



REGION 10

SEATTLE, WA 98101

October 23, 2025

Mr. TJ Brado
Division of Air Quality
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501

Dear Mr. Brado:

The U.S. Environmental Protection Agency, (EPA) evaluated the Alaska Department of Environmental Conservation's (ADEC) 2025 Annual Monitoring Network Plan (ANP) dated June 30, 2025. By this letter, the EPA documents its findings from the review and approves the State of Alaska's 2025 ANP.

We appreciate all the hard work ADEC staff have put into maintaining and improving Alaska's air quality monitoring network despite facing ongoing fiscal restraints. The addition of a National Air Toxics Trends Station (NATTS) site to the Fairbanks area will provide valuable insight into the exposure to air toxics associated with pollution events, ultimately better protecting public health. We also want to highlight ADEC's continued work on the Community-Based Air Monitoring Project, which established a network of multi-pollutant sensor pods in rural communities. This past year, we have seen the impressive work to make the sensor results available, both via the real-time website and as semi-annual reports.

Thank you for submitting the 5-Year Air Monitoring Network Assessment concurrently with the ANP, as required by 40 C.F.R. § 58.10(d). The Network Assessment met the requirements to evaluate the current network, discuss the use of new technologies, and consider the ability of the network to characterize air quality for areas with susceptible individuals and at-risk populations. A particular highlight of the Network Assessment was the description of how ADEC navigates the challenge of a widely dispersed population. We are impressed with how ADEC has made use of lower cost sensors for the Community-Based Sensor Monitoring and leveraging the existing "MyAlaska" tool for disseminating information.

Thank you for including information on ADEC's current waivers for certain monitoring requirements in the ANP Appendix C. These include ozone monitoring in the Anchorage area and the distance from the roadway at the A-Street site. We remind ADEC that these waivers will need to be revisited every five years. We appreciate the work ADEC did to coordinate with Teck and Red Dog Mine to provide modeling analysis of fence line lead (Pb) levels to show eligibility for a source-oriented lead monitoring waiver.

We approve the following air monitoring network requests included in the 2025 ANP:

1. Renewal of Red Dog Mine source-oriented lead (Pb) monitoring waiver. The Red Dog Mine is a source of Pb emissions exceeding 0.5 tons per year, which triggers the requirements for source-oriented Pb monitoring as specified in 40 C.F.R. Part 58, Appendix D, Section 4.5(a). The Regional

Administrator may waive the requirement for Pb source monitoring if the state can demonstrate that the source will not contribute to a maximum Pb concentration in ambient air in excess of 50 percent of the Pb National Ambient Air Quality Standards (NAAQS) per 40 C.F.R. Part 58, Appendix D, Section 4.5(a)(ii).

We originally approved a 5-year waiver for the Pb monitoring requirement for Red Dog Mine on August 11, 2016. We approved a second 5-year waiver on December 7, 2021. Because key site conditions (notably the Pb emissions inventory and pit dimensions) have changed since 2021, We required updated modeling before renewing the waiver. ADEC worked with Teck Alaska Inc. (Teck) and SLR International Corporation (SLR) to update and re-run the dispersion model.

Thank you for including an updated waiver request and updated model results in the 2025 ADEC ANP, in sync with the 5-Year Network Assessment. Our review of both the materials in Appendix H as well as the model input files found the modeling approach and protocol were consistent with the EPA's guidance. The results of this modeling demonstrates that the maximum ambient 3-month rolling average lead concentration at the mine does not exceed 50 percent of the lead NAAQS.

Pursuant to 40 C.F.R. Part 58, Appendix D, Section 4.5(a)(ii), this waiver must be renewed every 5 years as part of the Alaska 5-year Air Monitoring Network Assessment. Therefore, if ADEC elects to renew the Pb source-monitoring waiver, a formal written request to renew the Pb source-monitoring waiver must demonstrate that the site conditions for which the previous modeling was conducted are still applicable.

Thank you for including details on the following network modifications completed in Alaska in the period between ANP reports (July 2024 – July 2025) that were previously approved:

1. Redesignation of the continuous PM_{2.5} monitor at the NCore Site (AQS ID: 02-090-0034) from non-FEM to FEM in January 2025. DEC replaced the Sharp Cut Cyclone (SCC) with a Very Sharp Cut Cyclone (VSCC) on January 2, 2025, which complies with the requirements for the monitor to be run as an FEM. The PM_{2.5} FRM at the site will remain the primary monitor.

We appreciate the inclusion of this update in the ANP as changes to FEM monitors at SLAMS sites have implications on meeting the minimum monitoring requirements for collocation (40 C.F.R. Part 58 Appendix A, Section 3.2.3), and documentation of these changes is required by 40 C.F.R. § 58.14(b).

2. Expansion and Maintenance of Community-Based Air Monitoring Project: ADEC has deployed 36 multi-pollutant sensor pods in rural communities, and an additional five are collocated at regulatory sites. While these sensor pods are not approved as FEM and cannot be used for regulatory purposes, they provide important information on air quality outside of population centers. ADEC does not report the low-cost sensor data to AQS or AirNow but makes the measurements available in real time on their own sensor network website. ADEC also produces and makes available semi-annual reports of the air quality monitoring results for each rural community.

Thank you for including details on the following network modifications planned for the next 18 months which may require approval in a future ANP:

1. Discontinuation of the carbon monoxide (CO) monitor at the Anchorage, Garden site (AQS-ID: 02-020-0018). This modification was approved in the 2024 ANP response, contingent upon a SIP revision wherein the monitor is not required. We understand that ADEC plans to submit a SIP

revision to remove any monitoring requirements and contingency measures from the LMP. Once this SIP revision has been approved, the CO monitor may be discontinued.

The enclosed Annual Monitoring Network Plan Checklist is the checklist EPA used to review your plan for overall items that are required to be included in the ANP along with our assessment of whether the plan submitted by your agency addresses those requirements.

All comments conveyed via this letter and the enclosed checklist should be addressed in next year's annual monitoring network plan via corrections or addition of information to the plan. Please note that we cannot approve portions of the annual network plan for which the information in the plan is insufficient to judge whether the requirement has been met, or for which the information, as described, does not meet the requirements as specified in 40 C.F.R. § 58.10 and the associated appendices. We also cannot approve portions of the plan for which the EPA Administrator has not delegated approval authority to the regional offices.

The EPA approves the State of Alaska's 2024 ANP. We appreciate the timeliness of the ANP submission and all the work ADEC does to protect the quality of Alaska's air, especially your proactive work to establish low-cost sensor hub sites. We look forward to our continued collaboration. If you have any questions about our approval of the ANP, please contact me at (206) 553-0985 or Sarah Waldo at (206) 553-1504.

Sincerely,

Debra Suzuki, Manager
Air Planning and State/Tribal Coordination Branch

Year: **2025**

Agency: **Alaska Department of Environmental Conservation (ADEC)**

40 CFR § 58.10(a)(1) requires that each Annual Network Plan (ANP) include information regarding the following types of monitors: State and Local Air Monitoring Stations (SLAMS) including Federal Reference Method (FRM) and Federal Equivalent Method (FEM) that are part of SLAMS, NCore stations, Chemical Speciation Network (CSN), Photochemical Assessment Monitoring Stations (PAMS), and Special Purpose Monitor (SPM) stations.

40 CFR § 58.10(a)(1) further directs that, The plan shall include a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E of this part, where applicable. On this basis, review of the ANPs is based on the requirements listed in 40 CFR § 58.10 along with those in Appendices A, C, D, and E.

EPA Region 10 will not take action to approve or disapprove any item for which Part 58 grants approval authority to the Administrator rather than the Regional Administrators, but we will do a check to see if the required information is included and correct. The items requiring approval by the Administrator are: PAMS, NCore, and Speciation (STN/CSN).

Please note that this checklist summarizes many of the requirements of 40 CFR Part 58, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

Highlight Color:	Meaning:
White/no highlight	meets the requirement
Yellow	requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process.
Turquoise	item requires attention to improve next year's plan

	ANP requirement	Citation within 40 CFR 58	Was the information submitted? ² If yes, section or page #s.	Does the information provided ³ meet the requirement? ⁴	Notes
GENERAL PLAN REQUIREMENTS					
1.	Submit plan by July 1 st	58.10 (a)(1)	Y; cover letter/email	Y	Submitted on June 30
2.	30-day public comment / inspection period	58.10 (a)(1); 58.10 (c)	Y, cover letter, section 2.6, attachment	Y	The cover letter summarizes the public comment period and that no comments were received.
3.	Statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E, where applicable	58.10 (a)(1)	Y; p. 12	Y	
4.	Modifications to SLAMS network – case when we are not approving system modifications	58.10 (a)(2); 58.10 (b)(5); 58.10 (e); 58.14	Y, pg. 9-10	Y	Recent modifications that do not require approval: 1. Low cost sensor network. 5 pods are at regulatory sites, and 36 are in rural areas, with more to be deployed. 2. Redesignation of the continuous PM2.5 monitor at the NCore Site (AQS ID: 02-090-0034) from non-FEM to FEM in January 2025 (previously approved) Planned modifications that do not require approval: 1. Garden site: DEC plans to remove CO. approved in 2024

					ANP response pending approval of the SIP modification.
5.	Modifications to SLAMS network – case when we are approving system modifications per 58.14	58.10 (a)(2); 58.10 (b)(5); 58.10 (e); 58.14	Y, p 9	Y	Renewal of waiver for source-oriented lead (Pb) monitoring at Red Dog Mine
6.	Does plan include documentation (e.g., attached approval letter) for system modifications that have been approved since last ANP approval?	N/A	N/A	N/A	No additional approvals since last ANP response
7.	Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal	58.10 (b)(5)	Y, pg. 9-10	Y	Garden Site: Proposal to discontinue CO monitoring pending approval of SIP modification
8.	Statement that SPMs operating an FRM/FEM/ARM that meet Appendix E also meet either Appendix A or an approved alternative. Documentation for any Appendix A approved alternative should be included.	58.11 (a)(2)	Y, Section 3.3: p. 22	Y	Thank you for including the link to additional site photos and location maps
9.	SPMs operating FRM/FEM/ARM monitors for over 24 months are listed as comparable to the NAAQS or the agency provided documentation that requirements from Appendices A, C, or E were not met.	58.20 (c)	Y; Tables 3-4	Y	Consider adding a statement specifying that the Hurst Rd SO2 monitor data are eligible for comparison to the NAAQS.
10.	For agencies that share monitoring responsibilities in an MSA/CSA: this agency meets full monitoring requirements or an agreement between the affected agencies and the EPA Regional Administrator is in place	App D 2(e)	N/A	N/A	
GENERAL PARTICULATE MONITORING REQUIREMENTS (PM_{10}, $PM_{2.5}$, Pb-TSP, Pb-PM_{10})					
11.	Designation of a primary monitor if there is more than one monitor for a pollutant at a site.	App. A 3.2.3	Y; Table 3-21	Y	

12.	Distance between QA collocated monitors. For low volume PM instruments (flow rate < 200 liters/minute) > 1 m. For high volume PM instruments (flow rate > 200 liters/minute) > 2m.	App. A 3.2.3.4 (c) and 3.3.4.2 (c)	Y, Section 3.2	Y	
<i>PM_{2.5} –SPECIFIC MONITORING REQUIREMENTS</i>					
13.	Document how states and local agencies provide for the review of changes to a PM _{2.5} monitoring network that impact the location of a violating PM _{2.5} monitor.	58.10 (c)	N/A	N/A	No violating PM2.5 monitors have proposed changes
14.	Identification of any PM _{2.5} FEMs not eligible to be compared to the NAAQS due to poor comparability to FRM(s) [Note 1: must include required data assessment.] [Note 2: Required SLAMS must monitor PM _{2.5} with <u>NAAQS</u> -comparable monitor at the required sample frequency.]	58.10 (b)(13) 58.11 (e)	N/A	N/A	
15.	Minimum # of monitoring sites for PM _{2.5} [Note 1: should be supported by MSA ID, MSA population, DV, # monitoring sites, and # required monitoring sites] [Note 2: Only monitors considered to be required SLAMS are eligible to be counted towards meeting minimum monitoring requirements.]	App. D 4.7.1(a) and Table D-5	Y; Table 3-2 (p. 16)	Y	Please update Table 3-2: Summary of Monitoring Network Compliance by CBSA and Pollutant with the number of SLAMS monitoring sites, rather than monitors. For the Fairbanks MSA, the Table lists 7 "Actual" PM2.5, but it should be 3 sites. Same comments for Table D-3.
16.	Requirements for continuous PM _{2.5} monitoring (number of monitors and collocation)	App. D 4.7.2	Y; Table D-1, Table D-3, Table 3-2	Y	Consider adding a statement to section 3.2 about the continuous PM2.5 monitoring requirements.
17.	FRM/FEM/ARM PM _{2.5} QA collocation	App. A 3.2.3	Y, Table 3-4	Y	

18.	PM _{2.5} Chemical Speciation requirements for official STN sites	App. D 4.7.4	Y; Tables 3-4, 3-18; D-3	Y	
19.	Identification of sites suitable and sites not suitable for comparison to the annual PM _{2.5} NAAQS as described in Part 58.30	58.10 (b)(7)	Y, Table 3-4	Y	
20.	Required PM _{2.5} sites represent area-wide air quality	App. D 4.7.1(b)	Y, Table 3-4	Y	
21.	For PM _{2.5} , within each MSA, at least one site at neighborhood or larger scale in an area of expected maximum concentration	App. D 4.7.1(b)(1)	Y, Table 3-2	Y	
22.	If additional SLAMS PM _{2.5} is required, there is a site in an area of poor air quality	App. D 4.7.1(b)(3)	N/A	N/A	
23.	States must have at least one PM _{2.5} regional background and one PM _{2.5} regional transport site.	App. D 4.7.3	N	N	Which site is for regional transport? Missing from Comments section of Table D-1 (p. 59) too
24.	Sampling schedule for PM _{2.5} - applies to year-round and seasonal sampling schedules (note: date of waiver approval must be included if the sampling season deviates from requirement)	58.10 (b)(4); 58.12(d); App. D 4.7	Y; Tables 3-9 thru 3-13	Y	
PM₁₀ –SPECIFIC MONITORING REQUIREMENTS					
25.	Minimum # of monitoring sites for PM ₁₀ [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App. D, 4.6 (a) and Table D-4	Y; Tables D-4, D-5		Thank you for updating Table D-5 not to include the Laurel PM10 SPM toward the min mon requirements.
26.	Manual PM ₁₀ method collocation (note: continuous PM ₁₀ does not have this requirement)	App. A 3.3.4	Y, Table 3-21	Y	Not required for continuous PM10
27.	Sampling schedule for PM ₁₀	58.10 (b)(4); 58.12(e); App. D 4.6	Y; table 3-9, 3-13	Y	

Pb –SPECIFIC MONITORING REQUIREMENTS

28.	Minimum # of monitors for non-NCORE Pb [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.5	Y; Section 3.1.4	Y	ANP requests waiver renewal for Red Dog Mine
29.	Pb collocation: for non-NCORE sites	App A 3.4.4 and 3.4.5	N/A	N/A	
30.	Any source-oriented Pb site for which a waiver has been granted by EPA Regional Administrator	58.10 (b)(10)	Y, Appendix C	Y	R10 approves the waiver request.
31.	Any Pb monitor for which a waiver has been requested or granted by EPA Regional Administrator for use of Pb-PM ₁₀ in lieu of Pb-TSP	58.10 (b)(11)	N/A	N/A	
32.	Designation of any Pb monitors as either source-oriented or non-source-oriented	58.10 (b)(9)	N/A	N/A	
33.	Sampling schedule for Pb	58.10 (b)(4); 58.12(b); App A 3.4.4.2 (c) and 3.4.5.3 (c)	N/A	N/A	

O₃ –SPECIFIC MONITORING REQUIREMENTS

34.	Minimum # of monitoring sites for O ₃ [Note 1: should be supported by MSA ID, MSA population, DV, # monitoring sites, and # required monitoring sites] [Note 2: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.] [Note 3: monitors that do not meet traffic count/distance requirements to be neighborhood or urban scale (40 CFR	App D 4.1(a) and Table D-2	Y; Table 3-3; Section 3.5.1; App C, Waiver C-1`	Y	EPA approved 5-year waiver extension for Anchorage O3 on 10/30/2023
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	Appendix E, Table E-1) cannot be counted towards meeting minimum monitoring requirements]				
35.	Identification of maximum concentration O ₃ site(s)	App D 4.1 (b)	N/A		AK only monitors ozone at the NCore site.
36.	Sampling season for O ₃ (Note: Waivers must be renewed annually. EPA expects agencies to submit re-evaluations of the relevant data each year with the ANP. EPA will then respond as part of the ANP response.)	58.10 (b)(4); App D 4.1(i)	Y, Tables D-9 - D-11	Y	
37.	An Enhanced Monitoring Plan for O ₃ , if applicable, no later than October 1, 2019 or two years following the effective date of a designation to a classification of Moderate or above O ₃ nonattainment, whichever is later.	58.10 (a)(11); App D 5 (h)	N/A	N/A	

NO₂ –SPECIFIC MONITORING REQUIREMENTS

38.	Minimum monitoring requirements for area-wide NO ₂ monitor in location of expected highest NO ₂ concentrations representing neighborhood or larger scale	App D 4.3.3	N/A (Table D-6)		AK is not required to monitor NO ₂ because it has no CBSAs with populations > 1,000,000. AK monitors NO and NO _y at NCore.
39.	Minimum monitoring requirements for susceptible and vulnerable populations monitoring (aka RA40) NO ₂	App D 4.3.4	N/A		

NEAR ROADWAY – SPECIFIC MONITORING REQUIREMENTS

In CBSAs ≥ 1 million and ≤ 2.5 million **AND** AADT < 250K, the following near-roadway minimum monitoring requirements apply:

40.	One NO ₂ monitor	App. D 4.3.2(a); 58.13(c)(3)	N/A		Alaska does not have any CBSAs over 1 million.
41.	One CO monitor	App. D 4.2.1(a); 58.13(e)(2)	N/A		
42.	One PM _{2.5} monitor	App. D 4.7.1(b)(2);	N/A		

		58.13(f)(2)			
SO₂ –SPECIFIC MONITORING REQUIREMENTS					
43.	Minimum monitoring requirements for SO ₂ based on PWEI and/or RA required monitors under Appendix D 4.4.3 [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.4	Y, Tables D-13, D-14, D-15	Y	AK is not required to monitor SO ₂ based on PWEI. AK monitors SO ₂ at NCore (SLAMS) and at Hurst Road site (SPM, since 2021).
NCORE –SPECIFIC MONITORING REQUIREMENTS					
44.	NCore site and all required parameters operational: year-round O ₃ , SO ₂ , CO, NO _y , NO, PM _{2.5} mass, PM _{2.5} continuous, PM _{2.5} speciation, PM _{10-2.5} mass, resultant wind speed at 10m, resultant wind direction at 10m, ambient temperature, relative humidity. NO _y waiver, if applicable.	App. D 3(b)	Y; Table 3-7	Y	
45.	A plan for making Photochemical Assessment Monitoring Stations (PAMS) measurements, if applicable. The plan shall provide for the required PAMS measurements to begin by June 1, 2021.	58.10 (a)(10); 58.13 (h)	N/A		AK is not required to have a PAMS site
SITE OR MONITOR - SPECIFIC REQUIREMENTS (OFTEN INCLUDED IN DETAILED SITE INFORMATION TABLES)					
46.	AQS site identification number for each site	58.10 (b)(1)	Y	Y	Please consider condensing the information in this section into fewer tables.
47.	Location of each site: street address and geographic coordinates	58.10 (b)(2)	Y	Y	
48.	MSA, CBSA, CSA or other area represented by the monitor	58.10 (b)(8)	Y	Y	

49.	Parameter occurrence code (POC) for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Y	Y	
50.	Basic monitoring objective for each monitor	App D 1.1; 58.10 (b)(6)	Y	Y	
51.	Site type (designation) for each monitor (e.g. SLAMS, SPM)	App D 1.1.1	Y	Y	
52.	Monitor type for each monitor, and Network Affiliation(s) as appropriate	Needed to determine if other requirements (e.g., min # and collocation) are met	Y	Y	
53.	Scale of representativeness for each monitor as defined in Appendix D	58.10(b)(6); App D	Y	Y	
54.	Parameter code for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Y	Y	
55.	Method code and description (e.g., manufacturer & model) for each monitor	58.10 (b)(3); App C 2.4.1.2	Y	Y	
56.	Sampling start date for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Y	Y	

SITE OR MONITOR - SPECIFIC REQUIREMENTS FOR NEW OR MODIFIED SITES (as of 2022)

57.	Distance of monitor from nearest road	App E 6	Y, Tables 3-4, 3-5, 3-6	Y	
58.	Traffic count of nearest road	App E	Y, Table 3-5, 3-6	Y	
59.	Groundcover	App E 3(a)	Y; E1 – E3	Insufficient	Thank you for adding the footnotes that the groundcover criteria are in compliance for each site. Please add a description of the groundcover during future site evaluations.
60.	Probe height	App E 2	Y, Tables E-1, E-2, E3	Y	
61.	Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	App E 2	Y, Tables E-1, E-2, E3	Y	
62.	Distance from obstructions on roof (horizontal distance to the obstruction and vertical height of the obstruction above the probe should be provided)	App E 4(b)	Y, Tables E-1, E-2, E3	Y	
63.	Distance from obstructions not on roof (horizontal distance to the obstruction and vertical height of the obstruction above the probe should be provided)	App E 4(a)	Y, Tables E-1, E-2, E3	Y	
64.	Distance from the drip line of closest tree(s)	App E 5	Y, Tables E-1, E-2, E3	Y	
65.	Distance to furnace or incinerator flue	App E 3(b)	Y, Tables E-1, E-2, E3	Y	
66.	Unrestricted airflow (expressed as degrees around probe/inlet or percentage of monitoring path)	App E, 4(a) and 4(b)	Y, Tables E-1, E-2, E3	Y	
67.	Probe material (NO/NO ₂ /NO _y , SO ₂ , O ₃ ; For PAMS: VOCs, Carbonyls)	App E 9	Y, Tables E-1, E-2, E3	Y	
68.	Residence time (NO/NO ₂ /NO _y , SO ₂ , O ₃ ; For PAMS: VOCs, Carbonyls)	App E 9	Y, Tables E-1, E-2, E3	Y	

CFR Definitions:

- **Monitoring Objective** can be one of three things: 1) Provide air pollution data to the general public in a timely manner; 2) Support compliance with ambient air quality standard and emission strategy development; or 3) Support air pollution research studies
- **Monitoring Site Types** are for the purpose of supporting the monitoring objectives, and there are six general types: 1) highest concentration; 2) typical concentrations in areas of high population density (aka population exposure); 3) source oriented; 4) background; 5) transport; 6) visibility/welfare
- **Spatial Scale:** Neighborhood, medium, micro, etc
- **Monitor designation:** can refer to both whether a monitor is FRM/FEM, and whether it is SLAMS or SPM. Further confusion: NCore, PAMS, and CSN are types of SLAMS