THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

DIVISION OFAIR QUALITY
Fairbanks

610 University Avenue
Fairbanks, Alaska, 99709
Main: 907-451-2114

11/22/2023

U.S. EPA, Region 10
Sarah Waldo, Senior Air Monitoring Specialist;
Joey Richardson, Air Monitoring Specialist & Grants Project Officer;

Thank you for your approval of the State of Alaska's Department of Environmental Conservation (ADEC) 2023 Annual Network Plan (ANP). We have reviewed your notes and recommendations and concur with the suggestions included in your response and have no further comment.

Since the submittal of the 2023 ANP, we have identified three additional changes to our network that we would like to implement beginning January 1st, 2024. Those proposed changes are noted below for your review.

1. **Fairbanks NCore $PM_{10-2.5}$ (Required in 40 CFR Part 58 Appx D):**

   ADEC proposes to use two Thermo Scientific Partisol 2025i FRM samplers for calculating $PM_{10-2.5}$.

   This station currently uses two Thermo Scientific 2000i Federal Reference Method (FRM) samplers configured as PM_{10} and $PM_{2.5}$ and are of like manufacturer and design. (40 CFR Part 50 Appendix O Section 7.0). These are operated on a 1 in 3 sample frequency. ADEC proposes to remove both Partisol 2000i samplers from operation**.** ADEC currently operates a Thermo Scientific sequential Partisol 2025i as the primary $PM_{2.5}$ sampler at the site. ADEC will continue to operate that monitor and add a Thermo Scientific 2025i PM_{10} sampler on a 1 in 3 schedule. PM_{Coarse} measurements will be calculated from the filter data of the paired 2025i samplers.

   Per 40 CFR Part 58, Appx C 3.3.1 "Methods employed in NCore multipollutant sites used to measure SO_2, CO, NO_2, O_3, $PM_{2.5}$, or $PM_{10-2.5}$ must be reference or equivalent methods…." The Thermo Scientific 2025i is designated as an FRM and will be operated according to 40 CFR Part 50 App L.

2. **Fairbanks NCore $PM_{2.5}$ FRM**

   ADEC proposes to reduce the sample frequency of the primary FRM Thermo Scientific 2025i $PM_{2.5}$ FRM sampler to a 1 in 3 sample schedule.

As noted above, currently the primary $PM_{2.5}$ sampler at NCore is a Thermo Scientific 2025i operating daily as an FRM. Manual $PM_{2.5}$ sampling schedules are governed by 40 CFR Part 58.12(d)(2) which notes that NCore stations must operate on at least a 1 in 3 schedule. Previously the sampling schedule at the NCore site had been set to daily sampling following 40 CFR Part 58.12 (d)(1)(iii) regarding SLAMS $PM_{2.5}$ sites, when the design value was within ±5 percent of the NAAQS.

The NCore site is not the maximum impact site for $PM_{2.5}$ in the Fairbanks nonattainment area, and the site now has a design value that is significantly below or above the 24-hour NAAQS depending on whether exceptional events are excluded or not (28 $\mu g/m^3$ with exceptional events excluded and 43 $\mu g/m^3$ without exceptional events excluded). Our analysis of impacts from reducing the sampling frequency for the past few years does not show a significant change in the design value, while at the same time it will free up staff time and reduce costs.

3. **Juneau – Floyd Dryden $PM_{2.5}$:**

ADEC proposes to replace the existing FRM sampler with a Thermo Scientific 2025i FRM sampler. The collection interval will remain a 1 in 3 sample frequency.

In the approved 2023 Annual Network Plan ADEC proposed to designate the Floyd Dryden FRM sampler as the primary SLAMS $PM_{2.5}$ instrument while designating the Teledyne T640X monitor as an SPM to provide AQI data. The current FRM instrument at the site is a Thermo Scientific 2000i sampler. 40 CFR Part 58 Appx C 2.1 notes that "…a criteria pollutant monitoring method used for making NAAQS decisions at a SLAMS site must be a reference or equivalent method…". The Thermo Scientific 2025i is designated FRM per 40 CFR Part 50 App L and will be operated accordingly.

Please review the network modifications above and let me know if you have any questions.

Sincerely,

T.J. Brado
Environmental Program Manager
Air Monitoring and Quality Assurance