Technical Analysis Report

For the terms and conditions of
Minor Permit AQ1121MSS04 Revision 1

Issued to Doyon Utilities, LLC

For the Fort Wainwright (Privatized Emission Units)

Alaska Department of Environmental Conservation
Air Permits Program

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1. INTRODUCTION

This Technical Analysis Report (TAR) provides the Alaska Department of Environmental Conservation's (Department's) basis for issuing Minor Permit AQ1121MSS04 Revision 1 to Doyon Utilities, LLC (DU) for the Fort Wainwright (Privatized Emission Units). Their application is classified under AS 46.14.130(c)(2) because the Department finds that public health or air quality effects provide a reasonable basis to regulate the stationary source. This finding is contained in the State Air Quality Control Plan adopted on November 19, 2019. [5]

The designation of the Fairbanks North Star Borough (FNSB) nonattainment area as "Serious" with regard to nonattainment of the 2006 24-hour $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) was published in Federal Register Vol. 82, No. 89, May 10, 2017, pages 21703-21706. CAA section 189(b)(1)(B) and 40 C.F.R. § 51.1010 describe the Serious area attainment plan requirements for best available control measures (BACM). Large stationary sources are a subgroup of emissions sources that are given special attention in the required BACM analysis. Per federal requirement, the Department evaluated all point sources with emissions greater than 70 TPY of $PM_{2.5}$ or for any individual $PM_{2.5}$ precursor (NOx, SO_2, NH_3, VOCs). The conditions contained in this permit are those required in Table 7.7-11 of the Amendments to: State Air Quality Control Plan Vol II: III.D.7.7 Control Strategies document; adopted November 19, 2019.

On July 30, 2024, the Department sent DU a notice of intent to revoke and reissue Minor Permit AQ1121MSS04 under AS 46.14.280(a)(2). With the re-issuance as Minor Permit AQ1121MSS04 Revision 1, the Department maintains AS 46.14.130(c)(2) as the basis for the permit issuance, because the Department finds that public health or air quality effects still provide a reasonable basis to regulate the stationary source. This finding for the FNSB Serious Nonattainment Area (NAA) State Implementation Plan (SIP) is contained in the State Air Quality Control Plan adopted on November 19, 2019, with amendments adopted on November 18, 2020.

The Department is preparing a new comprehensive SIP with a new determination that SO_2 BACT limits for major stationary sources are, at this point, not required to satisfy the State's obligations under the Clean Air Act requirements for stationary sources in the NAA. This new determination is predicated on the SO_2 precursor demonstration allowed under 40 C.F.R. 51.1010(a)(2)(iii).

Given that Minor Permit AQ1121MSS04 contains SO_2 controls identified in the FNSB NAA SIP for the Fort Wainwright (Privatized Emission Units), the Department now finds no underlying basis for those conditions being included in the permit. Additionally, the EPA's *Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan*[6] published in the *Federal Register* on December 5, 2023 (88 *Fed. Reg.* 84658) disapproved the lack of monitoring, recordkeeping, and reporting (MR&R) initially proposed by the Department for $PM_{2.5}$ emissions from the Fort Wainwright (Privatized Emission Units).

Therefore, with the issuance of Minor Permit AQ1121MSS04 Rev. 1, the Department has rescinded all of the previous BACT/BACM SO_2 requirements in Section 3 of Minor Permit AQ1121MSS04 that originated from the FNSB NAA SIP, and has replaced them with the $PM_{2.5}$ requirements from Table 7.7-11 of the State Air Quality Control Plan Vol. II: III.D.7.07 – Control Strategies Chapter and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix

[5] Background and detailed information regarding Fairbanks $PM_{2.5}$ State Implementation Plan (SIP) can be found at http://dec.alaska.gov/air/anpms/communities/fbks-pm2-5-serious-sip/.

[6] The EPA's Air Plan Partial Approval and Partial Disapproval; AK, Fairbanks North Star Borough; 2006 24-hour $PM_{2.5}$ Serious Area and 189(d) Plan can be found at https://www.regulations.gov/document/EPA-R10-OAR-2022-0115-0426.

III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020. On August 23, 2024, EPA's NAA Project Lead Matt Jentgen sent the Department a letter recommending certain requirements be contained in the Department's NAA minor permit for the Zehnder Facility in order to satisfy certain Clean Air Act requirements. The EPA letter recommended that Minor Permit AQ0109MSS01 Rev. 1 be revised to contain conditions to ensure that the reporting obligations of the minor permit are independent of the operating permit. In light of the EPA's disapproval comments and August 23, 2024 letter, the Department has also included additional MR&R requirements to make the SIP requirements enforceable. These additional MR&R requirements will be included in the Department's upcoming SIP submittal as an appendix to the control strategies chapter. Section 3of this minor permit will be incorporated into the Department's upcoming final SIP submittal as an appendix to the Control Strategies Chapter.

With the issuance of Minor Permit AQ1121MSS04 Rev. 1, the Fort Wainwright (Privatized Emission Units)'s potential SO_2 emissions will revert to the levels in place upon the issuance of AQ1121MSS04 before the SO_2 limits went into effect on June 9, 2021. The Department does not consider this change to be a potential or actual emissions increase under 18 AAC 50.502(c)(3), or a potential or net emissions increase under 40 C.F.R. 52.21(b).

2. STATIONARY SOURCE DESCRIPTION

The Fort Wainwright (Privatized Emission Units) is an existing stationary source. The emissions unit (EU) inventory consists of six coal-fired boilers, three dust collectors, one backup engine, six emergency generator engines, seven emergency pump engines, a fly ash dust collector, a bottom ash dust collector, and a coal storage pile. The EU inventory for this permitting action includes only the EUs subject to BACT requirements.

Fort Wainwright (Privatized Emission Units) currently operates under Operating Permit AQ1121TVP02, Revision 2.

3. APPLICATION DESCRIPTION

The Department is processing Minor Permit AQ1121MSS04 Rev. 1 under the Department's revoke and reissuance procedures under AS 46.14.280(a)(2), and therefore no permit application was submitted by the Permittee. The Department sent DU a notice of intent to revoke and reissue Minor Permit AQ1121MSS04 under AS 46.14.280(a)(2), on July 30, 2024. Minor Permit AQ1121MSS04 Rev. 1 includes the $PM_{2.5}$ requirements from the FNSB Serious NAA SIP.

4. CLASSIFICATION FINDINGS

Based on the review of the application, the Department finds that:

1. Minor Permit AQ1121MSS04 Rev. 1 is classified under AS 46.14.130(c)(2) because of a finding by the Department that public health or air quality effects provide a reasonable basis to regulate the stationary source. This finding is contained in the State Air Quality Control Plan adopted on November 19, 2019, with amendments adopted on November 19, 2020.

5. EMISSIONS SUMMARY AND PERMIT APPLICABLITY

Table 6 shows the emissions summary and permit applicability with assessable emissions from the stationary source. Emission factors and detailed calculations for EUs included in this permitting action are provided in Appendix A.

A summary of the potential to emit (PTE) and assessable PTE, as determined by the Department, is shown in Table 6 below.

Table 6 – Emissions Summary and Permit Applicability, tons per year (tpy)

Parameter	NOx	CO	VOC	PM-2.5 [a]	PM-10	SO_2	HAP
PTE upon issuance of AQ1121MSS04	1,497.9	848.8	9.7	121.4	137.0	1,765	31.5
PTE after June 9, 2021	1,497.9	848.8	9.7	121.4	137.0	1,470	31.5
PTE after October 1, 2023	1,497.9	848.8	9.7	121.4	137.0	305	31.5
PTE upon issuance of AQ1121MSS04 Rev. 1 [b]	1489.15	841.14	8.84	16.08	16.08	1,764.01	29.1
Total Assessable Emissions	4148.32						

Table Notes:

[a] – PM-10 emissions include PM-2.5 emissions. Therefore, PM-2.5 is not counted in total assessable emissions.

[b] – Note that with the issuance of Minor Permit AQ1121MSS04 Rev. 1, the source's SO_2 PTE reverts to the original PTE in place upon the issuance of AQ1121MSS04 before the SO_2 limits went into effect on June 9, 2021. The Department does not consider this permitting action to be a potential or actual emissions increase under 18 AAC 50.502(c)(3), or a potential or net emissions increase under 40 C.F.R. 52.21(b). See Section 1 of the TAR for further details.

6. REVISIONS TO PERMIT CONDITIONS

Table 7 below lists the requirements carried over from Minor Permit AQ1121MSS04 into Minor Permit AQ1121 Rev. 1.

Table 7 - Comparison of AQ1121MSS04 to AQ1121MSS04 Revision 1 Conditions[7]

Permit AQ1121MSS04 Condition No.	Description of Requirement	Permit AQ1121MSS04 Rev. 1 Condition No.	How Condition was Revised
Section 1	Emissions Unit Inventory	Section 1	Updated Table 1 to include new EU IDs 30a, 32a, 33a, and 37a.
3 and 4	SPC I – Emission Fees (Fee Requirements & Assessable Emissions)	3 and 4	Updated these conditions to remove the language for paying emissions "in quantities 10 tons per year or greater" to match the revision made in 18 AAC 50.410, effective September 7, 2022. The assessable potential to emit in Condition 3.1 has been updated to the value in Table 6 above, to reflect this permit issuance.
5 through 8	FNSB NAA SIP SO_2 BACT Requirements: Emission Limits on EU IDs 1 through 6, 8, 9, 14, 22, 23,	None	The existing SO_2 limits whose basis stemmed from the FNSB NAA SIP were removed in their entirety because the Department has rescinded the previous SO_2 BACT section from this SIP and is now relying on a precursor demonstration to show that SO_2 controls are not needed for

[7] This table does not include all standard and general conditions.

Permit AQ1121MSS04 Condition No.	Description of Requirement	Permit AQ1121MSS04 Rev. 1 Condition No.	How Condition was Revised
	29a, 31a, 34 through 36		attaining the standard, as allowed under the $PM_{2.5}$ NAAQS Final SIP Requirements Rule[8].
None	FNSB NAA SIP $PM_{2.5}$ BACT Requirements: Emission Limits on EU IDs 1 through 6	5	Included new $PM_{2.5}$ requirements for EU IDs 1 through 6 from Table 7.7-11 of the State Air Quality Control Plan Vol. II: III.D.7.07 – Control Strategies Chapter, and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020. Also included MR&R requirements to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	FNSB NAA SIP $PM_{2.5}$ BACT Requirements: Emission Limits on EU ID 8	6	Included new $PM_{2.5}$ requirements for EU ID 8 from Table 7.7-11 of the State Air Quality Control Plan Vol. II: III.D.7.07 – Control Strategies Chapter, and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020. Also included MR&R requirements to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	FNSB NAA SIP $PM_{2.5}$ BACT Requirements: Emission Limits on EU IDs 9, 14, 22, 23, 29a through 33a, 34, 35, 36a, and 37a	7	Included new $PM_{2.5}$ requirements for EU IDs 9, 14, 22, 23, 29a through 33a, 34, 35, 36a, and 37a from Table 7.7-11 of the State Air Quality Control Plan Vol. II: III.D.7.07 – Control Strategies Chapter, and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020. Also included MR&R requirements to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

[8] https://www.gpo.gov/fdsys/pkg/FR-2016-08-24/pdf/2016-18768.pdf.

Permit AQ1121MSS04 Condition No.	Description of Requirement	Permit AQ1121MSS04 Rev. 1 Condition No.	How Condition was Revised
9 and 10	FNSB NAA SIP $PM_{2.5}$ BACT Requirements: Emission Limits on EU IDs 7a, 7b, 7c, 51a, 51b, and 52	8	Incorporated into the new Condition 8, which contains $PM_{2.5}$ requirements for EU IDs 7a, 7b, 7c, 51a, 51b, and 52 from Table 7.7-11 of the State Air Quality Control Plan Vol. II: III.D.7.07 – Control Strategies Chapter, and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020. Also included MR&R requirements to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	SPC XVII – Reporting Requirements (Certification and Submittals)	9 and 10	Included SPC XVII – Reporting Requirements, as Conditions 9 and 10 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	SPC III – Excess Emissions and Permit Deviations	11	Included SPC III – Excess Emissions and Permit Deviations, as new Condition 11 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	SPC VII – Operating Reports	12	Included SPC VII – Operating Reports, as new Condition 12 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	Annual Compliance Certification	13	Included the annual compliance certification condition from the Department's Title V template as new Condition 13 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	General Source Test Requirements	Section 6	Included the general source test requirement conditions from the Department's Title V template as new Conditions 20 through 27 in order to add source testing requirements into the minor permit to satisfy additional

Permit AQ1121MSS04 Condition No.	Description of Requirement	Permit AQ1121MSS04 Rev. 1 Condition No.	How Condition was Revised
			SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.
None	Notification Form	Section 8	Included the notification form that goes along with SPC III – Excess Emissions and Permit Deviations in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

7. PERMIT ADMINISTRATION

Minor Permit AQ1121MSS04 Rev. 1 does not contradict conditions in the Title V operating permit AQ1121TVP02 Rev. 2 issued to the Fort Wainwright (Privatized Emission Units). Therefore, DU may operate under the terms and conditions of Minor Permit AQ1121MSS04 Rev. 1 upon issuance of the permit.

8. PERMIT CONDITIONS

The bases for the standard and general conditions imposed in Minor Permit AQ1121MSS04 Revision 1 are described below.

Cover Page

18 AAC 50.544(a)(1) requires the Department to identify the stationary source, Permittee, and contact information. The Department provided this information on the cover page of the permit. the cover page also states that the Department's Standard Permit Condition XIII – Coal Fired Boilers (as adopted July 22, 2020) and the Department's Default COMs Audit Procedures (as adopted August 20, 2008), have both been adopted into this minor permit.

Section 1: Emissions Unit Inventory

The EUs authorized and/or restricted by this permit are listed in Table 1 of the permit. Unless otherwise noted in the permit, the information in Table 1 is for identification purposes only. Condition 1 is a general requirement to comply with AS 46.14 and 18 AAC 50 when installing a replacement EU.

Section 2: Fee Requirements

18 AAC 50.544(a)(2) requires the Department to include a requirement to pay fees in accordance with 18 AAC 50.400 – 18 AAC 50.499 in each minor permit issued under 18 AAC 50.542. The Department used the Standard Permit Condition (SPC) I language for Minor Permit AQ1121MSS04 Revision 1. However, the Department modified the condition by removing the requirement to only pay for emissions of each air pollutant in quantities of 10 tons per year or greater, to be consistent with the updates to the emission fees in 18 AAC 50.410(a) that went into effect September 7, 2022. The Department is in the process of incorporating these updates into SPC I.

Section 3: State Implementation Plant (SIP) Requirements

Conditions 5 through 8 provide enforceable terms and conditions intended to satisfy the $PM_{2.5}$ requirements from Table 7.7-11 of the State Air Quality Control Plan Vol II: III.D.7.07 Control Strategies document and from the Fort Wainwright BACT Determination (located on PDF pages 488 through 543 of Part 2 of Appendix III.D.7.07 Control Strategies Chapter), adopted November 19, 2019, amendments adopted November 18, 2020 (FNSB NAA SIP). In light of the EPA's disapproval comments, the Department has also included additional MR&R requirements to make these SIP requirements enforceable. This permit section will be included in the Department's upcoming SIP submittal as an additional appendix to the control strategies chapter.

Condition 5 and Table 2 provide the $PM_{2.5}$ BACT control and emissions limits identified in the FNSB NAA SIP for the coal boilers EU IDs 1 through 6. This includes an emissions limit of 0.045 lb/MMBtu over a 3-hour averaging period, the requirement to monitor visible emissions with a Continuous Monitoring System (COMS), and the requirement to maintain good combustion practices and a full stream baghouse system at all times the EUs are in operation. The Department included a one-time

source test on any two of EU IDs 1 through 6 at maximum achievable load in Condition 5.1a to demonstrate compliance with the $PM_{2.5}$ emissions limit in Table 2. Condition 5.1c requires the Permittee to operate a full stream baghouse system at all times that EU IDs 1 through 6 are in operation, as well as perform regular maintenance according to the manufacturer's and the operator's maintenance procedures and keep records of the maintenance performed. The Department included additional reporting in Condition 5.1e(i) beyond Standard Permit Condition VI – Good Air Pollution Control, in order to satisfy additional SIP requirements requested by the EPA. Condition 5.1d requires the Permittee to comply with the State Visible Emissions Standard listed under 18 AAC 50.055(a)(9) using a COMS. Condition 5.1b requires the Permittee to report the compliance status with the $PM_{2.5}$ emissions limit in Table 2 with each annual compliance certification described in Condition 13. Condition 5.1f requires the Permittee to report as Excess Emissions and Permit Deviation under Condition 11 if any of the requirements in Conditions 5.1a through 5.1e are not met.

Condition 6 and Table 3 provide the $PM_{2.5}$ BACT control and emissions limit identified in the FNSB NAA SIP for the large diesel-fired engine EU ID 8. This includes an emissions limit of 0.15 g/hp-hr, an operational limit of 500 hours per 12-month rolling period, the requirement to combust only ULSD, and the requirement to maintain good combustion practices at all times the EUs are in operation. Condition 6.1a requires the Permittee to perform regular maintenance according to the manufacturer's and the operator's maintenance procedures and keep records of the maintenance performed. The Department included additional reporting in Condition 6.1e(i) beyond Standard Permit Condition VI – Good Air Pollution Control, in order to satisfy additional SIP requirements requested by the EPA. Condition 6.1b limits the operation of EU ID 8 to 500 hours per 12-month rolling period, and requires the Permittee to record the date, time, and duration for each operation of EU ID 8, calculate the hours of operation for the previous calendar month and the total hours of operation for the previous 12-month period, and report those hours in the operating report described in Condition 12. Condition 6.1c includes MR&R requirements to demonstrate compliance with the requirement to combust only ULSD fuel. Condition 6.1d requires the Permittee to report the compliance status with the $PM_{2.5}$ emissions limit in Table 3 with each annual compliance certification described in Condition 13. Condition 6.1f requires the Permittee to report as Excess Emissions and Permit Deviation under Condition 11 if any of the requirements in Conditions 6.1a through 6.1e are not met.

Condition 7 and Table 4 provide the $PM_{2.5}$ BACT control and emissions limit identified in the FNSB NAA SIP for the small diesel-fired engines EU IDs 9, 14, 22, 23, 29a through 33a, 34, 35, 36a, and 37a. This includes an emissions limit of 0.0022 lb/hp-hr for EU IDs 9, 22, 23, 24, and 36a, an emissions limit of 0.2 g/kW-hr for EU ID 14, and an emissions limit of 0.3 g/hp-hr for EU IDs 29a through 33a, 35, and 37a, as well as an operational limit of 100 hours per year of non-emergency operation, the requirement to combust only ULSD, and the requirement to maintain good combustion practices at all times the EUs are in operation. Condition 7.1a requires the Permittee to perform regular maintenance according to the manufacturer's and the operator's maintenance procedures and keep records of the maintenance performed. The Department included additional reporting in Condition 7.1e(i) beyond Standard Permit Condition VI – Good Air Pollution Control, in order to satisfy additional SIP requirements requested by the EPA. Condition 7.1b limits the operation of EU IDs 9, 14, 22, 23, 29a through 33a, 34, 35, 36a, and 37a to 100 hours per year of non-emergency operation, and requires the Permittee to maintain and operate a non-resettable hour meter, record the total operating hours of each EU for the previous calendar month and previous 12 consecutive months, and report those hours in the operating report described in Condition 12. Condition 7.1c includes MR&R requirements to demonstrate compliance with the requirement to combust only ULSD fuel. Condition 7.1d requires the Permittee to report the compliance status with the $PM_{2.5}$ emissions limit

in Table 4 with each annual compliance certification described in Condition 13. Condition 7.1f requires the Permittee to report as Excess Emissions and Permit Deviation under Condition 11 if any of the requirements in Conditions 7.1a through 7.1e are not met.

Condition 8 and Table 5 provide the $PM_{2.5}$ BACT control and emissions limit identified in the FNSB NAA SIP for the material handling equipment EU IDs 7a, 7b, 7c, 51a, 51b, and 52. This includes an emissions limit of 0.0025 gr/dscf for EU ID 7a, an emissions limit of 0.02 gr/dscf for EU IDs 7b, 7c, 51a, and 51b, and an emissions limit of 1.42 tons per year for EU ID 52. EU IDs 7a, 7b, 7c, 51a, and 51b have requirements to be enclosed and have door(s) and access panels closed while in operation, while EU ID 52 has requirements to comply with the fugitive dust control plan. The Department included a one-time compliance certification on EU IDs 7a, 7b, 7c, 51a, and 51b in Condition 8.1a to demonstrate that coal/ash handling and conveying systems are enclosed. Condition 8.1b requires the Permittee to perform regular maintenance according to the manufacturer's and the operator's maintenance procedures and keep records of the maintenance performed. Condition 8.1c requires the Permittee to monitor that door(s) and access panels to coal/ash handling and conveying systems are closed while in operation. Condition 8.1d requires EU IDs 7a, 7b, and 7c to be operating at all times when the South Coal Handling system, South Under Bunker Flight Conveyor system, and North Coal Handling system are in operation, respectively. Condition 8.1e requires EU IDs 51a and 51b to be operating at all times fly and bottom ash is conveyed to truck loading locations, for overhead door(s) at the ash loading building to be closed while loading trucks, and for ash truck bodies to be free of ash before leaving the building, with their loads tarped before leaving the building area. Condition 8.2 requires the Permittee to maintain and comply with the fugitive dust control plan, including using chemical stabilizers to control fugitive dust on dirt roads and keeping wind fencing in place around coal piles, and to report whether these measures have been implemented in the operating report described in Condition 12. Condition 8.3 requires the Permittee to report the compliance status with the $PM_{2.5}$ emissions limit in Table 5 with each annual compliance certification described in Condition 13. Condition 8.4 requires periodic reporting under the operating report in Condition 12 to demonstrate compliance with the various material handling obligations under this condition. Condition 8.5 requires the Permittee to report as Excess Emissions and Permit Deviation under Condition 11 if any of the requirements in Conditions 8.1 through 8.4 are not met

Section 4: Recordkeeping, Reporting, and Certification Requirements

Condition 9, Certification

18 AAC 50.205 requires the Permittee to certify any permit application, report, affirmation, or compliance certification submitted to the Department. The Department used the language in Standard Permit Condition (SPC) XVII. This requirement is reiterated as a standard permit condition in 18 AAC 50.345(j).

Condition 10, Submittals

Condition 10 clarifies where the Permittee should send their reports, certifications, and other submittals required by the permit. The Department used the language in SPC XVII. The Department included this condition from a practical perspective rather than a regulatory obligation.

Condition 11 and Section 8, Excess Emission and Permit Deviation Reports and Notification Form

This condition reiterates the notification requirements in 18 AAC 50.235(a)(2) and 18 AAC 50.240 regarding unavoidable emergencies, malfunctions, and excess emissions. Also, the Permittee is

required to notify the Department when emissions or operations deviate from the requirements of the permit. The Department used the language in SPCs III and IV, except as follows:

The Department has modified Condition 11.3 and the Notification Form in Section 8 to reflect the electronic submittal requirements in 18 AAC 50.270 using the Department's online form to submit notification of excess emissions and permit deviations beginning September 7, 2023. The electronic notification form is found at the Division of Air Quality's Air Online Services (AOS) system webpage http://dec.alaska.gov/applications/air/airtoolsweb using the Permittee Portal option. Submittal through other methods may be allowed only upon written Department approval. Beyond as noted, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3).

The Department included Condition 11 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

Condition 12, Operating Reports

The Department mostly used the SPC VII language for the operating report condition. However, the Department modified or eliminated the Title V only aspects in order to make the language applicable for a minor permit. The Department included Condition 12 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

Condition 13, Annual Compliance Certification

This condition specifies the periodic compliance certification requirements and specifies a due date for the annual compliance certification. No format is specified. The Permittee may provide one report certifying compliance with each permit term or condition for each of the effective permits during the certification period, or may choose to provide two reports: one certifying compliance with permit terms and conditions from January 1 until the date of expiration of the old permit, and a second report certifying compliance with terms and conditions in effect from the effective date of the renewal permit until December 31.

The Permittee is required to submit to the Department an annual compliance certification report. The Permittee may submit the required report electronically at their discretion.

The Department included Condition 13 in order to add reporting requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

Section 5: Standard Permit Conditions

Conditions 14 – 19, Standard Permit Conditions

18 AAC 50.544(a)(5) requires each minor permit issued under 18 AAC 50.542 to contain the standard permit conditions in 18 AAC 50.345, as applicable. 18 AAC 50.345(a) clarifies that subparts (c)(1) and (2), and (d) through (o), may be applicable for a minor permit.

The Department included all of the minor permit-related standard conditions of 18 AAC 50.345 in Minor Permit AQ1121MSS04 Revision 1. The Department incorporated these standard conditions as follows:

- 18 AAC 50.345(c)(1) and (2) is incorporated as Condition 14 of Section 5 (Standard Permit Conditions); and
- 18 AAC 50.345(d) through (h) is incorporated as Conditions 15 through 19, respectively, of Section 5 (Standard Permit Conditions).

Section 6, General Source Test Requirements

AS 46.14.180 states that monitoring requirements must be, "based on test methods, analytical procedures, and statistical conventions approved by the federal administrator or the department or otherwise generally accepted as scientifically competent." The Department incorporated this requirement as follows:

- Condition 21 requires the Permittee to conduct their source tests under conditions that reflect the actual discharge to ambient air; and
- Condition 22 requires the Permittee to use specific EPA reference methods when conducting a source test.

Section 6 also includes the previously discussed standard conditions for source testing.

The Department included Section 6 in order to add source testing requirements into the minor permit to satisfy additional SIP inclusion conditions recommended by EPA Region 10 in a letter dated August 23, 2024.

APPENDIX A: EMISSIONS CALCULATIONS

Table A-1 presents details of the EUs, their characteristics, and emissions for each EU included in this permitting action. Potential emissions are estimated using maximum annual operation for all fuel burning equipment as defined in 18 AAC 50.990(39) subject to any operating limits.

Table A-1 – Emissions Summary, in Tons Per Year (TPY)

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Current Operating Limits	NO_x		CO		PM 2.5/10		VOC		SO_2	
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)
1	Coal-Fired Boiler 3	230 MMBtu/hr	336,000 tpy	8.8 lb/ton	1478.4	5 lb/ton	840	0.045 lb/MM Btu	11.59	0.05 lb/ton	8.4	10.5 lb/ton	1764
2	Coal-Fired Boiler 4	230 MMBtu/hr		8.8 lb/ton		5 lb/ton		0.045 lb/MM Btu		0.05 lb/ton		10.5 lb/ton	
3	Coal-Fired Boiler 5	230 MMBtu/hr		8.8 lb/ton		5 lb/ton		0.045 lb/MM Btu		0.05 lb/ton		10.5 lb/ton	
4	Coal-Fired Boiler 6	230 MMBtu/hr		8.8 lb/ton		5 lb/ton		0.045 lb/MM Btu		0.05 lb/ton		10.5 lb/ton	
5	Coal-Fired Boiler 7	230 MMBtu/hr		8.8 lb/ton		5 lb/ton		0.045 lb/MM Btu		0.05 lb/ton		10.5 lb/ton	
6	Coal-Fired Boiler 8	230 MMBtu/hr		8.8 lb/ton		5 lb/ton		0.045 lb/MM Btu		0.05 lb/ton		10.5 lb/ton	
7a	South Coal Handling Dust Collector (DC-01)	13,150 acfm	2,195 hr/yr	N/A	0	N/A	0	0.0025 gr/dscf	3.00E-1	N/A	0	N/A	0
7b	South Underbunker Dust	884 acfm	100 hr/yr	N/A	0	N/A	0	0.02 gr/dscf	7.30E-3	N/A	0	N/A	0

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Current Operating Limits	NO_x		CO		PM 2.5/10		VOC		SO_2	
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)
	Collector (DC-02)												
7c	North Coal Handling Dust Collector (NDC-1)	9,250 acfm	45 hr/yr	N/A	0	N/A	0	0.02 gr/dscf	3.40E-2	N/A	0	N/A	0
8	Backup Generator Engine	2,937 hp	500 hr/yr	5.39 g/hp-hr	8.72	0.29 g/hp-hr	4.69 E-1	0.15 g/hp-hr	2.43E-1	0.11 g/hp-hr	1.78 E-1	0.212 lb/1000 gal	7.95 E-3
9	Emergency Generator Engine	353 hp	100 hr/yr	0.031 lb/hp-hr	5.47E-1	0.00668 lb/hp-hr	1.18 E-1	0.0022 lb/hp-hr	3.88E-2	0.00251 lb/hp-hr	4.43 E-2	0.212 lb/1000 gal	1.91 E-4
14	Emergency Generator Engine	320 hp	100 hr/yr	0.031 lb/hp-hr	4.96E-1	0.00668 lb/hp-hr	1.07 E-1	0.2 g/kW-hr	5.26E-3	0.00251 lb/hp-hr	4.02 E-2	0.212 lb/1000 gal	1.73 E-4
22	Emergency Generator Engine	35 hp	100 hr/yr	0.031 lb/hp-hr	5.43E-2	0.00668 lb/hp-hr	1.17 E-2	0.0022 lb/hp-hr	3.85E-3	0.00251 lb/hp-hr	4.39 E-3	0.212 lb/1000 gal	1.90 E-5
23	Emergency Generator Engine	155 hp	100 hr/yr	0.031 lb/hp-hr	2.40E-1	0.00668 lb/hp-hr	5.18 E-2	0.0022 lb/hp-hr	1.71E-2	0.00251 lb/hp-hr	1.95 E-2	0.212 lb/1000 gal	8.39 E-5
29a	Emergency Generator Engine	74 hp	100 hr/yr	4.7 g/kW-hr	2.86E-2	5 g/kW-hr	3.04 E-2	0.3 g/hp-hr	2.45E-3	0.00251 lb/hp-hr	9.29 E-3	0.212 lb/1000 gal	4.01 E-5
30a	Emergency Pump Engine	80 hp	100 hr/yr	5.9 g/kW-hr	3.88E-2	6.3 g/kW-hr	4.14 E-2	0.3 g/hp-hr	2.65E-3	0.00251 lb/hp-hr	1.00 E-2	0.212 lb/1000 gal	4.33 E-5
31a	Emergency Generator Engine	74 hp	100 hr/yr	4.7 g/kW-hr	2.86E-2	5 g/kW-hr	3.04 E-2	0.3 g/hp-hr	2.45E-3	0.00251 lb/hp-hr	9.29 E-3	0.212 lb/1000 gal	4.01 E-5
32a	Emergency Pump Engine	80 hp	100 hr/yr	5.9 g/kW-hr	3.88E-2	6.3 g/kW-hr	4.14 E-2	0.3 g/hp-hr	2.65E-3	0.00251 lb/hp-hr	1.00 E-2	0.212 lb/1000 gal	4.33 E-5

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Current Operating Limits	NO_x		CO		PM 2.5/10		VOC		SO_2	
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)
33a	Emergency Pump Engine	75 hp	100 hr/yr	4.7 g/kW-hr	2.90E-2	5 g/kW-hr	3.08 E-2	0.3 g/hp-hr	2.48E-3	0.00251 lb/hp-hr	9.41 E-3	0.212 lb/1000 gal	4.06 E-5
34	Emergency Pump Engine	220 hp	100 hr/yr	0.031 lb/hp-hr	3.41E-1	0.00668 lb/hp-hr	7.35 E-2	0.0022 lb/hp-hr	2.42E-2	0.00251 lb/hp-hr	2.76 E-2	0.212 lb/1000 gal	1.19 E-4
35	Emergency Pump Engine	55 hp	100 hr/yr	0.031 lb/hp-hr	8.53E-2	0.00668 lb/hp-hr	1.84 E-2	0.3 g/hp-hr	1.82E-3	0.00251 lb/hp-hr	6.90 E-3	0.212 lb/1000 gal	2.98 E-5
36a	Emergency Pump Engine	161 hp	100 hr/yr	5.0 g/kW-hr	6.62E-2	6.3 g/kW-hr	8.34 E-2	0.0022 lb/hp-hr	1.77E-2	5 g/kW-hr	6.62 E-2	1.08E-5 lb/hp-hr	8.69 E-5
37a	Emergency Pump Engine	75 hp	100 hr/yr	4.7 g/kW-hr	2.90E-2	5 g/kW-hr	3.08 E-2	0.4 g/hp-hr	2.47E-3	0.00251 lb/hp-hr	9.41 E-3	0.212 lb/1000 gal	4.06 E-5
51a	Fly Ash Dust Collector (DC-1)	3,620 acfm	4.380 hr/yr	N/A	0	N/A	0	0.02 gr/dscf	1.18	N/A	0	N/A	0
51b	Bottom Ash Dust Collector (DC-2)	3,620 acfm	4,380 hr/yr	N/A	0	N/A	0	0.02 gr/dscf	1.18	N/A	0	N/A	0
52	Coal Storage Pile	N/A	84,676 tpy	N/A	0	N/A	0	N/A	1.42	N/A	0	N/A	0
			Total	**1489.15**		**841.14**		**16.08**		**8.84**		**1764.01**	