

**Alaska Department of Environmental Conservation
Air Permits Program**

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**Alaska Power & Telephone Company
Tok Power Generating Station**

STATEMENT OF BASIS

for

Permit No. AQ0225TVP05

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0225TVP05.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0225TVP05 contains information on the stationary source as provided in the Title V permit application.

The stationary source, Tok Power Generating Station, is owned and operated by Alaska Power & Telephone Company and Alaska Power & Telephone Company is the Permittee for the stationary source's operating permit. The standard industrial classification (SIC) code for this stationary source is 4911 - Electrical Services.

The stationary source is a prime power diesel electric generating plant that provides electricity to the communities of Tok, Tanacross, Dot Lake, and Tetlin. The stationary source operates diesel-electric generators rated between 600 kW and 1,930 kW that were installed between 1985 and 2017. Each generating unit operates independently and exhausts through its own stack. The generating units are fueled with diesel fuel which is stored in a 30,000-gallon horizontal fuel oil storage tank installed in 1995.

EMISSIONS UNIT INVENTORY AND DESCRIPTION

Under 18 AAC 50.326(a), the Department requires operating permit applications to include identification of all emissions-related information, as described under 40 CFR 71.5(c)(3).

The emissions units at the stationary source that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of the operating permit. Table A contains information on the emissions units regulated by the operating permit as provided in the application. The table is provided for informational and identification purposes only. Specifically, the emissions unit rating/size provided in the table is not intended to create an enforceable limit.

EMISSIONS

A summary of the potential to emit (PTE)¹ and assessable PTE for the stationary source is shown in the table below.

¹ *Potential to Emit* or *PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source, as defined in AS 46.14.990(22).

Table D - Emissions Summary, in Tons Per Year (tpy)

Emissions	NO _x	CO	PM ₁₀	SO ₂	VOC	CO _{2e} ¹	HAPs	Total ²
PTE	249.0	87.9	8.2	54.6	9.6	17,647	0.2	409.3
Assessable PTE	249	88	0	55	0	0	0	392

Table Notes:

¹ CO_{2e} emissions are defined as the sum of the mass emissions of each individual GHG adjusted for its global warming potential.

² Total PTE and total assessable PTE shown in the table do not include CO_{2e} and HAPs.

The assessable PTE listed under Condition 31.1 is the sum of the PTE of each individual air pollutant, other than greenhouse gases (GHGs), for which the stationary source has the potential to emit of 10 tpy or greater. The emissions listed in Table D are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit for the stationary source.

The Department used the owner requested limits (ORLs) of 10.75 GWh and 249 TPY for NO_x PTE. Worst case PTE results from the operation of EU IDs 3, 4, and 9. Based on the fuel consumption values provided in the application for Operating Permit AQ0225TVP05, these units would burn 1,517,112 gallons of fuel at the 10.75 GWh limit. The Department calculated CO, PM-10, VOC, CO_{2e}, and hazardous air pollutant (HAP) PTE using EPA, AP 42 emission factors and applicable NSPS limits for EU ID 9. The Department calculated SO₂ PTE using a fuel sulfur content of 0.5 percent by weight.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with AS 46.14.130(b), an owner or operator of a Title V source² must obtain a Title V permit consistent with 40 CFR Part 71, as adopted by reference in 18 AAC 50.040.

Except for sources exempted or deferred by AS 46.14.120(e) or (f), AS 46.14.130(b) lists the following categories of sources that require an operating permit:

- A major source;
- A stationary source, including an area source, subject to federal New Source Performance Standards (NSPS) under Section 111 of the Clean Air Act or National Emission Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the Clean Air Act;
- Another stationary source designated by the Federal Administrator by regulation.

The Permittee is required to obtain an operating permit for the stationary source as specified under 18 AAC 50.326(a) and 40 CFR 71.3(a), because the stationary source is a major source. This stationary source is a major source because, as defined in Section 302 of the Clean Air Act, it directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation.

² Title V source means a stationary source classified as needing a permit under AS 46.14.130(b) [ref. 18 AAC 50.990(111)].

AIR QUALITY PERMITS

Permits to Operate

The Department issued Permit to Operate 9533-AA001 on April 14, 1995. This permit-to-operate included all construction authorizations issued through November 9, 1994 and was issued before January 18, 1997 (the effective date of the new divided Title I/Title V permitting program). This permit was subsequently revised by Construction Permit AQ0225CPT01 (previously numbered as 9933-AC012).

Title I (Construction and Minor) Permits

Construction Permit No. 9933-AC012. The Department issued this permit on November 17, 1999. This permit authorized the Permittee to modify the Tok Power Generating Station by replacing one existing Fairbanks-Morse 32 series engine (EU ID 3) with one Caterpillar 3516B diesel engine. This permit also revised the permit terms and conditions of Permit to Operate 9533-AA001 and established owner-requested limits (ORLs) to enable the stationary source to avoid classification as a PSD major source. The Department subsequently rescinded this permit with the issuance of Minor Permit AQ0225MSS03.

Minor Permit No. AQ0225MSS01. The Department issued this permit on September 30, 2005 to renumber Construction Permit 9933-AC012 as Construction Permit AQ0225CPT01 and to revise Construction Permit AQ0225CPT01 owner requested limits due to installation of a new 2,250 kW Caterpillar diesel generator that replaced a 1,250 kW Fairbanks-Morse diesel generator (EU ID 7). This permit rescinded and replaced Conditions 25 and 26.2 of Construction Permit AQ0225CPT01 (previously numbered as 9933-AC012) which contained the ORLs for NO_x emissions and NO_x emission factors to avoid PSD major classification. The NO_x limit was increased to 249 TPY while the NO_x emission factor for the new EU ID 7 was conservatively changed to 0.0223 lb/kW-hr. This permit also established an additional ORL to avoid minor permit requirements and ambient air quality analysis for SO₂ by limiting the fuel consumption of EU ID 7. The Department subsequently rescinded this permit with the issuance of Minor Permit AQ0225MSS02.

Minor Permit No. AQ0225MSS02. The Department issued this permit on December 7, 2010 to authorize the installation of a new larger diesel electric engine to replace EU ID 9 and revised the ORL established and revised under the previous Title I permits. In this permit action, the Department rescinded Minor Permit AQ0225MSS01 and carried forward all conditions that were still applicable to the stationary source to consolidate and simplify the applicable Title I conditions for the stationary source. The Department subsequently rescinded this permit with the issuance of Minor Permit AQ0225MSS03.

Minor Permit No. AQ0225MSS03. The Department issued this permit on April 13, 2018 to authorize the installation of a new larger diesel electric engine (EU 8a) to replace EU 8 and revise the ORL established under Construction Permit AQ0225CPT01 (9933-AC012). In this permit action, the Department rescinded Minor Permit AQ0225MSS02 and Construction Permit AQ0225CPT01, carrying forward all applicable conditions. All stationary source-specific requirements in Minor Permit AQ0225MSS03 are included in the operating permit as described in Table E.

Title V Operating Permits

Operating Permit No. 225TVP01. The Department issued this permit on June 20, 2000.

- Revision No. 1. The Department issued an administrative amendment on December 6, 2000 to clarify Condition 12.
- Revision No. 2. The Department issued an administrative amendment on August 7, 2002 to update the condition concerning emission fees to match the standard permit condition.

Operating Permit No. AQ0225TVP02. The Department issued this permit on March 8, 2006.

Operating Permit No. AQ0225TVP03. The Department issued this permit on April 1, 2011.

Operating Permit No. AQ0225TVP04. The Department issued this permit on September 16, 2016.

- Revision No. 1. The Department issued a minor modification on June 28, 2018 to revise Condition 9 to reflect changes to the ORL and replace EU 8 with EU 8a in the Operating Permit.

The Department received the application for Operating Permit AQ0225TVP05 on September 28, 2020.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1960. Review of the permit files for this stationary source, which includes the past inspection reports and compliance evaluations indicate a stationary source generally operating in compliance with its operating permit.

APPLICABLE REQUIREMENTS FROM PRECONSTRUCTION PERMITS

Incorporated by reference at 18 AAC 50.326(j), 40 CFR Part 71.2 defines “applicable requirement” to include the terms and conditions of any preconstruction permit issued under rules approved in Alaska’s State Implementation Plan (SIP).

Alaska’s SIP includes the following types of preconstruction permits:

- Permits to operate issued on or before January 17, 1997 (these permits cover both construction and operations);
- Construction permits issued on or after January 18, 1997; and
- Minor permits issued on or after October 1, 2004.

Preconstruction permit terms and conditions include both source-specific conditions and conditions derived from regulatory applicable requirements such as standard conditions, generally applicable conditions, and conditions that quote or paraphrase requirements in regulation.

These requirements include, but are not limited to, each emissions unit- or source-specific requirement established in these permits issued under 18 AAC 50 that are still in effect at the time of issuance of Operating Permit No. AQ0225TVP05. Table E below lists the requirements carried into Operating Permit No. AQ0225TVP05 to ensure compliance with the preconstruction permit requirements.

Table E - Comparison of Minor Permit No. AQ0225MSS03 Conditions to Operating Permit No. AQ0225TVP05 Conditions¹

AQ0225MSS03 Condition No.	Description of Requirement	AQ0225TVP05 Condition No.	How Condition was Revised
9	PSD avoidance limit	12	EU ID 7 is not included because the unit has been removed from the stationary source.
9.1a through 9.1b	PSD avoidance monitoring and recording	12.1.a, 12.1.a(i), & 12.1.c	EU ID 7 is not included because the unit has been removed from the stationary source.
9.2	PSD avoidance reporting	12.2.a	Not revised.
10	Engine replacement	13	Not revised.
11	ORL to avoid minor permit requirements for SO ₂	None	The minor permit condition was only for EU ID 7 and EU ID 7 has been removed from the stationary source. Therefore, the minor permit condition is not included in the operating permit.
12	Requirement to protect ambient air quality for SO ₂	None	The minor permit condition was only for EU ID 7 and EU ID 7 has been removed from the stationary source. Therefore, the minor permit condition is not included in the operating permit.
12.1 through 12.4	MR&R for ambient air quality limit	None	The minor permit conditions were only for EU ID 7 and EU ID 7 has been removed from the stationary source. Therefore, the minor permit conditions are not included in the operating permit.

Table Note:

¹ This table does not include all standard and general conditions.

NON-APPLICABLE REQUIREMENTS

This section discusses standard conditions and other requirements that are not included in the operating permit for specific reasons.

- **40 CFR 64 Compliance Assurance Monitoring (CAM):** None of the emissions units at the stationary source use a control device to achieve compliance with emission limits or standards. Therefore, CAM requirements are not applicable.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The Department adopted regulations from 40 CFR 71, as specified in 18 AAC 50.040(j), in addition to creating state regulations, to establish an operating permit program. The EPA fully approved the Alaska Operating Permit Program on November 30, 2001, as noted in Appendix A to 40 CFR 70. This Statement of Basis, required under 40 CFR 71.11(b), provides the legal and factual basis for each condition of Operating Permit No. AQ0225TVP05. Additionally and as required by 40 CFR 71.6(a)(1)(i), the state and federal regulations for each permit condition are cited in the permit.

Conditions 1 through 4, Visible Emissions Standard and MR&R

Legal Basis: These conditions require compliance with the applicable requirements in 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3 through 5, 8a, and 9 are fuel-burning equipment or industrial processes.

U.S. EPA approved the addition of these standards to the SIP, as noted in 40 CFR 52.70. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1). MR&R requirements are listed in Conditions 2 through 4 of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX. The Permittee has explained that the two-month window specified in the standard permit condition for the semiannual and annual visible emissions observations is too restrictive to coordinate travel for certified readers to the remote property. The Permittee also states inclement winter weather conditions can and do delay scheduled travel. Another challenge mentioned by the Permittee is the potential scheduling conflict for the remote facility due to engine replacement. For example, a newly installed engine may have annual visible emissions observations required in June-August, while visible emissions observations may be required for the remaining units in October-December. Flexibility to align the dates for the annual visible emissions observations would reduce the need for multiple trips to the stationary source that would be required for the SPC two-month window. The Department notes that as long as visible emissions are conducted before the seven and 12 month deadlines in the SPC for semiannual and annual observations, any monitoring done before those deadlines simply results in more monitoring being conducted. Therefore, the Department removed the language “but not earlier than five months” from the requirements for semiannual monitoring and the language “but not earlier than 10 months” from the requirements for annual monitoring.

The Permittee must establish by visual observations, which may be supplemented by other means (e.g., a defined stationary source operation and maintenance program), that the stationary source is in continuous compliance with the state standards for visible emissions. These conditions detail a stepwise monitoring program to determine compliance with the state visible emissions standards. Equipment types covered by these conditions are internal

combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program. Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emissions units through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Liquid Fuel-Burning Equipment:

Monitoring – The emissions units must be observed by either the Method 9 or the Smoke/No Smoke Plan. Corrective actions such as maintenance procedures or more frequent observations may be required depending on the results of the observations.

Recordkeeping – The Permittee is required to record the results of all visible emissions observations and record any actions taken to reduce visible emissions.

Reporting – The Permittee is required to report emissions in excess of the state visible emissions standard and deviations from permit conditions. The Permittee is also required to include in the operating report a statement of which visible emissions plan was used for each emissions unit and copies of the results of all visible emission observations.

Conditions 5 through 8, Particulate Matter Standard and MR&R

Legal Basis: These conditions require compliance with the applicable requirement in 18 AAC 50.055(b).

- 18 AAC 50.055(b)(1) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3 through 5, 8a, and 9 are fuel-burning equipment or industrial processes.

This particulate matter standard applies because it is contained in the federally-approved SIP. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 5 prohibits emissions in excess of the applicable state particulate matter standard. MR&R requirements are listed in Conditions 6 through 8 of the permit. These conditions have been adopted into regulation as SPC IX.

The Permittee must establish by visual observations, which may be supplemented by other means (e.g., a defined stationary source operation and maintenance program), that the stationary source is in continuous compliance with the state's emission standards for particulate matter.

Liquid Fuel-Burning Equipment:

Monitoring – The Permittee is required to either take corrective action, or conduct PM source testing, if opacity threshold values are exceeded. For liquid fuel-burning engines and turbines, the Department set opacity threshold values of 15 percent for stack diameters less than 18 inches and 20 percent for stack diameters equal to or greater than 18 inches. These

opacity thresholds are based on a study conducted by the Department in an effort to establish a correlation between opacity and PM. The data was collected from diesel engines of various stack sizes and the results are as follows:

- For stacks normalized to 21 inches – 0.05 gr/dscf corresponds to 27% opacity
- For stacks normalized to 18 inches – 0.05 gr/dscf corresponds to 23% opacity
- For stacks normalized to 12 inches – 0.05 corresponds to 16.8 % opacity
- For stacks normalized to 10 inches – 0.05 corresponds to 14.3 % opacity

This means that the trend line for the complete data set predicts that 20% opacity corresponds to a little less than the PM limit for an 18-inch stack. There may be engines that exceed the thresholds but the intent of the standard condition is not to guarantee that each engine that might exceed the PM standard will be tested. The Department expects few, if any, engines to actually be tested under this condition. What the Department does expect is that with the adopted condition in place, operators that find an opacity above or near the testing threshold will take corrective action necessary to reduce PM emissions. This would achieve the desired environmental outcome without the added cost of testing. The Department expects this to be the case with both thresholds.

The method is premised on the fact that a five percent difference in opacity is distinguishable. The conditions mean that if opacity readings as measured using Method 9 – with all of its limitations – exceed the threshold, the Permittee must either take corrective action or conduct a PM source test. The compliance conditions for PM do not draw a legal conclusion about whether the method shows compliance with the visible emissions standard.

Recordkeeping – The Permittee is required to record the results of particulate matter source tests and visible emissions observations conducted during the source test.

Reporting – The Permittee is required to report incidents when emissions in excess of the opacity threshold are observed and results of particulate matter source tests. The Permittee is also required to include copies of the results of all visible emission observations taken during particulate matter source testing in the operating report.

Conditions 9 through 11, Sulfur Compound Emissions Standard and MR&R

Legal Basis: This condition requires compliance with the sulfur compound emission standards under 18 AAC 50.055(c).

- 18 AAC 50.055(c) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3 through 5, 8a, and 9 are fuel-burning equipment or industrial processes.

These sulfur compound standards apply because they are contained in the federally-approved SIP. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Permittee may not cause or allow the affected equipment to violate the applicable sulfur compound standard. Sulfur dioxide comes from the sulfur in the fuel (e.g. coal, natural gas, fuel oils).

Liquid Fuels:

For liquid fuel-burning equipment, the MR&R conditions are SPCs XI and XII, adopted into regulation pursuant to AS 46.14.010(e).

Conditions 12 through 13, Preconstruction Permit Requirements

Legal Basis: The Permittee is required to comply with all stationary source-specific requirements that were carried forward from previous SIP-approved Permits to Operate issued on or before January 17, 1997 and operating permits issued between January 18, 1997 and September 30, 2004, and with all stationary source-specific requirements in EPA PSD permits, SIP-approved construction permits, SIP-approved minor permits, and owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT) limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. Requirements from the permits listed above apply because they were originally developed through case-by-case action under a federally-approved SIP or approved operating permit program.

Factual Basis: These conditions require the Permittee to comply with pre-construction permit terms and conditions. These requirements are listed in Table E. To determine continuous compliance with the NO_x ORL, the Department requires records of electrical production for each engine. Additionally, the Department requires source tests for each engine if the electrical power generation exceeds 90% of the electrical power generation limit set for the NO_x ORL. This testing is done to determine if the NO_x emission factors used for the NO_x ORL remain valid. An engine is exempt from source testing if it has contributed less than 10 percent of the electrical power generation in the 12-consecutive-month period.

Condition 14, Insignificant Emissions Units

Legal Basis: The Permittee is required to meet the state emission standards in 18 AAC 50.050(a) for all incinerators regardless of size and 18 AAC 50.055 for all industrial processes and fuel-burning equipment regardless of size. As previously noted, 18 AAC 50.050(a) and 50.055 are contained in the federally-approved SIP. The Department also added permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The condition requires insignificant emissions units to comply with the state emission standards for visible emissions, particulate matter emissions, and sulfur-compound emissions. Insignificant emissions units are not generally listed in operating permits unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance. However, the Permittee may not cause or allow insignificant emission units at the stationary source to violate these standards whether or not they are listed in the operating permit.

The Department finds that the insignificant units at this stationary source do not require specific monitoring, recordkeeping and reporting to ensure compliance under these conditions. The conditions require certification that the units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution. The Department used the language in SPC V for the permit condition.

Conditions 15 and 16, 40 CFR 60 Subpart A Requirements

Legal Basis: The EPA approved Alaska's Part 70 Program on November 30, 2001. The Department is the permitting authority for the Part 70 Program. Although the EPA has not delegated to the Department the authority to administer the New Source Performance Standards (NSPS), NSPS requirements are included in the definition of "applicable requirement" under 40 CFR 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

The Department is unable to change the wording of relevant NSPS to substitute "the Department" for "the Administrator". The Department requires access to any permit-related information provided by the Permittee to the EPA to act on its responsibility as the permitting authority to determine compliance with the NSPS. Therefore, the Department has defined "the Administrator" to mean the "EPA and the Department" for conditions implementing the federal emission standards under Section 4 of the operating permits.

The Permittee must comply with 40 CFR 60 Subpart A if the stationary source is subject to the requirements of another subpart under 40 CFR 60.

Condition 15.1 - The requirements to notify the Administrator of any proposed replacement of components of an existing facility (40 CFR 60.15) apply in the event that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

Condition 16 - Concealment of emissions prohibitions in 40 CFR 60.12 are applicable to most NSPS affected facilities.

Factual Basis: Subpart A contains general requirements applicable to all affected facilities (emissions units) subject to NSPS. In general, the intent of NSPS is to provide technology-based emission control standards for new, modified and reconstructed affected facilities.

Condition 17, 40 CFR 60 Subpart III Requirements

Legal Basis: The Department has incorporated by reference the NSPS requirements for specific industrial activities, as listed in 18 AAC 50.040(a). NSPS Subpart III applies to stationary compression ignition internal combustion engines (CI ICE) that commence construction, modification, or reconstruction after July 11, 2005 where the stationary CI ICE are manufactured after April 1, 2006 for non-fire pump engines and after July 1, 2006 for certified fire pump engines. EU ID 9 is subject to the requirements of Subpart III under 40 CFR 60.4200(a)(2)(i).

Factual Basis: EU ID 9 is a non-emergency engine and these conditions incorporate the applicable Subpart IIII emissions standards for non-emergency engines. These conditions also specify the MR&R requirements contained in the subpart. The Permittee is required to operate and maintain the stationary CI ICE according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer.

In accordance with 40 CFR 60.4216(d), the fuel requirements under 40 CFR 60.4207 do not apply because EU ID 9 is a pre-2014 model year stationary CI ICE that is located in remote areas of Alaska.

Condition 18, 40 CFR 61 Subpart A & M Requirements

Legal Basis: The requirements of 40 CFR 61 are applicable requirements for Title V permitting purposes, as stated in item 4 of the “applicable requirement” definition under 40 CFR 71.2. The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 CFR 61, Subpart M, as adopted by reference under 18 AAC 50.040(b)(2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

Factual Basis: Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

Condition 19, 40 CFR 63 Subpart A Requirements

Legal Basis: The Permittee must comply with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP). NESHAP requirements are included in the “applicable requirement” definition under 40 CFR 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

The Permittee must comply with 40 CFR 63 Subpart A if the stationary source is subject to the requirements of another subpart under 40 CFR 63.

Factual Basis: Subpart A contains general requirements applicable to all facilities and emissions units subject to NESHAP requirements.

Condition 20, 40 CFR 63 Subpart ZZZZ Requirements

Legal Basis: The Department has incorporated by reference the NESHAP requirements for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart ZZZZ applies to owners and operators of any existing, new, or reconstructed stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. Tok Power Generating Station is an area source that contains RICE units.

Factual Basis: EU IDs 3 through 5 and 8a are existing non-emergency RICE with ratings greater than 300 horsepower (hp). Under 40 CFR 63.6603(b), existing non-emergency RICE

rated greater than 300 hp located at area sources that meet the criteria under 40 CFR 63.6603(b)(2) do not have to meet the numerical CO emission limitations under Subpart ZZZZ, but must meet the work and management practices for stationary non-emergency CI RICE with a rating of less than or equal to 300 hp as specified in Table 2d, Item 1 of Subpart ZZZZ. Also, the general requirement for good air pollution control practices in 40 CFR 63.6605(b) and 63.6625(e) applies to the engines.

The Permittee must comply with the recordkeeping requirements of 40 CFR 63.6655(e) and 40 CFR 63.6660. The Permittee is also required to include reports of deviations from NESHAP Subpart ZZZZ requirements with the facility operating reports, in accordance with 40 CFR 63.6650(f). Under 40 CFR 63.6645(a)(5), initial notification is not required for existing stationary CI RICE that are not subject to any numerical emission standards. In addition, fuel requirements under 40 CFR 63.6604 do not apply, as specified in 40 CFR 63.6604(d).

EU ID 9 is a new engine at an area source under NESHAP Subpart ZZZZ. Therefore, this engine must meet the requirements of 40 CFR 63 by meeting the requirements of NSPS Subpart IIII, as specified in 40 CFR 63.6590(c).

Conditions 21 through 23, 40 CFR 82 Subpart F, G, & H Requirements

Legal Basis: The requirements of 40 CFR 82 are applicable requirements for Title V permitting purposes, as stated in item 12 of the “applicable requirement” definition under 40 CFR 71.2. Condition 21 requires compliance with the applicable requirements in 40 CFR 82, as adopted by reference under 18 AAC 50.040(d). The requirements apply if the Permittee engages in the recycling or disposal of certain refrigerants. The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants in 40 CFR 82, Subpart F.

Conditions 22 and 23 also require compliance with the applicable requirement adopted under 18 AAC 50.040(d). Condition 22 prohibitions apply to all stationary sources that use substitutes for ozone-depleting compounds. Condition 23 prohibitions apply to all stationary sources that use halon for extinguishing fires and inert gas to reduce explosion risk. These conditions prohibit the Permittee from causing or allowing violations of these requirements.

Factual Basis: Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation. These conditions also incorporate applicable 40 CFR 82 requirements.

Conditions 24 through 26, NESHAP Applicability Determination Requirements

Legal Basis: These conditions require the Permittee to determine NESHAP rule applicability and require recordkeeping for those determinations and notifications as applicable.

Factual Basis: The Permittee has conducted an analysis of the stationary source and determined that it is not a major HAPs stationary source based on emissions. This condition

requires the Permittee to notify the Department and Administrator if the stationary source becomes an affected source subject to a standard promulgated by EPA under 40 CFR part 63 and to keep records of applicability determinations and make those records available to the Department. Notifications of construction are also required as applicable.

Conditions 27 through 29, Standard Terms and Conditions

Legal Basis: These are standard conditions required for all operating permits under 18 AAC 50.345(a) and (e) through (g). As stated in 18 AAC 50.326(j)(3), the standard permit conditions of 18 AAC 50.345 replace the provisions of 40 CFR 71.6(a)(5) through (7).

Factual Basis: These are standard conditions that are included in all operating permits.

Condition 30, Administration Fees

Legal Basis: This condition requires compliance with the applicable fee requirements in 18 AAC 50.400 through 403. Paying administration fees is required as part of obtaining and holding a permit with the Department or as a fee for a Department action. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 CFR 71.9 is not applicable.

Factual Basis: The regulations in 18 AAC 50.400 through 403 specify the amount, payment period, and the frequency of fees applicable to a permit action.

Conditions 31 and 32, Emission Fees

Legal Basis: These conditions require compliance with the applicable fee requirements in 18 AAC 50.410 through 50.420. The regulations specify the time period for the assessable emissions and the methods the Permittee may use to calculate assessable emissions. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 CFR 71.9 is not applicable.

Factual Basis: The Department used the language in SPC I, adopted by reference under 18 AAC 50.346(b), for the permit. These conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The assessable emissions are the lesser of the stationary source's potential or projected emissions of each air pollutant at 10 tons per year or greater (AS 46.14.250(h)(1)). The conditions allow the Permittee to calculate assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1), assessable emissions are based on each air pollutant. Therefore, fees shall be paid on any pollutant emitted whether or not the permit contains any limitation for that pollutant.

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emissions based on actual emissions must be for the previous calendar year. Since each current year's assessable emissions are based on the previous year,

the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match.

Condition 33, Dilution

Legal Basis: 18 AAC 50.045 is included in the SIP approved by EPA. It is therefore an applicable requirement, per 40 CFR 71.2. This condition reiterates 18 AAC 50.045(a), which prohibits the Permittee from using dilution as an emission control strategy.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

Condition 34, Reasonable Precautions to Prevent Fugitive Dust

Legal Basis: This condition reiterates 18 AAC 50.045(d), which requires a person to use reasonable precautions when handling, storing or transporting bulk materials or engaging in an industrial activity. This requirement applies because the Permittee has an emission unit or activity listed under Table 7 of 18 AAC 50.346(c). 18 AAC 50.045 is included in the SIP approved by EPA. The listed emission units and activities in Table 7 are: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted stationary source or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle that ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic; and other emission units the Department finds are likely to generate fugitive dust.

Factual Basis: The Department used the language in Standard Permit Condition X for the permit. The condition requires the Permittee to take reasonable action to prevent particulate matter from being emitted into the ambient air in accordance with 18 AAC 50.045(d).

Condition 35, Stack Injection

Legal Basis: 18 AAC 50.055 is included in the SIP approved by EPA. It is therefore an applicable requirement per 40 CFR 71.2.

This condition requires compliance with the applicable requirement in 18 AAC 50.055(g). It prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). Stack injection requirements apply to stacks of emissions units at a stationary source constructed or modified after November 1, 1982.

Factual Basis: No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the unit or stack would need to be modified to accommodate stack injection.

Condition 36, Air Pollution Prohibited

Legal Basis: 18 AAC 50.110 is included in the SIP approved by EPA. It is therefore an applicable requirement per 40 CFR 71.2.

This condition requires compliance with 18 AAC 50.110. The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. The Department also included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Department used the language in SPC II for the permit. This condition spells out how to monitor, record, and report prohibited air pollution. While the other permit conditions and emissions limitations should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints, and must submit copies of these records upon request of the Department.

Condition 37, Technology-Based Emission Standard

Legal Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activities cause an exceedance of any technology-based emission standard in this permit. This condition requires compliance with the requirement in 18 AAC 50.235. Technology-Based Emission Standard requirements apply because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Factual Basis: The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with Condition 53. Excess emission reporting under Condition 53 requires information on the steps taken to minimize emissions.

Condition 38, Open Burning

Legal Basis: 18 AAC 50.065 is included in the SIP approved by EPA. The condition requires the Permittee to comply with the regulatory requirements in 18 AAC 50.065 when conducting open burning at the stationary source. The state open burning regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The Permittee may conduct open burning by following the provisions of 18 AAC 50.065 and by following the Department guidelines posted at the website

<http://dec.alaska.gov/air/air-permit/open-burn-application/>. The condition requires the Permittee to keep records to demonstrate compliance with the standards for conducting open burning.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored.

Condition 39, Requested Source Tests

Legal Basis: The Permittee is required to conduct source tests as requested by the Department. This requirement is under 18 AAC 50.220(a) and 50.345(k), which are included in the SIP approved by EPA.

Factual Basis: This condition applies because this is a standard condition to be included in all operating permits, as specified in 18 AAC 50.345(a).

Conditions 40 through 42, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 40 and 42 require compliance with the applicable requirements in 18 AAC 50.220(b) and (c)(3), which are included in the SIP approved by EPA. Condition 41 specifies source test methods, as required by 40 CFR 71.6(a)(3)(i) and 71.6(c)(1). These requirements apply because the Permittee is required by the permit to conduct source tests, or a source test may be requested by the Department. The Permittee is required to conduct source tests in the manner set out in Conditions 40 through 42.

Factual Basis: These conditions supplement the specific monitoring requirements stated elsewhere in this permit.

Condition 43, Test Exemption

Legal Basis: This condition incorporates the source test exemption in 18 AAC 50.345(a) regarding visible emissions observations. 18 AAC 50.345(a) is included in the SIP approved by EPA.

Factual Basis: As provided in 18 AAC 50.345(a), the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 44 through 47, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: These conditions require compliance with the applicable requirements in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 44 contains the requirement in 18 AAC 50.345(l). The requirements in 18 AAC 50.345(l) through (o) constitute standard conditions that must be included in each operating permit, as specified in 18 AAC 345(a). These requirements apply because the Permittee is required to conduct source tests as set out by this permit or as requested by the Department.

Factual Basis: These standard conditions supplement specific monitoring requirements stated elsewhere in this permit.

Condition 48, Particulate Matter Calculations

Legal Basis: This condition requires the Permittee to reduce particulate matter data in accordance with 18 AAC 50.220(f), which is included in the SIP approved by EPA. It applies when the Permittee tests for compliance with the particulate matter standards in 18 AAC 50.050 or 50.055.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 49, Recordkeeping Requirements

Legal Basis: This condition requires the Permittee to keep records in accordance with 40 CFR 71.6(a)(3)(ii), which the Department adopted by reference under 18 AAC 50.040(j)(4).

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. 40 CFR 71.6(a)(3)(ii) requires at least five years of records retention.

Condition 50, Certification

Legal Basis: All operating permits must contain a requirement to certify any permit application, report, affirmation, or compliance certification, per 18 AAC 50.345(j) and 18 AAC 50.205. Both requirements are part of the SIP approved by EPA.

Factual Basis: The requirement in 18 AAC 50.345(j) is a standard condition that must be included in each operating permit, as specified in 18 AAC 50.345(a). This condition requires the Permittee to certify any permit application, report, affirmation, or compliance certification submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be certified with the operating report, even though it must still be submitted more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit. The certification statement through electronic signature and options for submittal provide paperless options for reporting without compelling Permittees to any specific means of submission.

Condition 51, Submittals

Legal Basis: This condition requires the Permittee to comply with the standardized reporting requirements in 18 AAC 50.326(j) and applies because the Permittee is required to send reports to the Department.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. This condition lists the Department's appropriate address for reports and written notices. The Permittee is required to submit reports, compliance certifications, and other submittals required by this permit, either electronically or by hard copy. This condition supplements the standard reporting and notification requirements of this permit. The condition also directs the Permittee to refer to the submission instructions on the Department's Standard Permit Conditions webpage for additional information regarding document submittals (e.g., the appropriate Department address).

Condition 52, Information Requests

Legal Basis: All operating permits must include a condition that requires the Permittee to furnish certain information upon request, per 18 AAC 50.345(i). The requirement is part of the SIP approved by EPA.

Factual Basis: The requirement in 18 AAC 50.345(i) is a standard condition that must be included in each operating permit, as specified in 18 AAC 345(a). This condition requires the Permittee to submit information requested by the Department.

Condition 53, Excess Emission and Permit Deviation Reports

Legal Basis: This condition requires the Permittee to comply with the requirements in 18 AAC 50.235(a)(2) and 18 AAC 50.240(c). The condition specifies reporting requirements as required by 40 CFR 71.6(a)(3)(iii) and 71.6(c)(1). Also, the Permittee is required to notify the Department when emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two state regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The Department used the language in SPC III for the permit condition. The Department used the notification form in SPC IV for the notification requirements.

Condition 54, Operating Reports

Legal Basis: This condition requires compliance with the applicable requirement in 18 AAC 50.346(b)(6). The condition specifies reporting requirements as required by 40 CFR 71.6(a)(3)(iii)(A), which the Department has adopted by reference under 18 AAC 50.040(j)(4).

Factual Basis: The Department used the language in SPC VII for the permit condition. The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit.

The condition specifies that for the transition periods between an expiring permit and a renewal permit, the Permittee shall ensure that there is date-to-date continuity between the expired permit and the renewal permit such that the Permittee reports against the permit terms and conditions of the permit that was in effect during those partial date periods of the transition. No format is specified. The Permittee may provide one report accounting for each permit term or condition and the effective permit at that time. Alternatively, the Permittee may choose to provide two reports – one accounting for reporting elements of permit terms and conditions from the end date of the previous operating report until the date of expiration of the old permit, and a second operating report accounting for reporting elements of terms and conditions in effect from the effective date of the renewal permit until the end of the reporting period.

Condition 55, Annual Compliance Certification

Legal Basis: This condition requires compliance with the requirements in 40 CFR 71.6(c)(5), which the Department adopted by reference under 18 AAC 50.040(j).

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification.

Condition 55.2 provides clarification of transition periods between an expiring permit and a renewal permit to ensure that the Permittee certifies compliance with the permit terms and conditions of the permit that was in effect during those partial date periods involved in the transition. 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.

Condition 56, Emission Inventory Reporting

Legal Basis: This condition requires the Permittee to submit emissions data to the state so the state is able to satisfy the federal requirement to submit emission inventory data from point sources to the EPA as required under 40 CFR 51.15 and 51.321. The emission inventory requirement applies to sources defined as point sources in 40 CFR 51.50. The state must report emissions data as described in 40 CFR 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 CFR 51 Subpart A to EPA.

Factual Basis: The Department used the language in SPC XV, as adopted by reference under 18 AAC 50.346(b)(8), for the permit condition. The emission inventory data is due to EPA 12 months after the end of the reporting year (40 CFR 51.30(a)(1) and (b)(1)). Permittees have until April 30th to compile and submit the data to the Department. To expedite the Department's process of transferring data into EPA's electronic reporting system, the Department encourages Permittees to submit the emission inventory through the

Department's electronic emission inventory submission system in the Permittee Portal on the Department's Air Online Services webpage. A myAlaska account and profile are needed to gain access to the Permittee Portal. Other options are to submit the emission inventory via mail, email, or fax. Detailed instructions on completing and submitting the emission inventory and the report form are available at the Point Source Emission Inventory webpage by clicking the Emission Inventory Instructions button. The emission inventory instructions and report form may also be obtained by contacting the Department.

To ensure that the Department's electronic system reports complete information to the National Emissions Inventory, Title V stationary sources are required to submit with each report emissions data described in 40 CFR 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 CFR 51 Subpart A, as applicable. Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds for Type A (large) sources, as listed in Table 1 to Appendix A of 40 CFR 51 Subpart A, are required to report emission inventory data every year for the previous calendar year (also known as the inventory year). For triennial inventory years, Type A sources only need to submit one report, not both an annual report and a separate triennial report.

Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds for Type B (small) sources, as listed in Table 1 to Appendix A of 40 CFR 51 Subpart A, are required to report emission inventory data every third year (i.e., triennially) for the previous inventory year. The emission thresholds for nonattainment areas vary depending on the nonattainment status of the area. As of June 9, 2017, Fairbanks and North Pole urban area have been designated by the federal administrator as "serious nonattainment" for PM_{2.5}.

As of the issue date of this permit, the stationary source is a Type B stationary source.

Condition 57, NSPS and NESHAP Reports and Waivers

Legal Basis: The Permittee is required to provide the Federal Administrator and Department a copy of each emissions unit report for units subject to NSPS or NESHAP federal regulations under 18 AAC 50.326(j)(4). 40 CFR 70 Appendix A documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

Factual Basis: The condition supplements the specific reporting requirements in 40 CFR 60, 40 CFR 61, and 40 CFR 63.

Condition 58, Permit Applications and Submittals

Legal Basis: 40 CFR 71.10(d)(1), adopted by the Department under 18 AAC 50.040(j)(7), requires submission of a copy of each permit application to EPA.

Factual Basis: The Department used the language in SPC XIV for the permit condition. The condition directs the applicant to send copies of all application materials required to be submitted to the Department directly to the EPA, in electronic format, if practicable. This condition shifts the burden of compliance with 40 CFR 71.10(d)(1) from the Department to the Permittee as allowed under 40 CFR 71.10(d)(1).

Conditions 59 through 61, Permit Changes and Revisions Requirements

Legal Basis: 40 CFR 71.6(a)(8), (12), and (13) incorporated by reference under 18 AAC 50.040(j) require that these provisions be included in operating permits.

Factual Basis: 40 CFR 71.6(a)(12) and (13) specify changes that may be made without a permit revision, and 40 CFR 71.6(a)(8) states permit revisions are not required for some emissions trading and similar programs.

The Permittee did not request trading of emission increases and decreases as described in 40 CFR 71.6(a)(13)(iii).

Condition 62, Permit Renewal

Legal Basis: The Permittee must submit a timely and complete operating permit renewal application if the Permittee intends to continue source operations in accordance with the operating permit program. The obligations for a timely and complete operating permit application are in 40 CFR 71.5(a) through (c), adopted by reference in 18 AAC 50.040(j)(3), and 18 AAC 50.326(c).

Factual Basis: In accordance with AS 46.14.230(a), this operating permit is issued for a fixed term of five years after the date of issuance, unless a shorter term is requested by the permit applicant. The Permittee is required to submit an application for permit renewal by the specific dates applicable to the stationary source as listed in this condition. As stated in 40 CFR 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 40 CFR 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 CFR 71.5(c) and remits payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 CFR 71.7(b) states that if a source submits a timely and complete application for permit issuance (including renewal), the source's failure to have a permit is not a violation until the permitting authority takes final action on the permit application.

Therefore, as long as an application has been submitted within the timeframe specified under 40 CFR 71.5(a)(1)(iii), and is complete before the expiration date of the existing permit, then the expiration of the existing permit is extended and the Permittee has the right to operate under that permit until the effective date of the new permit. However, this protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit by the deadline specified in writing by the Department any additional information needed to process the application.

Conditions 63 through 68, General Compliance Requirements and Schedule

Legal Basis: These conditions require compliance with the applicable requirements in 18 AAC 50.345(b) through (d) and (h) and 40 CFR 71.6(c)(3). As stated in 18 AAC 50.345(a), the requirements in 18 AAC 50.345(b) through (d) and (h) are standard conditions that must be included in all operating permits issued by the Department.

Factual Basis: These are standard conditions for compliance required for all operating permits.

Conditions 69 and 70, Permit Shield

Legal Basis: These conditions require compliance with the requirements in 40 CFR 71.6(f), which the Department has adopted by reference under 18 AAC 50.040(j)(4). These requirements apply because the Permittee has requested that the Department shield the stationary source from specific non-applicable requirements listed under this condition.

Factual Basis: Table C of Operating Permit No. AQ0225TVP05 shows the permit shield that the Department granted to the Permittee. The Department based the determinations on the permit application, past operating permit, likelihood for the source to become subject during the life of the permit, Title I permits and inspection reports.