



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
Seattle, WA 98101

AIR & RADIATION
DIVISION

September 29, 2021

Ms. Alice Edwards
Director, Division of Air Quality
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 303
Juneau, Alaska 99811-1800

Dear Ms. Edwards:

Thank you for your letter and supporting documents, dated March 26, 2021, to Michelle Pirzadeh, Acting Regional Administrator for the U.S. Environmental Protection Agency, Region 10 (Fairbanks Quantitative Milestone Report). ADEC submitted the Fairbanks Quantitative Milestone Report to satisfy the requirements of CAA Section 189(c)(2) and 40 CFR 51.1013(b). According to the statute, states are required to submit such a quantitative milestone report no later than 90 days after the milestone date.

Alaska first identified quantitative milestones as part of the plan to meet Moderate nonattainment area planning requirements, which was submitted on December 31, 2014, with supplement information submitted through January 2017. The EPA finalized full approval of the Moderate plan on September 8, 2017. Subsequently, Alaska submitted a nonattainment plan to meet Serious Area planning requirements on December 13, 2019, and a revised nonattainment plan on December 15, 2020, to meet CAA Section 189(d) planning requirements. Each of these attainment plans updated the attainment projection date for the 2006 PM_{2.5} 24-hour National Ambient Air Quality Standard and the related quantitative milestones. EPA has not acted on the quantitative milestones included in the plans submitted on December 13, 2019, and December 15, 2020. Nevertheless, the EPA evaluated the Fairbanks Quantitative Milestone Report against the quantitative milestones included in the revised plan, submitted on December 15, 2020, since this plan includes an updated emissions projection based on the most expeditious attainment date.

The EPA has determined that the Fairbanks Quantitative Milestone Report is adequate. The basis for this determination is set forth in the enclosed the EPA Evaluation of the Fairbanks Quantitative Milestone Report. This determination is based on the EPA's review of information contained in the Fairbanks revised nonattainment plan, submitted on December 15, 2020, and information provided in the Fairbanks Quantitative Milestone Report.

This determination of adequacy for the Fairbanks Quantitative Milestone Report does not constitute an approval of any component of the remaining planning requirements under the CAA, 40 CFR part 51, subpart Z and associated guidance. The EPA will evaluate and take action on the remaining planning requirements through a separate notice-and-comment rulemaking.

We commit to continue working with you as you implement the Fairbanks PM_{2.5} attainment plan to protect public health through improved air quality in the Fairbanks North Star Borough. If you have any questions or concerns, please contact me at (206) 553-0218 or Matthew Jentgen at (206) 553-0340.

Sincerely,

Krishna Viswanathan
Director

Enclosure

cc: Ms. Cindy Heil
Program Manager, Alaska DEC

U.S. ENVIRONMENTAL PROTECTION AGENCY'S EVALUATION OF THE FAIRBANKS QUANTITATIVE MILESTONE REPORT

Quantitative Milestone Requirements

On August 24, 2016, the EPA finalized the Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements (“PM_{2.5} SIP Requirements Rule” or “Rule”), 81 FR 58010. The PM_{2.5} SIP Requirements Rule details how air agencies can meet statutory state implementation plan (SIP) requirements under Clean Air Act (CAA or the Act) Title I, Part D, subpart 1 and subpart 4 that apply to areas designated nonattainment for any PM_{2.5} National Ambient Air Quality Standard. The Rule is codified in 40 CFR part 51, subpart Z.

Among the requirements, CAA section 189(c)(1) provides that particulate matter nonattainment plans must contain quantitative milestones (1) that demonstrate reasonable further progress (RFP) and (2) are to be achieved every three years until the area is redesignated to attainment. The PM_{2.5} SIP Requirements Rule provides that each attainment plan submission for an area designated nonattainment for the 1997 and/or 2006 PM_{2.5} NAAQS before January 15, 2015, shall contain quantitative milestones to be achieved no later than 3 years after December 31, 2014, and every 3 years thereafter until the milestone date that falls within 3 years after the applicable attainment date. 40 CFR 51.1013(a)(4). EPA designated the Fairbanks, AK area as nonattainment for the 2006 24-hour PM_{2.5} NAAQS on December 14, 2009.¹ Thus, the State submitted quantitative milestones to be achieved by December 31, 2017 (the first milestone date). The EPA issued a determination of adequacy for the first milestone date on February 2, 2017 (82 FR 9035). Based on the above, the state must also include quantitative milestones to be achieved by December 31, 2020 (the second milestone date).

The quantitative milestones contained in an attainment plan for a Moderate and/or Serious nonattainment area must be constructed such that they can be tracked, quantified and/or measured adequately in order for the state to meet its quantitative milestone (QM) reporting obligations, which come due 90 days after a given milestone date. Thus, the state must select the quantitative milestones that are appropriate and quantifiable and that will provide for objective evaluation of progress toward attainment in the Moderate or Serious PM_{2.5} nonattainment area. Additionally, the PM_{2.5} SIP Requirements Rule requires that, at a minimum, a state must include in all attainment plans for Moderate or Serious PM_{2.5} nonattainment areas a milestone for tracking progress achieved in implementing SIP control measures, including RACM and RACT and BACM/ BACT, by each milestone date. *See* 40 CFR 51.1013(a)(1)(ii); (a)(2)(iii); and (a)(3)(ii).

The PM_{2.5} SIP Requirements Rule specifies the components that must be included in the quantitative milestone report. First, the report must include a certification by the Governor or Governor’s designee that the state’s attainment plan control strategy is being implemented as described in the applicable attainment plan. Second, the report must contain technical support, including calculations, sufficient to document completion statistics for appropriate milestones and to demonstrate that the quantitative milestones have been satisfied and how the emissions reductions achieved to date compare to those required or scheduled to meet RFP. Finally, the report must include a discussion of whether the PM_{2.5} NAAQS will be attained by the projected attainment date for the area. *See* 40 CFR 51.1013(b).

¹ The EPA promulgated nonattainment area designations for the 2006 PM_{2.5} NAAQS effective December 2009 (76 FR 6056, February 3, 2011), and November 2012 (77 FR 65310, October 26, 2012).

This enclosure addresses the second quantitative milestone report that was submitted by the Alaska Department of Environmental Conservation (ADEC) Commissioner for the Fairbanks Serious PM_{2.5} nonattainment area. Alaska elected to base the quantitative milestones for the PM_{2.5} NAAQS on control measure completion statistics and associated emissions reductions. The Fairbanks Quantitative Milestone Report confirms that these control measures are in effect and provides information on the emission reductions achieved by these measures, consistent with the RFP demonstration in the attainment plan submitted on December 15, 2020. The information below provides the EPA's analysis of the report and the EPA's determination that the report contains the required elements discussed above and that the report adequately demonstrates that the December 31, 2020, milestone has been met.

Evaluation of Alaska's Quantitative Milestone Report

ADEC submitted a Quantitative Milestone report (QM Report) on March 26, 2021. ADEC's report includes a certification from the Governor of Alaska's designee that the SIP control strategy is being implemented consistent with the RFP plan, technical support sufficient to document that the quantitative milestones have been met, and a discussion of whether the area will attain the PM_{2.5} NAAQS by the attainment date.

Certification by the Governor's Designee

The QM Report must include a certification by the Governor or Governor's designee that the state's attainment plan control strategy is being implemented consistent with the RFP plan, as described in the applicable attainment plan. The required certification is provided in a letter dated March 26, 2021, signed by ADEC Commissioner Jason Brune, on behalf of the Governor of Alaska. The QM Report verifies that reasonable progress toward attainment is being achieved.

Control Measures, associated Quantitative Milestones, and Progress Towards Attainment

ADEC's QM Report included technical support sufficient to document completion statistics for appropriate milestones and to demonstrate that the quantitative milestones have been satisfied and associated emissions reductions have achieved reasonable further progress. The QM Report included a description of the control measures adopted by ADEC for the Fairbanks PM_{2.5} nonattainment area, including an implementation schedule and an estimate of emissions reductions per control measure.

Tables 3-1 and 3-2 in the QM Report list the control measures for which emissions benefits were quantified and the phase-in schedule for each measure. Below is a discussion of each control measure and whether it met the quantitative milestone on December 31, 2020.

- Woodstove changeout program
 - 2020 Quantitative Milestone: 2,791 cumulative woodstove changeouts.
 - State Regulation: Voluntary program, 18 AAC 50.077
 - Milestone achieved: Yes
 - Evaluation: Ongoing since 2010, ADEC uses cumulative changeouts as the metric to evaluate implementation of this measure. ADEC projected 2,791 woodstove

devices were to be changed out as of December 31, 2020. In fact, 3,179 woodstoves were changed out during that time.²

- Solid-fuel burning appliance curtailment program
 - 2020 Quantitative Milestone: 30 percent compliance rate.
 - State regulation: 18 AAC 50.030/ Fairbanks Emergency Episode Plan
 - Milestone achieved: Yes
 - Evaluation: ADEC evaluates implementation of this measure using the compliance rate of the curtailment program. ADEC projects a 30 percent compliance rate based on compliance survey data collected by the Fairbanks North Star Borough and Alaska during the 2018-19 winter season. Under that survey, field observations for roughly 100 residences were conducted to identify wood smoke plumes during curtailment episodes. Although there was some sample bias for the selected residences and field observations were generally made during daylight hours (to better discern wood smoke plumes), nearly 80 percent of the observations were found to comply with the curtailment restrictions. Based on this limited field survey, ADEC conservatively estimated that overall compliance with the curtailment program had risen to 30 percent as of early 2018, driven by on-going public education about the program since its inception.

- Wood device emissions rates
 - 2020 Quantitative Milestone: 100 percent.
 - State regulation: 18 AAC 50.077
 - Milestone achieved: Yes
 - Evaluation: This measure requires new woodstoves and hydronic heaters to meet emissions standards to be sold in the nonattainment area. Additionally, all uncertified woodstoves and wood-fired hydronic heaters would need to be replaced with a heating device meeting the emissions standard. ADEC states the 100 percent compliance/penetration rate estimated for this measure reflects the volume of home sales (projected from historical data) coupled with the requirement to register wood-fired heating devices upon sale or conveyance of a property.

- Prohibit wood-fired devices as primary or only heating source
 - 2020 Quantitative Milestone: 80 percent.
 - State regulation: 18 AAC 50.077(j)
 - Milestone achieved: Yes

² 1st Annual Report, Air Quality Control Program Implementation Status, Fairbanks North Star Borough PM2.5 Nonattainment Area, 2021, *Alaska Department of Environmental Conservation and Fairbanks North Star Borough*. Figure 7.

initial compliance in 2022 (first full year) of 50 percent. This accounts for current levels of dry wood sold, rounds and split log volume, and the industry transition of requiring sellers to mechanically dry wood on site or establish seasoning/drying practices. After this first year, Alaska estimates compliance to increase to 75 percent as these operational transitions are completed and DEC has a full year of sales and audit data in hand.

- Shift in oil-fueled space heating from #2 to #1 oil
 - 2020 Quantitative Milestone: not applicable (2023 first milestone year).
 - State regulation: 18 AAC 50.778(b)
 - Milestone achieved: n/a
 - Evaluation: ADEC states that this measure requires a one-time shift from the current mix of #2 and #1 heating oil refined and sold in the nonattainment area by September 2022. Thus, the 100% penetration rate in 2023 and later calendar years reflect that shift.

- Solid-fuel device removal measures
 - 2020 Quantitative Milestone: not applicable (2024 first milestone year).
 - State regulation: 18 AAC 50.778(l)
 - Milestone achieved: n/a
 - Evaluation: This measure requires removal of uncertified woodstoves and coal-fired heating devices by 2024. ADEC states that compliance rates in the first full year of implementation (2024) of these uncertified wood and coal heating device measures were estimated at 15 percent and 25 percent respectively based on existing and on-going public education and outreach efforts. ADEC projects compliance to increase after 2024 associated with further removal incentivization and compliance survey funding available through the 2019-2020 Targeted Airshed Grant funding.

Attainment by the Attainment Date

The QM Report also includes a discussion of whether the area will attain the PM_{2.5} NAAQS by the attainment date. Based on the completion statistics for each milestone discussed above as well as ADEC's evaluation of emissions reductions achieved, ADEC determined that the area will achieve attainment by the attainment date of 2024. Based on the information provided in the QM Report, ADEC has provided an adequate discussion as to whether the area will attain the NAAQS by the attainment date.

Conclusion

The EPA has reviewed the quantitative milestone report provided by Alaska to demonstrate that the requirements of CAA section 189(c)(2) and the PM_{2.5} SIP Requirements Rule have been met. The EPA

has determined that the report addresses the requirements of the CAA and 40 CFR § 51.1013(b) and that the report adequately demonstrates that the milestones have been met.