaska plans to take to resolve the deficiency that the EPA identified." Another comment from FAST Planning opposed the proposed disapproval. According to the commenter, FAST Planning interpreted this finding to mean the budgets were disapproved because the EPA proposed to disapprove Alaska's rejection of certain mobile source and transportation control measures all of which have been assessed by Alaska to have limited or no reductions to $PM_{2.5}$ levels. FAST Planning stated that factoring into the budget calculations measures that have limited or no reduction to $PM_{2.5}$ should have little to no effect on the budgets, so this does not seem like a logical reason to disapprove the budget. The comment also includes a graph comparing the Fairbanks Moderate Plan motor vehicle emission budgets to the Fairbanks Serious Plan motor vehicle budgets. According to the comment, the proposed budgets in the Serious Plan are lower than the budgets in the Moderate Plan and the latest test results show actual emissions below the proposed budgets. Furthermore, according to the comment, incorporating the rejected transportation control measures into the analysis will have little to no effect on the budgets.

Response: The $PM_{2.5}$ SIP Requirements Rule requires that any attainment plan submitted to the EPA under this section shall establish motor vehicle emissions budgets for the projected attainment year for the area, if applicable. The state shall develop such budgets according to the requirements of the transportation conformity rule as they apply

to $PM_{2.5}$ nonattainment areas (40 CFR part 93, subpart A).[205] In addition, the transportation conformity regulation at 40 CFR 93.118(e)(4) establishes the minimum criteria that a motor vehicle emission budget must meet in order for the EPA to find the budget adequate. These minimum criteria include: the motor vehicle emissions budget(s), when considered together with all other emissions sources, is consistent with applicable requirements for reasonable further progress, attainment, or maintenance (whichever is relevant to the given implementation plan submission); and the motor vehicle emissions budget(s) is consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan revision or maintenance plan. Consistent with the EPA's Transportation Conformity Regulations, the EPA explained in the preamble to the $PM_{2.5}$ SIP Requirements Rule that a motor vehicle emissions budget for the purposes of a Serious area $PM_{2.5}$ attainment plan is that portion of the total allowable emissions within the nonattainment area allocated to on-road sources as defined in the submitted attainment plan. Such motor vehicle emissions budgets would be calculated using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the attainment plan is developed.[206]

The EPA's disapproval of the motor vehicle emission budgets submitted as part of the Fairbanks 189(d) Plan is not predicated on the EPA's action on Alaska's BACM determinations for mobile sources generally or rejection of certain transportation control measures as BACM, specifically. While the EPA agrees with FAST Planning that the

[205] 40 CFR 51.1003(d).
[206] 81 FR 58010, August 24, 2016, at p. 58090.

motor vehicle budgets are reduced from the Fairbanks Moderate Plan to the Fairbanks 189(d), the EPA is still unable to determine whether the budgets are adequate because the EPA is finalizing the disapproval of the attainment demonstration and RFP provisions in the Fairbanks 189(d) Plan. Alaska will need to submit budgets as part of its next SIP revision for the area that are consistent with the revised attainment demonstration and RFP provisions. Additionally, Alaska has not adopted all available BACM and BACT. As a result, the EPA is disapproving the Fairbanks Serious Plan and Fairbanks 189(d) Plan attainment demonstration and reasonable further progress provisions. Therefore, the EPA is limited in determining the adequacy and approvability of the motor vehicle budgets when the EPA cannot yet determine whether all other available control measures are implemented that would lead to expeditious attainment.

Comment: One commenter stated that the EPA should issue a transportation conformity protective finding for the regional transportation plan.

Response: The transportation conformity regulation at 40 CFR 93.101 defines a protective finding as "a determination by EPA that a submitted control strategy implementation plan revision contains adopted control measures or written commitments to adopt enforceable control measures that fully satisfy the emissions reductions requirements relevant to the statutory provision for which the implementation plan revision was submitted, such as reasonable further progress or attainment."

Similarly, the regulation at 40 CFR 93.120(a)(3) states: "In disapproving a control strategy implementation plan revision, EPA would give a protective finding where a submitted plan contains adopted control measures or written commitments to adopt enforceable control measures that fully satisfy the emissions reductions requirements

relevant to the statutory provision for which the implementation plan revision was submitted, such as reasonable further progress or attainment."

As noted in section II.E of this preamble, the EPA is finalizing disapproval of portions of the control strategy in the Fairbanks Serious Plan and Fairbanks 189(d) plan as not fully meeting CAA requirements. Therefore, the submitted plans do not contain adopted control measures or written commitments to adopt enforceable control measures that fully satisfy the emissions reductions requirements in CAA sections 189(b) and 189(d). Therefore, the EPA cannot issue a protective finding under 40 CFR 93.120(a)(3).

Comment: Several commenters expressed concern with the proposed Manh Choh mine, particularly the increase in heavy-duty vehicle traffic while hauling ore through the nonattainment area.

Response: First, the CAA does not mandate a state include control measures in a Serious area plan or 189(d) plan for a proposed mining operation located outside of the Fairbanks nonattainment area or associated ore hauling. Thus, the potential emissions from the Manh Choh mine are outside the scope of this action and not a valid basis to disapprove the Fairbanks Serious Plan or Fairbanks 189(d) Plan.

Second, with respect to the impact of the traffic associated with the mine and its impact on transportation conformity, the EPA has been working with FAST Planning and ADEC to assess these potential impacts and ensure that any increased emissions do not impede expeditious attainment of the $PM_{2.5}$ 24-hour NAAQS. As part of the 2045 Metropolitan Transportation Plan Update, a report provided to FAST Planning concluded that the area continued to meet transportation conformity budgets even with the increased

traffic and resulting emissions from the heavy-duty diesel truck activity.[207] We note that as part of the environmental impact assessment of the mining project, the EPA sent a letter to the U.S. Army Corps of Engineers suggesting a number of measures to reduce air quality impacts.[208] Additionally, a technical advisory committee formed by the Alaska Department of Transportation and Public Facilities will analyze the impacts and potential implications of the proposed ore haul operations to roadway infrastructure and safety.[209]

9. Nonattainment New Source Review Requirements

i. Summary of Proposal

A state with a designated nonattainment area is required to have a NNSR permitting program for the construction and operation of new and modified major stationary sources, in accordance with CAA sections 110(a)(2)(C) and 172(c)(5). For purposes of the 2006 24-hour $PM_{2.5}$ NAAQS, the state must also meet the additional requirements of CAA sections 189(b)(3) concerning the definition of a major stationary source, and 189(e) concerning regulated emissions.

CAA section 189(b)(3) requires that in Serious particulate matter nonattainment areas, the NNSR major source threshold is 70 tons per year. The EPA previously approved a revision to the Alaska SIP to meet this requirement (84 FR 45419, August 29, 2019). CAA section 189(e) specifically requires that the control requirements applicable to major stationary sources of direct $PM_{2.5}$ also apply to major stationary sources of $PM_{2.5}$

[207] Vallamsundar and Carlson, Conformity Analysis for the FAST Planning 2045 Metropolitan Transportation Plan Update, Trinity Consultants, section 5.2, March 13, 2023, available in the docket for this action.
[208] Letter from Amy Jensen, EPA Region 10, Regional Wetland Coordinator to Gregory Mazer, U.S. Army Corps of Engineers, Alaska District, August 19, 2022, included in the docket for this action.
[209] Alaska Richardson Steese Highway Corridor Action Plan, available at: https://storymaps.arcgis.com/stories/98f64a497c834ae18955d5d6b5994ff4.

precursors, except where the Administrator determines that such sources of a precursor or precursors do not contribute significantly to $PM_{2.5}$ levels that exceed the NAAQS in the area.[210] The default under CAA section 189(e) is that the state must control emissions of direct $PM_{2.5}$ emissions and the emissions of all four $PM_{2.5}$ precursors, i.e., NOx, VOCs, SO2, and NH_3, unless the state has submitted an optional precursor demonstration, and the EPA has approved such demonstration.

As noted in the Proposal and in section II.E.9.i of this preamble, the EPA previously approved a revision to the Alaska SIP to meet this requirement (84 FR 45419, August 29, 2019), thus satisfying the NNSR program element for purposes of the Fairbanks Serious Plan. In that action, the EPA stated that Alaska did not make an optional precursor demonstration for NO_X, SO_2, VOC or NH_3 for purposes of NNSR requirements. Instead, Alaska adopted by reference the 40 tons per year significant emissions rates for NO_X, SO_2, and VOC set by the EPA, and also established a significant emissions rate of 40 tons per year for NH_3 as a precursor for $PM_{2.5}$, consistent with the thresholds established for the other $PM_{2.5}$ precursors. In the Fairbanks 189(d) Plan submission, ADEC certified that the State's NNSR program meets the CAA section 172(c)(5), 189(d), and 189(e) nonattainment area planning requirements. The EPA proposed to approve the existing SIP-approved NNSR program as applicable in the Fairbanks $PM_{2.5}$ Nonattainment Area for purposes of meeting requirements Serious areas that fail to attain under 40 CFR 51.1003(c)(1)(viii).

ii. Final Rule

[210] 57 FR 13498, April 16, 1992, at pp. 13539 and 13541–13542.

The EPA did not receive any comments on this plan element and is finalizing approval of the Fairbanks Serious Plan and Fairbanks 189(d) Plan as meeting the NNSR program requirements of CAA sections 172(c)(5), 189(b)(3), 189(d), and 189(e), and 40 CFR 51.1003(b)(1)(viii) and (c)(1)(viii).

10. Additional Comments

Comment: One commenter questioned whether the EPA had complied with the Regulatory Flexibility Act prior to proposing action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan. The commenter stated that the RFA required Federal agencies to go through a due process and if the standards that the Federal government have established cannot be attained it allows agencies to adjust them. The commenter further asserted that the EPA was required to address the RFA.

Response: The EPA disagrees with the commenter that the EPA was required to prepare a regulatory flexibility analysis pursuant to the RFA prior to proposing or finalizing this action on Alaska's SIP submissions. The RFA, 5 U.S.C. 601-612, generally requires agencies to prepare a regulatory flexibility analysis for any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act (APA) or any other statute unless an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities (SISNOSE). In the notice of proposed rulemaking, the EPA certified that this action will not have a SISNOSE. In particular, the EPA stated that the proposed SIP action, if finalized, will not in-and-of itself create any new requirements but will simply disapprove certain State requirements for inclusion in the SIP. The EPA's position with respect to its obligations under the RFA remains unchanged.

Comment: One commenter opposed the EPA's proposed determination that the EPA's action on the Fairbanks Serious Plan and Fairbanks 189(d) Plan would not have tribal implications under Executive Order 13175. The commenter argued that the EPA's action would significantly impact Doyon, Limited and its shareholders. Doyon, Limited is the regional Alaska Native corporation for Interior Alaska formed under the Alaska Native Claims Settlement Act (ANCSA). According to the commenter, Doyon, Limited has 20,400 shareholders, 5,000 of which reside in the Fairbanks area. The commenter also opposed the EPA's proposed disapproval of the BACT determinations for the Fort Wainwright CHPP owned and operated by Doyon Utilities, LLC.

Response: Consistent with Executive Order 13175, the EPA consulted with Doyon, Limited on April 17, 2023. The EPA notes that under Executive Order 13175, the EPA consults with Indian Tribes and ANCSA Corporations on a regulatory action that has substantial direct effect on the Indian Tribe or ANCSA corporation and imposes substantial direct compliance costs. The EPA's action here approves in part and disapproves in part the Fairbanks Serious Plan and Fairbanks 189(d) Plan. Accordingly, the EPA's action has no direct effect on Doyon, Limited nor any other Indian Tribe. Nor does the EPA's action impose direct compliance costs. The EPA is not adopting or implementing as part of this action any affirmative regulations applicable to entitles or people in the Fairbanks $PM_{2.5}$ Nonattainment Area. As a result of this action, certain provisions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan are approved into Alaska's SIP. The EPA is disapproving other provisions. In response to the EPA's disapprovals, Alaska may adopt new regulations that may impact Doyon, Limited or its

shareholders. The EPA addressed Doyon Utilities, LLC's comments regarding BACT in a Response to Comment document, included in the docket for this action.[211]

Comment: One commenter opposed the proposed disapproval on the basis that triggering the mandatory highway sanction is not relevant or appropriate for the Fairbanks $PM_{2.5}$ Nonattainment Area. The Clean Air Act of 1970 was passed to protect public health and welfare at a time when pollution from vehicles was a serious problem in urban areas and included a correlated sanction for withholding Federal highway funding, yet in present time the EPA touts major successes in vehicle pollution control in the U.S. by stating vehicles today are 99 percent cleaner for most tailpipe pollutants than in 1960s and 1970s; thus, the commenter asserts, making the 53-year old sanction no longer relevant. The commenter stated that on-road mobile emissions in the Fairbanks $PM_{2.5}$ Nonattainment Area only comprise 6.8 percent of the area emissions contribution, yet the EPA is threatening to use the 53-year-old sanction to withhold Federal highway funding, which is not correlated nor will contribute to solving the problem.

Response: If the EPA finalizes full or partial disapproval of a required SIP submission, such as an attainment plan submission, or a portion thereof, CAA section 179(a) establishes the imposition of mandatory sanctions. If the EPA has not affirmatively determined that the state has corrected the identified deficiencies within 18 months after the effective date of this action, then, pursuant to CAA section 179(a) and (b) and 40 CFR 52.31, the offset sanction identified in CAA section 179(b)(2) will apply in the affected nonattainment area. If the EPA has not affirmatively determined that the

[211] Response to Comments Regarding Best Available Control Technology Requirements on the Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour PM2.5 Serious Area and 189(d) Plan, EPA-R10-OAR-2022-0115.

identified deficiencies have been corrected within 6 months after the offset sanction is imposed, then the highway funding sanction will apply in the affected nonattainment area, in accordance with CAA section 179(b)(1) and 40 CFR 52.31. The sanctions will not take effect if, within 18 months after the effective date of this finding, the EPA affirmatively determines that the state has made a complete SIP submittal correcting the deficiencies for which the finding was made.[212]

In this final action, the EPA is disapproving in part the Fairbanks Serious Plan and Fairbanks 189(d) Plan for not meeting the CAA requirements for $PM_{2.5}$ nonattainment areas, specifically attainment projected emissions inventory, attainment demonstration, control strategy (in part), RFP, QM, and contingency measures.[213]

Congress was clear in CAA section 179 that if the EPA made any of the findings, disapprovals, or determinations referred to in CAA section 179(a), sanctions must be imposed. Furthermore, CAA section 179(a)(2) makes clear that disapproval of a SIP submissions for failure to meet *one or more of the elements* required by the CAA triggers mandatory sanctions. Thus, the CAA imposes highway sanctions regardless of whether mobile sources contribute to a particular nonattainment problem and regardless of whether the state fails to control mobile sources in a SIP submission.[214] By extension, the EPA does not have discretion to choose not to impose mandatory sanctions.

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[212] The EPA may also defer or stay, as applicable, the application of sanctions upon issuance of an interim final determination that the revised plan corrects the deficiencies prompting the disapproval. *See* 40 CFR 52.31(d)(2).

[213] 40 CFR 52.31(a); (d).

[214] *See, e.g.*, Statements of Henry A. Waxman, Clean Air Act Amendments of 1990, 136 Cong. Rec. E3699-01, 1990 WL 206989, October 27, 1990, at ES700 ("Cutting off Federal highway funds is an effective, sanction that can-and should in the appropriate situation-be used to ensure compliance with clean air requirements that are unrelated to transportation issues."). *See also*, CAA section 502(d)(2), 42 U.S.C. 7661a(d)(2) (authorizing the Administrator to apply any of the sanctions in CAA section 179(b) if a state does not submit a Title V operating permit program or the EPA disapproves a state Title V operating permit program). *But see*, S. Rep. 101-228, 1990 USCCAN 3385, December 20, 1989, at 3413.

III. Final action

A. Final approval

1. In this action, the EPA is finalizing approval of the submitted revisions to the Alaska SIP as meeting the following Serious Plan and CAA section 189(d)[215] required elements for the 2006 24-hour $PM_{2.5}$ NAAQS Fairbanks Nonattainment Area:
   i. The 2019 base year emissions inventory (CAA section 172(c)(3)[216]; 40 CFR 51.1008(c)(1)) for areas subject to CAA section 189(d).
   ii. The State's $PM_{2.5}$ precursor demonstrations for NO_x and VOC emissions (CAA section 189(e)[217]; 40 CFR 51.1006(a)).
   iii. Partial approval of the control strategy as meeting BACM and BACT requirements under CAA section 189(b)(1)(B)[218] and 40 CFR 51.1010(a) for the solid fuel home heating device source category and residential and commercial fuel oil combustion source category. Additionally, the EPA is finalizing approval as meeting BACM and BACT requirements under CAA section 189(b)(1)(B)[219] and 40 CFR 51.1010(a) for the charbroiler, used oil burner, and mobile source categories (except for rejection of vehicle anti-idling requirements), and 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).

[215] 42 U.S.C. 7513a(d).
[216] 42 U.S.C. 7502(c)(3).
[217] 42 U.S.C. 7513a(e).
[218] 42 U.S.C. 7513a(b)(1)(B).
[219] *Id.*

iv. Approval of Nonattainment New Source Review Requirements under CAA sections 172(c)(5), 189(b)(3), 189(d), and 189(e)[220] and 40 CFR 51.165, 40 CFR 51.1003(b)(1)(viii), and 40 CFR 51.1003(c)(1)(viii).

2. The EPA is finalizing partial approval of the Fairbanks Serious Plan and Fairbanks 189(d) plan SIP submissions as meeting applicable control strategy BACM and BACT requirements (CAA section 189(b)(1)(B)[221] and 40 CFR 51.1010(a)) for the following emission sources:[222]

i. Chena Power Plant

a. Coal-fired boilers (NH_3)

ii. Fort Wainwright

a. Coal-fired boilers (NH_3)

b. Diesel-fired boilers (NH_3)

c. Large diesel-fired engines (NH_3)

d. Small emergency engines (NH_3)

e. Materials handling (NH_3)

iii. University of Alaska Fairbanks

a. Dual fuel-fired boiler (NH_3)

b. Mid-sized diesel-fired boilers (NH_3)

c. Small-sized diesel-fired boilers (NH_3)

d. Large diesel-fired engine (NH_3)

[220] 42 U.S.C. 7502(c)(5), 7513a(b)(3), 7513a(d) and 7513a(e).
[221] *Id.*
[222] Note that the EPA inadvertently indicated that it proposed to disapprove the Fairbanks Serious Plan and Fairbanks 189(d) Plan as not meeting BACT requirements for NH_3 in Section V of the Proposal. This was in error. The EPA made clear in the preamble to the Proposal that it was proposing to approve Alaska's determinations that no NH_3 controls existed for each of the stationary sources listed.

e. Small diesel-fired engines (NH_3)

f. Pathogenic waste incinerator (NH_3)

g. Material handling (NH_3)

iv. Zehnder

a. Oil-fired simple cycle gas turbines (NH_3)

b. Diesel-fired emergency generators (NH_3)

c. Diesel-fired boilers (NH_3)

iv. North Pole Power Plant

a. Oil-fired simple cycle gas turbines (NH_3)

b. Oil-fired combined cycle gas turbines (NH_3)

c. Large diesel-fired engine (NH_3)

d. Propane-fired boiler (NH_3)

3. The EPA is finalizing approval of the submitted chapters of the Alaska Air Quality Control Plan for the Fairbanks $PM_{2.5}$ Nonattainment Area, State effective January 8, 2020:

i. Volume II, Chapter III.D.7.01 Executive Summary

ii. Volume II, Chapter III.D.7.02 and Volume III Chapter III.D.7.02 Background and Overview of $PM_{2.5}$ Rule

iii. Volume II, Chapter III.D.7.03 and Volume III Chapter III.D.7.03 Nonattainment Area Boundary and Design Episode Selection

vii. Volume II, Chapter III.D.7.13 and Volume III Chapter III.D.7.13 Assurance of Adequacy

viii. Volume II, Chapter III.D.7.15 Acronyms and Abbreviations

4. The EPA is finalizing approval of the submitted chapters of the Alaska Air Quality Control Plan for the Fairbanks $PM_{2.5}$ Nonattainment Area, State effective December 25, 2020:
   i. Volume II, Chapter III.D.7.04 Ambient Air Quality and Trends
   ii. Volume II, Chapter III.D.7.05 and Volume III Chapter III.D.7.05 PM2.5 Network and Monitoring Program
   iii. Volume II, Chapter III.D.7.06 and Volume III Chapter III.D.7.06 Emissions Inventory for purposes of the 2019 base year emissions inventory.
   iv. Volume II, Chapter III.D.7.07 and Volume III Chapter III.D.7.07 Control Strategies for purposes of the following emission source categories: solid fuel home heating device, residential and commercial fuel oil combustion, charbroiler, used oil burner, incinerator, NH_3 BACT determination for the Aurora Energy Chena Power Plant, $PM_{2.5}$ and NH_3 BACT determination for the Doyon-Fort Wainwright Central Heating and Power Plant; $PM_{2.5}$ and NH_3 BACT determination for the University of Alaska Fairbanks Campus Power Plant except for the three small diesel fired engines (EUs 23, 26, and 27); $PM_{2.5}$ and NH_3 BACT determinations for Golden Valley Electric Association Zehnder Power Plant; $PM_{2.5}$ and NH_3 BACT Determinations for the Golden Valley Electric Association North Pole Power Plant; and Nonattainment New Source Review Requirements.
   v. Volume II, Chapter III.D.7.08 Modeling, precursor demonstration for the purposes of NOx and VOC emissions as it relates to BACM and BACT

requirements and control strategy requirements for nonattainment areas subject to CAA section 189(d).

5. The EPA is finalizing a partial approval of Volume II, Chapter III.D.7.12 Emergency Episode Plan, except for the contingency measure portion, as meeting the BACM and BACT requirements for the solid fuel heating device source category.[223]
6. The EPA is finalizing approval and incorporating by reference submitted regulatory changes into the Alaska SIP. Upon this final approval, the Alaska SIP will include:
   i. 18 AAC 50.075, except (d)(2), State effective January 8, 2020, (solid fuel-fired heating devices may not exceed 20 percent opacity for more than six minutes in any one hour when an air quality advisory is in effect).

B. Final disapproval

1. The EPA is finalizing disapproval of the submitted revisions to the Alaska SIP as not meeting the following Serious plan and CAA section 189(d)[224] required elements for the 2006 24-hour $PM_{2.5}$ Fairbanks Nonattainment Area:
   i. Attainment projected emissions inventory requirements of CAA section 172(c)(1)[225] and 40 CFR 51.1008(c)(2));
   ii. Additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as RACM/RACT, BACM/BACT, and MSM[226] (if applicable)) under CAA section 189(d) and 40 CFR 51.1010(c).

[223] The EPA finalized a limited approval of the Volume II, Chapter III.D.7.12 Emergency Episode Plan as SIP-strengthening on September 24, 2021. 86 FR 52997, September 24, 2021, at pp. 52997, 53004.
[224] 42 U.S.C. 7513a(d).
[225] 42 U.S.C. 7502(c)(1).
[226] 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 Serious Nonattainment Area.

iii. Attainment demonstration and modeling requirements of CAA sections 188(c)(2) and 189(b)(1)(A) and 40 CFR 51.1003(c) and 51.1011.

iv. Reasonable further progress (RFP) requirements of CAA section 172(c)(2)[227] and 40 CFR 51.1012.

v. Quantitative milestones requirements of CAA section 189(c)[228] and 40 CFR 51.1013.

vi. Contingency measures requirements of CAA section 172(c)(9)[229] and 40 CFR 51.1014 applicable to Serious areas subject to CAA sections 189(b) and 189(d).

vii. Motor vehicle emission budgets requirements under 40 CFR 51.1003(d) and 93.118, without a protective finding under 40 CFR 93.120.

2. The EPA is finalizing disapproval of the submitted chapters of the Alaska Air Quality Control Plan for the Fairbanks $PM_{2.5}$ Nonattainment Area, State effective December 25, 2020:

i. Volume II, Chapter III.D.7.06 and Volume III Chapter III.D.7.06 Emissions Inventory for purposes of the 2024 attainment year emissions inventory.

ii. Volume II, Chapter III.D.7.07 and Volume III Chapter III.D.7.07 Control Strategies for purposes of the wood seller requirements, coal-fired heating devices, coffee roasters, weatherization and energy efficiency, light-duty vehicle anti-idling, $PM_{2.5}$ BACT determinations for the Aurora Chena Power Plant, $PM_{2.5}$ BACT determinations for the University of Alaska Fairbanks Campus Power Plant emission units 23, 26, and 27,

[227] 42 U.S.C. 7502(c)(2).
[228] 42 U.S.C. 7513a(c).
[229] 42 U.S.C. 7502(c)(9).

iii. Volume II, Chapter III.D.7.08 Modeling

iv. Volume II, Chapter II.D.7.09 Attainment Demonstration

v. Volume II, Chapter II.D.7.10 Reasonable Further Progress and Quantitative Milestones.

vi. Volume II, Chapter II.D.7.11 Contingency Measures.

vii. Volume II, Chapter II.D.7.14 Conformity and Motor Vehicle Emissions Budgets.

3. The EPA is finalizing limited disapproval of the submitted chapters of the Alaska Air Quality Control Plan for the Fairbanks $PM_{2.5}$ Nonattainment Area, State effective December 25, 2020:

   i. Volume II, Chapter II.D.7.12 Emergency Episode Plan. The EPA is finalizing a limited disapproval because the contingency measure components do not fully meet the contingency measure requirements of CAA section 172(c)(9) and 40 CFR 51.1014.[230]

4. The EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) plan SIP submissions as not meeting applicable control strategy BACM and BACT requirements (CAA section 189(b)(1)(B)[231] and 40 CFR 51.1010(a)) for the following emission source categories:

   i. Requirements for wood sellers

   ii. Coal-fired heating devices

   iii. Coffee roasters

[230] The EPA finalized a limited approval of the Volume II, Chapter III.D.7.12 Emergency Episode Plan as SIP-strengthening on September 24, 2021. 86 FR 52997, September 24, 2021, at pp. 52997, 53004. The EPA's final limited disapproval does not prevent the State from enforcing the Emergency Episode Plan, including the contingency measure provisions. Nor does the EPA's limited disapproval remove the Emergency Episode Plan, or any portion thereof, from the approved SIP.
[231] 42 U.S.C. 7513a(b)(1)(B).

iv. Weatherization and energy efficiency measures

v. Mobile source category (disapproving for lack of vehicle anti-idling requirements).

5. The EPA is finalizing partial disapproval of the Fairbanks Serious Plan and Fairbanks 189(d) plan SIP submissions as not meeting applicable control strategy BACM and BACT requirements (CAA section 189(b)(1)(B)[232] and 40 CFR 51.1010(a)) for the following emission sources:

i. Chena Power Plant

a. Coal-fired boilers ($PM_{2.5}$; SO_2)

ii. Fort Wainwright

a. Coal-fired boilers ($PM_{2.5}$; SO_2)

b. Diesel-fired boilers ($PM_{2.5}$; SO_2)

c. Large diesel-fired engines ($PM_{2.5}$; SO_2)

d. Small emergency engines ($PM_{2.5}$; SO_2)

e. Materials handling ($PM_{2.5}$)

iii. University of Alaska Fairbanks

a. Dual fuel-fired boiler ($PM_{2.5}$; SO_2)

b. Mid-sized diesel-fired boilers ($PM_{2.5}$; SO_2)

c. Small-sized diesel-fired boilers ($PM_{2.5}$; SO_2)

d. Large diesel-fired engine ($PM_{2.5}$; SO_2)

e. Small diesel-fired engines ($PM_{2.5}$; SO_2)

f. Pathogenic waste incinerator ($PM_{2.5}$; SO_2)

[232] *Id.*

g. Material handling ($PM_{2.5}$)

iv. Zehnder

a. Oil-fired simple cycle gas turbines ($PM_{2.5}$; SO_2)

b. Diesel-fired emergency generators ($PM_{2.5}$; SO_2)

c. Diesel-fired boilers ($PM_{2.5}$; SO_2)

v. North Pole Power Plant

a. Oil-fired simple cycle gas turbines ($PM_{2.5}$; SO_2)

b. Oil-fired combined cycle gas turbines ($PM_{2.5}$; SO_2)

c. Large diesel-fired engine ($PM_{2.5}$; SO_2)

d. Propane-fired boiler ($PM_{2.5}$; SO_2)

IV. Consequences of a Disapproval

This section explains the consequences of a disapproval of a required SIP. The Act provides for the imposition of mandatory sanctions and the promulgation of a Federal implementation plan (FIP) if a state fails to obtain EPA approval of a plan revision that corrects the deficiencies identified by the EPA in its disapproval.

A. The Act's Provisions for Mandatory Sanctions

If the EPA finalizes disapproval of a required SIP submission, such as an attainment plan submission, or a portion thereof, CAA section 179(a) establishes the imposition of mandatory sanctions. If the EPA has not affirmatively determined that the state has corrected the identified deficiencies within 18 months after the effective date of this action, then, pursuant to CAA section 179(a) and (b) and 40 CFR 52.31, the offset sanction identified in CAA section 179(b)(2) will apply in the affected nonattainment area. If the EPA has not affirmatively determined that the identified deficiencies have

been corrected within 6 months after the offset sanction is imposed, then the highway funding sanction will apply in the affected nonattainment area, in accordance with CAA section 179(b)(1) and 40 CFR 52.31.[233] The sanctions will not take effect if, within 18 months after the effective date of this finding, the EPA affirmatively determines that the state has made a complete SIP submittal correcting the deficiencies for which the finding was made.

B. Federal Implementation Plan Provisions That Apply if a State Fails to Submit an Approvable Plan

Additionally, if the EPA affirmatively determines that the state has made a complete SIP submittal correcting the deficiencies for which this finding was made and takes action to approve the submittal within 2 years of the effective date of this finding, EPA is not required to promulgate a FIP for the affected nonattainment area.[234]

C. Ramifications Regarding Transportation Conformity

One consequence of the EPA action finalizing disapproval of a control strategy SIP submission is a conformity freeze.[235] Final disapproval of the attainment demonstration SIP and the RFP plan without a protective finding results in a conformity freeze beginning on the effective date of the disapproval.[236] The EPA is disapproving in part the Fairbanks Serious Plan and Fairbanks 189(d) Plan, which are attainment plans, because they do not include sufficient emissions reductions to meet attainment and RFP

[233] On April 1, 1996, the US Department of Transportation published a document in the *Federal Register* describing the criteria to be used to determine which highway projects can be funded or approved during the time that the highway sanction is imposed in an area. (*See* 61 FR 14363, April 1, 1996.)
[234] CAA section 110(c), 42 U.S.C. 7410(c).
[235] Control strategy SIP revisions as defined in the transportation conformity include reasonable further progress plans and attainment demonstrations (40 CFR 93.101).
[236] 40 CFR 93.120(a)(2).

requirements, as discussed above. Therefore, the area is not eligible for a protective finding and a freeze will begin on the effective date of the disapproval.[237] The area's Metropolitan Planning Organization (MPO), FAST Planning, produces the long-range 20-year metropolitan transportation plan and the short-range transportation improvement program. During a conformity freeze, only projects in the first four years of the currently conforming transportation plan and transportation improvement program may be found to conform until another attainment demonstration SIP and RFP plan are submitted and the motor vehicle emissions budgets are found to be adequate or are approved and conformity to the revised attainment demonstration and RFP provisions is determined.[238] If the SIP deficiency is not remedied after 24 months, when highway sanctions are imposed under CAA 179(b)(1) and a conformity lapse occurs. No new transportation plan, TIP, or project may be found to conform until another control strategy implementation plan revision fulfilling the same CAA requirements is submitted and conformity to this submission is determined.[239] However, we do note that exempt projects under 40 CFR 93.126 can proceed during a conformity lapse.[240]

V. Incorporation by reference

In this document, the EPA is finalizing its proposal 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 incorporating by reference 18 AAC 50.075, except (d)(2), State effective January 8, 2020 (requiring that solid fuel-fired heating

[237] 40 CFR 93.120(a)(3).
[238] 40 CFR 93.120(a)(2).
[239] 40 CFR 93.120(a)(1).
[240] These include certain types of projects, such as safety, mass transit, air quality, and other projects that do not involve or directly lead to construction.

devices may not exceed 20 percent opacity for more than six minutes in any one hour when an air quality advisory is in effect). 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 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://www2.epa.gov/lawsregulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and 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)

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq., because the EPA is taking action on Alaska's SIP submissions under section 110 and subchapter I, part D of the Clean Air Act will not in-and-of itself create any new information collection burdens but simply disapproves portions of certain state plans submitted for inclusion into the SIP. Burden is defined at 5 CFR 1320.3(b).

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant impact on a substantial number of small entities. This action will not impose any requirements on small entities beyond those imposed by state law.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531– 1538 for state, local, or tribal governments or the private sector. This action approves in part and disapproves in part portions of certain pre-existing plans 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

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires the EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that 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." 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, as specified in Executive Order 13132, because it merely approves in part and disapproves in part portions of certain state SIP submissions required by the CAA and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175, Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP submissions that the EPA is partially approving and partially disapproving 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 the EPA notes that it 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 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997). This action on Alaska's SIP submissions under section 110 and subchapter I, part D of the Clean Air Act will not in-and-of itself create any new regulations but simply approves in part and disapproves in part portions of the Fairbanks Serious Plan and Fairbanks 189(d) Plan submitted for inclusion into the SIP.

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

This action is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Pub. L. 104–113, 12(d) (15 U.S.C. 272 note) 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. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. The EPA believes that this action is not subject to requirements of section 12(d) of 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 minority populations and low-income populations to the greatest extent practicable and permitted by law. The EPA defines environmental justice (EJ) as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including

those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies."

Alaska did not evaluate environmental justice considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. The EPA performed an environmental justice analysis, as is described in the "Environmental Justice Considerations" section of the EPA's proposed rulemaking. The analysis was done for the purpose of providing additional context and information about this rule to the public, not as a basis for this action.

K. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the *Federal Register*. A major rule cannot take effect until 60 days after it is published in the *Federal Register*. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

L. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]. Filing a petition for reconsideration by the Administrator of this final rule

does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See CAA section 307(b)(2).

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: Month DD, YYYY.

Casey Sixkiller,
Regional Administrator, Region 10.

For the reasons set forth in the preamble, 40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

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

Subpart C—Alaska

2. Amend § 52.70 as follows:

a. In paragraph (c), table 1 by revising the entry "18 AAC 50.075"; and

b. In paragraph (e), table 5 by adding the entries "II.III.D.7.01 Executive Summary", "II.III.D.7.02 Background and Overview of $PM_{2.5}$ Rule", "III.III.D.7.02 Appendix to Background and Overview of $PM_{2.5}$ Rule", "II.III.D.7.03 Nonattainment Area Boundary and Design Episode Selection", "III.III.D.7.03 Appendix to Nonattainment Area Boundary and Design Episode Selection", "II.III.D.7.04 Ambient Air Quality and Trends", "II.III.D.7.05 $PM_{2.5}$ Network and Monitoring Program", "III.III.D.7.05 Appendix to $PM_{2.5}$ Network and Monitoring Program", "II.III.D.7.06 Fairbanks Emissions Inventory Data", "III.III.D.7.06 Appendix to Fairbanks Emissions Inventory Data", "II.III.D.7.07 Control Strategies", "III.III.D.7.07 Appendix to Control Strategies", and "II.III.D.7.08 Modeling", "III.III.D.7.08 Appendix to Modeling", "III.III.D.7.08 Appendix to Modeling", "II.III.D.7.13 Assurance of Adequacy", "III.III.D.7.13 Appendix to Assurance of Adequacy", and "II.III.D.7.15 Acronyms and Abbreviations" to the end of the table.

The revisions and additions read as follows:

§ 52.70 Identification of plan.

* * * * *

(c) * * *

TABLE 1 TO PARAGRAPH C—EPA-APPROVED ALASKA REGULATIONS AND STATUTES

State citation	Title/subject	State effective date	EPA approval date	Explanations
Alaska Administrative Code Title 18—Environmental Conservation, Chapter 50—Air Quality Control (18 AAC 50)				
18 AAC 50—Article 1. Ambient Air Quality Management				
* * * * * * *				
18 AAC 50.075	Solid Fuel-Fired Heating Device Visible Emission Standards	11/18/2020	**[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], [INSERT FEDERAL REGISTER CITATION]**	except (d)(2).
* * * * * * *				

* * * * *

(e) * * *

TABLE 5 TO PARAGRAPH E—EPA-APPROVED ALASKA NONREGULATORY PROVISIONS AND QUASI-REGULATORY MEASURES

Name of SIP provision	Applicable geographic or nonattainment area	State submittal date	EPA approval date	Explanations
* * * * * * *				
Recently Approved Plans				
* * * * * * *				

II.III.D.7.01 Executive Summary	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
II.III.D.7.02 Background and Overview of PM2.5 Rule	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
III.III.D.7.02 Appendix to Background and Overview of PM2.5 Rule	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
II.III.D.7.03 Nonattainment Area Boundary and Design Episode Selection	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
III.III.D.7.03 Appendix to Nonattainment Area Boundary and Design Episode Selection	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
II.III.D.7.04 Ambient Air Quality and Trends	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	

II.III.D.7.05 PM2.5 Network and Monitoring Program	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
III.III.D.7.05 Appendix to PM2.5 Network and Monitoring Program	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
II.III.D.7.06 Fairbanks Emissions Inventory Data	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks 189(d) Plan 2019 base year emissions inventory.
III.III.D.7.06 Appendix to Fairbanks Emissions Inventory Data	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks 189(d) Plan 2019 base year emissions inventory.

II.III.D.7.07 Control Strategies	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks Serious Plan and Fairbanks 189(d) Plan for the following emission source categories: solid fuel home heating device; residential and commercial fuel oil combustion; charbroiler; used oil burner; incinerator; $PM_{2.5}$ and NH_3 BACT determination for Doyon-Fort Wainwright Central Heating and Power Plant; $PM_{2.5}$ and NH_3 BACT determination for the University of Alaska Fairbanks Campus Power Plant except for the $PM_{2.5}$ BACT determination for the three small diesel fired engines (EUs 23, 26 and 27); $PM_{2.5}$ and NH_3 BACT determinations for Golden Valley Electric Association Zehnder Power Plant; $PM_{2.5}$ and NH_3 BACT Determinations for the Golden Valley Electric Association North Pole Power Plant; and Nonattainment New Source Review Requirements.

III.III.D.7.07 Appendix to Control Strategies	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks Serious Plan and Fairbanks 189(d) Plan for the following emission source categories: solid fuel home heating device; residential and commercial fuel oil combustion; charbroiler; used oil burner; incinerator; $PM_{2.5}$ and NH_3 BACT determination for Doyon-Fort Wainwright Central Heating and Power Plant; $PM_{2.5}$ and NH_3 BACT determination for the University of Alaska Fairbanks Campus Power Plant except for the $PM_{2.5}$ BACT determination for the three small diesel fired engines (EUs 23, 26 and 27); $PM_{2.5}$ and NH_3 BACT determinations for Golden Valley Electric Association Zehnder Power Plant; $PM_{2.5}$ and NH_3 BACT Determinations for the Golden Valley Electric Association North Pole Power Plant; and Nonattainment New Source Review Requirements.

II.III.D.7.08 Modeling	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks 189(d) Plan for the $PM_{2.5}$ precursor demonstration for NO_x and VOC emissions as it relates to BACM/BACT control measure requirements and control strategy requirements for areas subject to CAA section 189(d).
III.III.D.7.08 Appendix to Modeling	Fairbanks North Star Borough	12/15/2020	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	Approved for purposes of the Fairbanks 189(d) Plan for the $PM_{2.5}$ precursor demonstration for NO_x and VOC emissions as it relates to BACM/BACT control measure requirements and control strategy requirements for areas subject to CAA section 189(d).
II.III.D.7.13 Assurance of Adequacy	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	
III.III.D.7.13 Appendix to Assurance of Adequacy	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	

II.III.D.7.15 Acronyms and Abbreviations	Fairbanks North Star Borough	12/13/2019	**[Insert date of publication in the Federal Register], [Insert Federal Register citation]**	

3. Amend § 52.73 by adding paragraph (e)(2) to read as follows:

§ 52.73 Approval of plans.

* * * * *

(e) * * *

(2) *Fairbanks.*

(i) The EPA approves the revisions to the Alaska State Implementation Plan submitted on December 13, 2019, and December 15, 2020, as meeting the following requirements applicable to the Fairbanks North Star Borough 2006 24-hour $PM_{2.5}$ Nonattainment Area:

(A) 2019 base year emissions inventory (Clean Air Act section 172(c)(3), 42 U.S.C. 7502(c)(3), 40 CFR 51.1008(c)(1)) for areas subject to Clean Air Act section 189(d), 42 U.S.C. 7513a(d);

(B) $PM_{2.5}$ precursor demonstrations for NO_x and VOC emissions (Clean Air Act section 189(e), 42 U.S.C. 7513a(e); 40 CFR 51.1006(a));

(C) Partial approval of the control strategy as meeting BACM and BACT requirements under Clean Air Act section 189(b)(1)(B), 42 U.S.C. 7513a(b)(1)(B), and 40 CFR 51.1010(a) for ammonia controls for major stationary sources, the solid fuel home heating device source category (except the requirements for dry wood sellers), residential and commercial fuel oil combustion source category; the charbroiler source category,

used oil burner source category, and mobile source category (except for rejection of vehicle anti-idling requirements); and

(D) Nonattainment New Source Review Requirements under Clean Air Act sections 172(c)(5), 189(b)(3), 189(d), and 189(e), 42 U.S.C. 7502(c)(5), 7513a(b)(3), 7513a(d), 7513a(e), and 40 CFR 51.165, 40 CFR 51.1003(b)(1)(viii), and 40 CFR 51.1003(c)(1)(viii).

(ii) The EPA disapproves the revisions to the Alaska State Implementation Plan submitted on December 13, 2019, and December 15, 2020, as not meeting the following requirements applicable to the Fairbanks North Star Borough 2006 24-hour $PM_{2.5}$ Nonattainment Area:

(A) Attainment projected emissions inventory requirements of Clean Air Act section 172(c)(1), 42 U.S.C. 7502(c)(1), and 40 CFR 51.1008(c)(2));

(B) Partial disapproval as not meeting applicable control strategy BACM and BACT requirements (Clean Air Act section 189(b)(1)(B), 42 U.S.C. 7513a(b)(1)(B), and 40 CFR 51.1010(a)) for the following emission source categories: $PM_{2.5}$ and SO_2 control analysis for major stationary sources, requirements for wood sellers, coal-fired heating devices, coffee roasters, weatherization and energy efficiency measures, mobile source category (disapproving for lack of vehicle anti-idling requirements);

(C) Additional measures (beyond those already adopted in previous nonattainment plan SIP submissions for the area as RACM/RACT, BACM/BACT, and MSM (if applicable)) under Clean Air Act section 189(d), 42 U.S.C. 7513a(d), and 40 CFR 51.1010(c);

(D) Attainment demonstration and modeling requirements of Clean Air Act sections 188(c)(2) and 189(b)(1)(A), 42 U.S.C. 7513(c)(2) and 7513a(b)(1)(A), and 40 CFR 51.1003(c) and 51.1011;

(E) Reasonable further progress (RFP) requirements of Clean Air Act section 172(c)(2), 42 U.S.C. 7502(c)(2), and 40 CFR 51.1012;

(F) Quantitative milestones requirements of Clean Air Act section 189(c), 42 U.S.C. 7513a(c), and 40 CFR 51.1013;

(G) Contingency measures requirements of Clean Air Act section 172(c)(9), 42 U.S.C. 7502(c)(9), and 40 CFR 51.1014 applicable to Serious areas subject to Clean Air Act sections 189(b) and 189(d), 42 U.S.C. 7513a(b) and 7513a(d); and

(H) Motor vehicle emission budgets requirements under 40 CFR 51.1003(d) and 93.118, without a protective finding under 40 CFR 93.120.