Alaska Department of Environmental Conservation
Air Permits Program

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Savant Alaska, LLC

Badami Development Facility

STATEMENT OF BASIS
for the terms and conditions of

Permit No. AQ0417TVP04

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0417TVP04.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0417TVP04 contains information on the stationary source as provided in the Title V permit application.

The Badami Development Facility is owned and operated by, Savant Alaska, LLC (Savant) and Savant Alaska, LLC is the Permittee for the stationary source's operating permit. Previously, the stationary source was owned and operated by BP Exploration (Alaska), Inc. (BPXA) until January 7, 2012 when it was sold to Savant. Savant took over the Title V permit on February 20, 2012. The SIC code for this stationary source is 1311 - Crude Oil and Natural Gas Production and the NAICS code is 211120, 211130 - Crude Petroleum, Natural Gas Extraction.

The Badami Development Facility is an existing oil and gas exploration and production operation which consists of two diesel-fired generators, two natural gas-fired combustion turbines, two natural gas-fired heaters, one natural gas-fired triethylene glycol (TEG) reboiler, one flare, two incinerators, rig engines, and rig heaters and boilers. It also operates some insignificant emission units that include small incinerators, heaters, and storage tanks, and several Intermittently Used Oilfield Support Equipment (IUOSE) for oil well servicing and maintenance for pipelines, roads and other existing infrastructure. Insignificant emission units that are not subject to Title I requirements are not listed in Table A.

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 C.F.R. 71.5(c)(3).

The emissions units at the Badami Development Facility that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0417TVP04. The following emission units were added to Table A:

- EU ID 422 (0.035 tons/hour Oily Waste Portable Smart Ash Incinerator) and EU ID 502 (85 lb/hr Waste Combustion Incinerator) both have potential emissions greater than the significant emissions threshold in 18 AAC 50.326(e) and are subject to emission unit-specific MR&R to comply with state or federal requirements.

Table A of Operating Permit No. AQ0417TVP04 contains information on the emissions units regulated by this 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 as indicated in the application from the Badami Development Facility is shown in the table below.

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

Emissions	NO_x	CO	PM	SO_2	VOC	CO_2e[1]	HAPs	Total[2]
PTE	447.83	394.90	17.91	54.83	63.23	181,725	3.36	978.70
Assessable PTE	447.83	394.90	17.91	54.83	63.23	181,725	3.36	978.70

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.
3. HAP emissions are a subset of either VOC emissions or PM_{10} emissions and are excluded from the assessable emissions total to avoid double counting.

The assessable PTE listed under Condition 67.1 is the sum of the PTE of each individual air pollutant, other than greenhouse gases (GHGs). 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.

For criteria pollutants and GHGs, emissions are as provided in the application. The applicant estimated PTE's for NO_x, CO, PM_{10}, and VOC based on AP-42 emission factors current as of the date of the permit renewal application submittal, vendor supplied emission factors, source test results, and any allowed emission rates and/or operational limits applicable to emission units at the stationary source. The applicant estimated potential emissions of SO_2 based on mass balance (except for the incinerators which were based on AP-42 emission factors) and allowable fuel sulfur content limits. The insignificant heaters (IUOSE) PTEs were estimated based on conservative assumption of 50 percent annual operation (4,380 hours per 12 consecutive months). VOC PTEs for the diesel and methanol tanks were calculated using AP-42 Section 7.1 equations. For GHG emissions, the applicant estimated CO_2e emissions using the emission factors found in 40 C.F.R. 98, Subpart C, Tables C-1 and C-2.

The Applicant calculated HAP emissions from all combustion units (except for the flare, EU ID 507) using field data from AP-42 emission factors. HAP PTE for the flare was estimated using the Ventura County Air Pollution Control District (VCAPCD) emission factors, flare destruction efficiency of 98 percent, and gas analysis result (October 9th, 2017) of 0.227 mole percent hexane plus (0.20 lbs/lb-mol). Per 40 C.F.R. 71.2, emissions from oil or gas exploration or production wells with their associated equipment are not aggregated when determining the total potential to emit HAPs. Therefore, emissions from units located at any drill site are not aggregated when determining the HAPS major status of the stationary source.

[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).

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with AS 46.14.130(b), an owner or operator of a Title V source[2] must obtain a Title V permit consistent with 40 C.F.R. 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 CAA;
- Another stationary source designated by the Federal Administrator by regulation.

The Permittee is required to obtain an operating permit for the Badami Development Facility as specified under 18 AAC 50.326(a) and 40 C.F.R. 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 CAA, it directly emits, or has the potential to emit, 100 TPY or more of any air pollutant subject to regulation; and
- A source, including an area source, subject to a standard, limitation or other requirement under Section 111 of the Act (NSPS) not exempted or deferred under AS 46.14.120(e) or (f);
- A source, including an area source, subject to a standard or other requirement under Section 112 of the Act (NESHAP) not exempted or deferred under AS 46.14.120(e) or (f);

AIR QUALITY PERMITS

Permits to Operate

No previous air quality control Permit to Operate exists for this stationary source.

Title I (Construction and Minor) Permits

Permit No. 9773-AC007. The Department issued Construction Permit No. 9773-AC007 to this stationary source on September 10, 1997. This permit authorized the establishment of an oil and gas production facility, including well drilling, module assembly, and pipeline construction.

Permit No. 9873-AC007. The Department issued Construction Permit No. 9873-AC007 to this stationary source on August 7, 1998. This permit authorized the installation and operation of a central processing unit and associated equipment. This permit rescinded and replaced Construction Permit No. 9773-AC007 in its entirety.

Permit No. 0173-AC007. The Department issued Construction Permit No. 0173-AC001 to this stationary source on March 16, 2001. This permit authorized the extended operation of the diesel generators, EU IDs 420 and 421, while reducing operations of the turbines, heaters, and rig engines for a warm winter shutdown. This permit rescinded and replaced Construction Permit No. 9873-AC007 in its entirety.

[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)].

Permit No. 417CP04. The Department issued Construction Permit No. 417CP04 to this stationary source on November 7, 2002. This permit authorized the increased operations of the Badami Development Facility existing flare, EU ID 507. This permit rescinded and replaced Construction Permit No. 0173-AC001 in its entirety.

- Revision 1. The Department issued Revision 1 to Construction Permit No. 417CP04 on September 11, 2003. This permit authorized the increased operations of the Badami Development Facility existing flare (EU ID 507), the diesel generators (EU IDs 420 and 421), and installation of a small incinerator (EU ID 422) and two portable heaters (EU IDs 611 and 612) during warm shutdown mode. The Permittee also requested for owner requested limits in order to avoid stationary source's classification as PSD modification.
- Revision 2. The Department issued Revision 2 to Construction Permit No. 417CP04 on February 23, 2004. This revision changed the BACT determination for the turbines, EU IDs 500 and 501 during warm shutdown mode. The Permittee also requested for owner requested limits in order to avoid stationary source's classification as PSD modification.

Permit No. AQ0417CPT05. The Department issued Construction Permit No. AQ0417CPT05 to this stationary source on July 18, 2005. This permit authorized restart of production at Badami Development Facility and retains the authorization for warm shutdown operations. It also included different operational modes (Recharge (R) warm shutdown, Long Term (LT) warm shutdown, and Normal Operations) that had the potential to occur during the life of the permit. This permit rescinded and replaced Construction Permit No. 417CP04 Revision 2 in its entirety.

- Revision 1. The Department issued Revision 1 to Construction Permit No. AQ0417CPT05 on August 19, 2005, as result of an informal review of the construction permit requested by the Permittee on July 29, 2005. This revision included administrative revisions regarding load bank monitoring. This permit rescinded and replaced Permit No. AQ0417CPT05 in its entirety.
- Revision 2. The Department issued Revision 2 to Construction Permit No. AQ0417CPT05 on November 17, 2006. This revision included administrative revisions to Permit No. AQ0417CPT05 Revision 1 regarding fuel consumption monitoring for EU IDs 420 and 421. This permit rescinded and replaced Permit No. AQ0417CPT05 Revision 1 in its entirety.

Permit No. AQ0417MSS01. The Department issued Minor Permit No. AQ0417CPMSS01 to this stationary source on June 4, 2009. This minor permit revised the terms and conditions of Permit No. AQ0417CPT05 Revision 2 by extending the "restart period" from 36 months to 5 years, revising the definition of "recharge warm shutdown" to specifically allow two well drilling projects, including the assumptions in the application, and allowing the addition of a new emergency generator, EU ID 509.

- Revisions 1 and 2. The Department issued Revision 1 and Revision 2 to Minor Permit No. AQ0417MSS01 on June 23, 2009 and November 5, 2009, respectively, as administrative amendments to correct the condition numbers in the permit.

Permit No. AQ0417MSS03.[3] The Department issued Construction Permit No. AQ0417MSS03 to this stationary source on October 20, 2010. The Department received two applications under 18 AAC 50.508(6) for Badami Development Facility, and because of subsequent delays in the approval process, decided to incorporate both applications into a single permit. The first application was received March 16, 2010 for the Restart Period extensions and the second was received June 22, 2010 for the replacement of EU ID 421, a standby generator. In this minor permit, the Department consolidated the extension of the Restart Period and the replacement of EU 421 (replaced by EU ID 421a). This minor permit also rescinds and replaces Construction Permit No. AQ0417CPT05, Revision 2 and Minor Permit No. AQ0417MSS01 Revision 2.

- Revision 1. The Department issued Revision 1 to Minor Permit No. AQ0417MSS03 on February 12, 2012 as an administrative amendment to revise the Owner/Operator and Permittee Contact information in the permit, from BP Exploration (Alaska), Inc. to Savant Alaska, LLC.

Permit No. AQ0417MSS05.[4] The Department issued Minor Permit No. AQ0417MSS05 to this stationary source on April 26, 2013 to revise the restart project provisions and to revise several conditions in Minor Permit No. AQ0417MSS03, including updating the emissions units inventory table by replacing EU ID 420 with EU ID 420a. This replacement was an off-permit change under 40 C.F.R. 71.6(a)(12), adopted by reference in 18 AAC 50.326(j)(4). This minor permit rescinds and replaces Minor Permit No. AQ0417MSS03, Revision 1. The Department established stationary source-specific requirements in this Title I permit included in this renewal operating permit as described in Table E.

Permit No. AQ0417MSS06. The Department issued Minor Permit No. AQ0417MSS06 to this stationary source on April 27, 2015 to change the carbon monoxide (CO) Best Available Control Technology (BACT) limit in Condition 12.1(b)(ii) of Minor Permit No. AQ0417MSS05 for the production heater (EU ID 503) from 0.10 lb/MMBtu to 3.8 lb/hr. The Department established stationary source-specific requirements in this Title I permit included in this renewal operating permit as described in Table F.

Permit No. AQ0417MSS07. The Department issued Minor Permit No. AQ0417MSS07 to this stationary source on June 25, 2015 to allow use of fuel gas in EU IDs 1 and 8 (drill rig equipment) and establish an appropriate conversion factor for standard cubic feet (scf) fuel gas burned equivalent to gallon of diesel fuel to maintain the same fuel consumption limits in gallons of liquid fuel for the units. This minor permit rescinded and replaced Table 1 and Conditions 1 and 11 of Minor Permit No. AQ0417MSS07. The Department established stationary source-specific requirements in this Title I permit included in this renewal operating permit as described in Table G.

- Revision 1. The Department issued Revision 1 to Minor Permit No. AQ0417MSS07 on July 8, 2015 as an administrative amendment to correct a typographical error on a cross-referenced condition number in Condition 4.4.

[3] Permit No. AQ0417MSS02 was never issued by ADEC.

[4] Permit No. AQ0417MSS04 was never issued by ADEC.

Title V Operating Permits

Permit No. AQ0417TVP01. BPXA submitted an application for an initial Title V operating permit for Badami Development Facility in July 1998. The initial Title V Permit was issued on November 10, 2003 and incorporated terms and conditions of Construction Permit No. 417CPT04.

- Revision 1. This revision was never issued.
- Revision 2. The Department issued Revision 2 to Title V Permit No. AQ0417TVP01 on August 19, 2005 to incorporate terms and conditions of Construction Permit No. AQ0417CPT05, Revision 1.
- Revision 3. The Department issued Revision 3 to Title V Permit No. AQ0417TVP01 on June 25, 2009 as an administrative revision to incorporate provisions of Minor Permit No. AQ0417MSS01 by reference.
- Revision 4. The Department issued Revision 4 to Title V Permit No. AQ0417TVP01 on November 24, 2009 as an administrative revision to incorporate terms and conditions of Minor Permit No. AQ0417MSS01, Revision 2 and Construction Permit No. AQ0417CPT05, Revision 2 by reference. This revision rescinded and replaced only certain conditions of Title V Permit No. AQ0417TVP01, Revision 2.
- Revision 5. The Department issued Revision 5 to Title V Permit No. AQ0417TVP01 on November 23, 2010 as an administrative revision to incorporate provisions of Minor Permit No. AQ0417MSS03 by reference.
- Revision 6. The Department issued Revision 6 to Title V Permit No. AQ0417TVP01 on February 21, 2012 as an administrative amendment to revise the Owner/Operator and Permittee Contact information in the permit, from BPXA to Savant. This revised operating permit became effective February 6, 2012.

Permit No. AQ0417TVP02. BPXA submitted a permit renewal application for Title V Permit AQ0417TVP02 on June 30, 2008. The application was amended on November 4, 2009 and April 11, 2011. The renewal Title V Permit No. AQ0417TVP02 was issued on October 25, 2013 and incorporated terms and conditions of Minor Permit No. AQ0417MSS05.

- Revision 1. The Department issued Revision 1 to Title V Permit No. AQ0417TVP02 on June 25, 2015 as an administrative revision to incorporate provisions of Permit No. AQ0417MSS06 by reference.
- Revision 2. The Department issued Revision 2 to Title V Permit No. AQ0417TVP02 on August 19, 2015 as an administrative revision to incorporate provisions of Permit No. AQ0417MSS07 Revision 1 by reference.

Permit No. AQ0417TVP03. Savant submitted an application to renew Operating Permit No. AQ0417TVP03 dated December 22, 2017. The Permittee amended the application on January 8, 2018. The Department deemed the application complete on January 9, 2018 and issued Operating Permit No. AQ0417TVP03 on September 18, 2018.

Permit No. AQ0417TVP04. Savant Alaska, LLC submitted an application to renew Operating Permit No. AQ0417TVP04 under a March 8, 2023 cover letter. The Department received the application on March 9, 2023. The Department received additional information on March 30, 2023,

and an application revision on July 21, 2023. The Department deemed the application complete on March 28, 2023 and issued Operating Permit No. AQ0417TVP04 on DATE.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1998. BPXA owned and operated the stationary source from 1998 to 2011. On December 9, 2011, the stationary source was sold to Savant, who is now the stationary source's legal owner and operator.

The most recent Full Compliance Evaluation (FCE) for the stationary source was completed June 16th, 2023. As a result of the Department's evaluation, Savant was found to be out of compliance with Conditions 10.6.b, 34.4.c, 42.1, 62, 63, 70.1.c(i), and 80 of Permit No. AQ0417TVP03. Savant has since taken the necessary corrective actions to address the violations in Conditions 34.4.c and 42.1. Therefore, no further action is required at this time if compliance is maintained.

Other than the issues noted above, review of the permit files for this stationary source, which includes the past inspection reports and compliance evaluations, indicates 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 C.F.R. 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:

- Permit 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. AQ0417TVP04.

Table E, Table F, and Table G below lists the requirements carried into Operating Permit No. AQ0417TVP04 to ensure compliance with the preconstruction permit requirements.

Table E - Comparison of Permit to Operate No. AQ0417MSS05 Conditions to Operating Permit No. AQ0417TVP04 Conditions[1]

Permit No. AQ0417MSS05 Condition No.	Description of Requirement	AQ0417TVP04 Condition No.	How Condition was Revised
Table 1	Emission Unit Inventory	Table A	Rescinded and replaced by AQ0417MSS07, Revision 1. Updated inventory to significant units currently in service.
7.1	Flaring MR&R requirements	18	Clarified produced gas limit and MR&R.
7.2	Air Quality Boundary	19	No change
8, 9	Fuel sulfur limits for natural gas and diesel fuel and associated MR&R requirements	20, 21	Specified affected EU IDs. Referenced MR&R requirements for compliance with the State SO_2 standards per latest operating permit template language.
10	Liquid fuel consumption limit for EU IDs 420a & 421a and associated MR&R requirements	22	Added gap-fill reporting requirements.
11	Rig equipment fuel consumption limit and associated MR&R requirements	23	Rescinded and replaced by AQ0417MSS07, Revision 1.
12	BACT MR&R requirements	24, 25	CO BACT limit for EU ID 503 has been rescinded and replaced by Condition 2 of AQ0417MSS06. Clarified MR&R by referencing SPC and operating report conditions.
13, 14, Table 2	Restart Project – Load Banks and MR&R requirements	26, 27	Clarified Load Bank exception.
15	Restart BACT requirements, Baseline Period	None	Not carried forward – obsolete requirements already fulfilled.

Note:

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

Table F - Comparison of Minor Permit No. AQ0417MSS06 Conditions to Operating Permit No. AQ0417TVP04 Conditions[1]

Permit No. AQ0417MSS06 Condition No.	Description of Requirement	AQ0417TVP04 Condition No.	How Condition was Revised
2	CO BACT limits for EU IDs 500, 501, 503, 504, and 505	24.2	Removed EU ID 504 associated requirements. Unit has been replaced with an electric-powered unit.

Note:

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

Table G - Comparison of Minor Permit No. AQ0417MSS07 Revision 1 Conditions to Operating Permit No. AQ0417TVP04 Conditions[1]

Permit No. AQ0417MSS07 Rev 1 Condition No.	Description of Requirement	AQ0417TVP04 Condition No.	How Condition was Revised
Table 1	Emissions unit inventory	Table A	Updated inventory to significant units currently in service.
4	Rig equipment fuel consumption limits	23	No change.

Note:

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

NON-APPLICABLE REQUIREMENTS

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

- 18 AAC 50.050(b), 40 C.F.R. 71(a)(3) and 71.6(c)(1) Incinerator Particulate Matter Standard: None of the incinerators at the stationary source have a rated capacity equal to or exceeding 1,000 pounds per hour. Therefore, the requirements are not applicable.
- 40 C.F.R. 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.
- 40 C.F.R. 68 Chemical Accident Prevention Provisions: The Risk Management Plan (RMP) requirements do not apply because the stationary source has no threshold quantities of a regulated substance used in a process as defined in 40 C.F.R. 68.10.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The Department adopted regulations from 40 C.F.R. 71, as specified in 18 AAC 50.040(j), to establish operating permit regulations. The EPA fully approved the Alaska Operating Permit Program on November 30, 2001, as noted in Appendix A to 40 C.F.R. 70. This Statement of Basis, required under 40 C.F.R. 71.11(b), provides the legal and factual basis for each condition of Operating Permit No. AQ0417TVP04. Additionally, and as required by 40 C.F.R. 71.6(a)(1)(i), the state and federal regulations for each permit condition are cited in the permit.

Conditions 1, 3 through 6, 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 8, 420a, 421a, 500, 501, 503, 505, and 507 are fuel-burning equipment.

U.S. EPA approved the addition of these standards to the SIP, as noted in 40 C.F.R. 52.70. The Department included permit conditions for MR&R as required by 40 C.F.R. 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 3 through 5 (for liquid fuel-burning equipment) and Condition 6 (for flares) of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid Fuel-Burning Equipment and Flares.

The Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions meet the requirements of 40 C.F.R. 71.6(a)(3).

Except for gas fuel-burning equipment, the Permittee must establish by visual observations of emissions unit exhaust, 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 emission standards for visible emissions.

These conditions detail a stepwise process for monitoring to determine compliance with the state's visible emissions standard for liquid fuel-burning equipment. Equipment types covered by these conditions are stationary 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 either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Condition 6 was developed to provide a standardized version of flare monitoring that is not dependent upon the type or design of upstream equipment. It has been claimed that gas fuel-

burning flares normally burn without emitting visible emissions. However, gas fuel-burning flares have been shown to smoke when a control device malfunctions (e.g., knockout drum, flare scrubber, gas or steam assist, or vapor recovery system). The condition sets out a protocol to collect actual field data to determine compliance with the 20 percent visible emissions standard for flares.

Gas Fuel-Burning Equipment:

Monitoring – The monitoring of gas fuel-burning emissions units for visible emissions is waived; i.e., no Method 9 observations will be required. The Department has found that natural gas fuel-burning equipment inherently has negligible visible emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were used in the equipment during the period covered by the report.

Liquid Fuel- Burning Equipment:

Monitoring – The emissions unit exhaust must be observed by the Method 9 Plan as detailed in Condition 3. 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 observations of emissions unit exhaust 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 copies of the results of all visible emission observations.

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU ID 8 does not qualify as insignificant per 18 AAC 50.326(d)(1) because it is subject to operational limits established under a Title I permit. EU 8 consists of small boilers and heaters; each unit has actual and/or potential emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived visible emissions monitoring for EU ID 8 but these units are subject to compliance certification requirements, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Flares:

Monitoring for flares requires Method 9 observations of scheduled daylight flaring events lasting more than one hour. The Permittee must report the results of these observations to the Department.

Condition 2, Incinerator Visible Emissions Standard and MR&R

Legal Basis: This visible emissions standard under 18 AAC 50.050(a) applies to the operation of any incinerator in Alaska, including an air curtain incinerator. The visible emission standard is included in the SIP approved by EPA, and the Department included permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 2 requires the Permittee to comply with the applicable visible emissions standard in 18 AAC 50.050(a). The Permittee shall not cause or allow the affected

incinerators to violate this standard. The Permittee is required to monitor, record, and report according to Condition 2.1.

Conditions 7 through 10, PM 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 8, 420a, 421a, 500, 501, 503, 505, and 507 are fuel-burning equipment.

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

Factual Basis: Condition 7 prohibits emissions in excess of the applicable state PM standard. MR&R requirements are listed in Conditions 8 through 10 of the permit. These conditions have been adopted into regulation as SPC IX. The Department has modified these conditions, as follows:

- The language "…and two consecutive 18-minute Method 9 visible emissions observations…" in 8.4.b was changed to "…and the next two scheduled 18-minute Method 9 visible emissions observations…" for clarity.

Beyond as noted above, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions, as modified, meet the requirements of 40 C.F.R. 71.6(a)(3).

Except for gas fuel-burning equipment, 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 PM.

Gas Fuel-Burning Equipment:

Monitoring – The monitoring of gas fuel-burning emissions units for PM is waived; i.e., no source testing will be required. The Department has found that natural gas fuel-burning equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were used in the equipment during the period covered by the report.

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 %

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 PM source tests and visible emissions observations conducted during the source tests.

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

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU ID 8 does not qualify as insignificant per 18 AAC 50.326(d)(1) because it is subject to operational limits established under a Title I permit. EU 8 consists of small boilers and heaters; each unit has actual and/or potential emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived PM emissions monitoring for EU ID 8 but these units are subject to compliance certification requirements, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Flares:

Monitoring of flares for PM is waived; i.e., no source testing is required, because of the difficulty and questionable results these tests produce when applied to flares. Compliance with the state visible emissions standard serves as surrogate compliance demonstration for the state particulate matter emissions standard.

Condition 11 through 17, Sulfur Compound Emissions Standard and MR&R

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

- 18 AAC 50.055(c) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 8, 420a, 421a, 500, 501, 503, 505, and 507 are fuel-burning equipment.

The sulfur compound standard applies because it is contained in the federally-approved SIP. The Department included permit conditions for MR&R as required by 40 C.F.R. 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., natural gas, fuel oils).

Liquid Fuels:

For the liquid fuel-burning equipment, EU IDs 8, 420a, and 421a, the MR&R conditions are SPCs XI and XII adopted into regulation pursuant to AS 46.14.010(e). Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g., diesel or No.2 fuel oil). Fuel sulfur testing will verify compliance. Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard. For fuels with a sulfur content higher than 0.75 percent, the condition requires the Permittee to use the equations in Section 12, or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a)(3), to calculate the sulfur-dioxide concentration to show that the standard is not exceeded.

For the liquid fuel-burning equipment, EU IDs 420a and 421a, to protect the SO_2 ambient air quality standards, the Permittee is required to limit sulfur contents of diesel fuel burned in the emissions units to concentrations lower than necessary, as shown in Condition 21. Therefore, the MR&R requirements in Conditions 12 and 13 *(and/or 14)* for compliance with the state SO_2 standard in Condition 11 have been streamlined based on the more stringent fuel sulfur content limits of 0.15 percent by weight rather than have two sets of MR&R.

Beyond as noted above, the Department has determined that the standard permit conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions, as modified, meet the requirements of 40 C.F.R. 71.6(a)(3).

Gaseous Fuels:

Fuel sulfur testing will verify compliance with SO_2 emission standard. Fuel gas sulfur is measured as hydrogen sulfide (H_2S) concentration in parts per million by volume (ppmv). Calculations show that fuel gas containing no more than 4,000 ppmv H_2S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. Fuel gas with an H_2S concentration of even 10 percent of 4,000 ppmv is currently not available in Alaska and is not projected to be available during the life of this permit.

Condition 15 streamlines MR&R requirements for compliance with the state sulfur compound emission standard in Condition 11 by requiring compliance with the more stringent fuel gas H_2S limits in Condition 20 for protection of the SO_2 ambient air quality standards and associated MR&R requirements in Conditions 16 through 17 rather than have two sets of MR&R. Condition 15 requires the Permittee to either obtain a semiannual statement from the

fuel supplier showing fuel sulfur content or conduct a semiannual analysis for fuel gas sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or a listed method approved in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

The Permittee is required to report excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition. The Permittee is required to include copies of the records of semiannual statement from the fuel supplier or the H_2S content analysis with the stationary source operating report.

Condition 18 through 27, 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 (PTO) 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 (ORLs) established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT), 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: Conditions 18 through 27 contain source-specific terms and conditions carried forward from Minor Permit No. AQ0417MSS05 and revised by Minor Permit Nos. AQ0417MSS06 and AQ0417MSS07, Revision 1. These requirements evolved over time from previous construction and minor permits and subsequent revisions, as documented under the Title I (Construction and Minor) Permits section of this Statement of Basis. Note that the Department does not have authority to modify or remove terms and conditions of EPA's federal PSD decisions. However, the Department may elect to streamline the operating permit in the event that the Department has imposed a more stringent term or condition.

Conditions 18 through 23 are limits to protect ambient air quality standards for NO_2, SO_2, and PM_{10}. Condition 18 restricts operations of EU ID 507 to no more than 20 MMscf of produced gas per day and burn no more than 152 MMscf of produced gas per consecutive 12-month period. Condition 19 requires the Permittee to comply with the stationary source air boundaries as set out in the "Public Access Control Plan". Further, the Permittee is not allowed to revise the ambient air boundaries without the Department's approval. Conditions 20 and 21 provide the fuel sulfur content requirements for ambient air quality protection: limits of 250 ppmv H_2S limit in fuel gas (instantaneous), and 0.15 wt% S_{fuel} in liquid fuel. The 250 ppmv H_2S limit in fuel gas is also a BACT limit.

Conditions 22 and 23 incorporate the annual fuel consumption limits for the diesel engines (EU IDs 420a and 421a) and drill rig equipment (EU IDs 1 and 8). For the drill rig emissions units (EU IDs 1 and 8), the Permittee is authorized to burn either fuel gas or diesel fuel, as long as the equivalent combined fuel consumption converted into gallons of diesel does not exceed the limits in Condition 21. Monitoring, recordkeeping and reporting requirements are as provided in the conditions.

Conditions 24 and 25 contains the BACT limits and associated MR&R requirements. Conditions 24.1 through 24.5 provides the BACT controls and limits required for each type of regulated air pollutant while Condition 25 sets out the monitoring, recordkeeping, and reporting requirements to verify compliance.

Condition 25.1 requires source testing to demonstrate compliance with the NO_x and CO BACT limits for the turbines, EU IDs 500 and 501, and the heater, EU ID 503. Summer and winter testing is required for the turbines, EU IDs 500 and 501 to ensure that the turbines can comply with the BACT limits at all times. The Department examined all of the results from previous source tests conducted in 1999 - 2002 to see if the emission rates were higher in the winter months than in the summer months so that the summer testing requirement can be removed. While all of the test results showed compliance with the NO_x BACT limit of 28.4 lb/hr, there was no evidence that the winter test results had higher emission rates. The Department is requiring summer and winter testing in this operating permit. Savant conducted the most recent winter source testing on EU ID 500 for NO_x and CO on March 23, 2023. In August 2019, Savant completed summer source testing that demonstrated compliance with the NO_x and low load CO BACT limits for EU ID 501. In accordance with Condition 25.1.a(ii)(A), after Savant has demonstrated that the worst-case emissions occur in the winter months, Savant may reduce the source testing frequency to one test every five years during winter months only.

Although EU ID 505 (TEG reboiler) is also subject to NO_x and CO BACT limits, source testing is not required for this unit because NO_x and CO emissions from this unit is insignificant based on size, per 18 AAC 50.326(g)(7). EU ID 505 is a small 1.34-MMBtu/hr reboiler. Therefore, stringent source testing requirement for the unit is not warranted.

Conditions 25.2 through 25.4 describe the MR&R requirements for compliance with CO, SO_2, and PM BACT requirements. Condition 25.5 provides the reporting requirements for any excess emissions on BACT limits.

Conditions 26 through 27 provide the requirements for the "Restart Project". These requirements have been carried forward from Construction Permit No. AQ0417CPT05 Revision 2, revised through October 20, 2010 in Minor Permit No. AQ0417MSS03 which was revised and rescinded by Minor Permit No. AQ0417MSS05. These conditions describe limits on use of load banks and the NO_x and CO restart BACT analysis requirements for EU IDs 500 and 501, or their replacements.

The Department adjusted the language of "12 consecutive-month" in Conditions 18 through 25 to "consecutive 12-month" as a gapfill measure for clarity.

Condition 28, 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. 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 C.F.R. 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 with the

state emission standards. However, the Permittee may not cause or allow insignificant emissions 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 emissions units at this stationary source do not require specific monitoring, recordkeeping, and reporting to ensure compliance under these conditions.

Condition 28.4.a requires certification that the insignificant emissions units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution, based on reasonable inquiry.

The Department used the language in SPC V, adopted by reference under 18 AAC 50.346(b)(4), for the permit condition.

Conditions 29 through 37, NSPS Subpart A Requirements

Legal Basis: The EPA approved Alaska's Part 70 Program granted on November 30, 2001 (40 C.F.R. 70 Appendix A). The Department is the permitting authority for the Part 70 program. As the permitting authority, the Department requires compliance with all permit conditions. Although the EPA has not delegated to the Department the authority to administer the New Source Performance Standard (NSPS) program, NSPS requirements are included in the definition for "applicable requirement" under 40 C.F.R. 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

The NSPS provisions under Subparts Dc, GG, IIII, and OOOOa apply to the stationary source. Therefore, the Department requires compliance with those standards in a Part 70 permit issued under the approved program. However, the Department is unable to change the actual wording of the relevant standard to substitute "the Department" for "the Administrator" in those standards. Since the Department expects access to any permit-related information provided by the Permittee to the EPA, the Department will act on its responsibility as the permitting authority to determine compliance with the standard. To reflect this relationship and for the purposes of this permit, the Department has defined "the Administrator" to mean the "EPA and the Department" for conditions implementing the federal emission standards under Section 4.

Most affected facilities (with the exception of some storage tanks) subject to an NSPS are subject to Subpart A. At this stationary source, EU IDs 420a, 421a, 500, 501, and 503 are subject to NSPS Subparts Dc, GG, and IIII, and therefore subject to Subpart A.

Conditions 29.1 through 29.3 – The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU IDs 500, 501, and 503. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility[5] or in the event of a modification or reconstruction of an existing facility[6] into an affected facility.

Condition 29.4 – The requirements to notify the EPA and the Department of any proposed replacement of components of an existing facility (40 C.F.R. 60.15) apply in the event that the

[5] *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 C.F.R. 60.2.

[6] *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 C.F.R. 60.2.

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 30 – The requirements in 40 C.F.R. 60.7(b) to maintain start-up, shutdown, or malfunction records are applicable to most NSPS affected facilities subject to Subpart A. EU IDs 420a and 421a (Subpart IIII affected unit) are not subject to the provisions of 40 C.F.R. 60.7, as set forth in Table 8 of Subpart IIII and 60.4214(a).

Conditions 31 and 32 – NSPS excess emission and monitoring systems performance report and summary report form in 40 C.F.R. 60.7(c) and (d) are applicable to an owner or operator required to or electing to install a continuous monitoring device to monitor EUs subject to an NSPS emissions standard. Excess emissions are defined in applicable subparts. According to 40 C.F.R. 60.334(j) Subpart GG, periodically monitoring fuel sulfur content for compliance with Subpart GG SO_2 standard is a continuous monitoring system. Therefore, these reporting requirements apply to EU IDs 500 and 501 when monitoring under Condition 44.1.a. The Department has included in Attachment A of the statement of basis a copy of the federal EEMSP summary report form for use by the Permittee. The Permittee obtained EPA approval for annual instead of semi-annual fuel gas sulfur reporting under these provisions per the custom fuel monitoring schedule dated November 12, 1998. Therefore, the EEMSP reports that address fuel gas H_2S monitoring for Subpart GG-affected turbines are required to be submitted at least annually for EU IDs 500 and 501 instead of semi-annually.

Condition 33 – The NSPS general recordkeeping requirements under 40 C.F.R. 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part. This requirement is satisfied by Condition 86, which requires at least five years of records retention, in accordance with 40 C.F.R. 71.6(a)(3)(ii)(B) adopted under 18 AAC 50.040(j)(4).

Condition 34 – The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU IDs 500 and 501. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility, in the event of a modification or reconstruction of an existing facility into an affected facility or at such other times as may be required by EPA.

Condition 35 – Good air pollution control practices in 40 C.F.R. 60.11 are applicable to most NSPS affected facilities subject to Subpart A (EU IDs 500, 501, and 503).

Condition 36 – The condition states that any credible evidence may be used to demonstrate compliance or to establish violations of relevant NSPS standards for EU IDs 420a, 421a, 500, and 501.

Condition 37 – Concealment of emissions prohibitions in 40 C.F.R. 60.12 are applicable to EU IDs 420a, 421a, 500, and 501.

The flare is not subject to 40 C.F.R. 60.18 because it is a safety device and not a control device. It does not control emissions from any NSPS regulated emissions units.

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.

Conditions 38 through 39, NSPS Subpart Dc Requirements

Legal Basis: NSPS Subpart Dc applies to steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989 and have maximum design heat input capacities of 29 MW (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). EU ID 503 commenced construction in 1998 and has maximum design heat input capacity of 34 MMBtu/hr. Therefore, EU IDs 503 is subject to Subpart Dc.

Factual Basis: These conditions require the Permittee to comply with the applicable NSPS Subpart Dc requirements. The Permittee may not cause or allow EU ID 503 to violate these standards.

EU ID 503 burn natural gas fuel. Therefore, the only applicable requirements of this subpart are notification and fuel consumption monitoring and recordkeeping. The Permittee has previously complied with the initial notification requirement.

The Permittee received an authorization (waiver) from EPA (Region X) dated January 28, 1999 to relax the recordkeeping requirements for the fuel gas-fired heater units. The EPA approved quarterly fuel usage monitoring and recordkeeping, as reflected in Condition 39.1. The EPA approval does not alter any other requirements of Subpart Dc.

Conditions 40 through 44, NSPS Subpart GG Requirements

Legal Basis: As stated in Condition 40 and in accordance with NSPS Subpart GG 40 C.F.R. 60.330(a) and (b), the subpart applies to stationary gas turbines with a heat input at peak load (maximum load at 60 percent relative humidity, 59 ºF, and 14.7 psi) equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired which commenced construction, modification, or reconstruction after October 3, 1977. EU IDs 500 and 501 meet these criteria and are therefore subject to these requirements.

Factual Basis: Conditions 41 and 43 incorporate the Subpart GG NO_x and SO_2 emissions standards applicable to EU IDs , as specified in 40 C.F.R. 60.332(a)(2) for NO_x, and 40 C.F.R. 60.333(b) for SO_2. The Permittee must not cause or allow EU IDs 500 and 501 to violate these standards.

Through discussions between Savant Alaska, LLC, U.S Environmental Protection Agency (EPA), and the Department on April 19, 2023, a determination was made regarding ongoing performance source testing for core engine replacements for turbines affected under 40 C.F.R. 60 Subpart GG. That determination allows the Permittee to continue ongoing performance testing according to an existing schedule for Emissions Unit ID 500 or 501 when an identical core engine replacement occurs for a turbine, so long as a modification or reconstruction, as those terms are defined in 40 C.F.R. 60 Subpart A, does not occur. The determination was based on the September 8th, 2003 EPA response to Alyeska regarding NSPS Subpart GG Gas Turbine Definition and Modification Issues. The Department included Condition 40.2 as a gap fill measure to incorporate the determined replacement requirements.

Per Condition 44.1.b and pursuant to 40 C.F.R. 60.334(h)(3), the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such

monitoring. Custom sulfur monitoring schedules set forth in 40 C.F.R. 60.334(i)(3)(i)(A) through (D) and 60.334(i)(3)(ii) are acceptable without prior Administrative approval.

NO_x Standard: For a turbine subject to 40 C.F.R. 60.332, the NO_x standard is determined by the following equation:

$$STD_{NO_x} = 0.015\left(\frac{14.4}{Y}\right) + F$$

Where:

STD_{NOx} = allowable ISO corrected (if required as given in §60.335(b)(1)) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis)

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO_x emission allowance for fuel-bound nitrogen, percent by volume assumed to be zero for distillate fuel oil and gaseous fuels.

Based on the manufacturer's heat rating at manufacturer's rated peak load, and assuming fuel bound nitrogen of zero, the NO_x standard is 191 ppmv for EU IDs 500 and 501.

SO_2 Standard: To demonstrate compliance with the Subpart GG SO_2 standard, the Permittee is required to comply with one of the following options:

(1) do not cause or allow SO_2 emissions in excess of 0.015 percent by volume, at 15 percent O_2 and on a dry basis (150 ppmv); or

(2) do not cause or allow the sulfur content for the fuel burned in EU IDs 500 and 501 to exceed 0.8 percent by weight.

The Permittee elected to limit the fuel sulfur content, as described in option 2.

Exemptions: Gas turbines exempted from NSPS Subpart GG emission standards are as provided in 40 C.F.R. 60.332(e) – (l). EU IDs 500 and 501 (when operating on emergency diesel fuel) are exempt from Subpart GG NO_x standard and associated MR&R requirements as indicated in Condition 40.1, in accordance with 40 C.F.R. 60.332(k).

Condition 42, NO_x Monitoring, Recordkeeping, and Reporting

Legal Basis: Conditions 42.1 through 42.3 include periodic monitoring, recordkeeping, and reporting requirements for all turbines that normally operate for greater than 400 hours in a 12-month period. These additional MR&R requirements are necessary to ensure that turbine emissions comply with the NSPS Subpart GG NO_x standard and is required under 40 C.F.R. 71.6(a)(3) as the subpart does not contain MR&R sufficient for an operating permit.

Factual Basis: The Department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NO_x emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NO_x data is gathered under monitoring conditions for compliance with 40 C.F.R. 60, Subpart GG, the Department may find that it has enough information to make such categorical

determinations. In that event, the Department would revise the NO_x monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

These conditions do not include the initial NSPS performance test requirements as the Subpart A conditions cover these requirements. If an existing or new turbine under this permit is still subject to the performance test requirement of 40 C.F.R. 60.8, the requirement is covered under the Subpart A related conditions.

The intent of these conditions is that turbines or groups of turbines be routinely tested on no less than a 5-year cycle. If the most recent performance test on a turbine showed NO_x emissions at less than or equal to 90 percent of the more stringent of limits shown in Condition 41, then periodic monitoring is required at the first applicable of three criteria: either within 5 years of the last performance test, or within a year of the effective date of the permit, or within a year of exceeding 400 hours of operation within a 12-month period. For clarification, the Department added a 6 month cut-off date for triggering source testing within 1 year after permit effective date in accordance with Condition 42.1.a(i)(B). The 6-month trigger identifies when Condition 42.1.a(i)(C) would be enacted to require source testing within 1 year of triggering 400 hours. This ensures that a unit would not appear to be out of compliance with Condition 42.1.a(i)(B) once it finally triggered Condition 42.1.a(i)(C). If the most recent performance test showed operations at greater than 90 percent of the more stringent of the NO_x limits, then periodic monitoring source testing is required every year until two consecutive tests show emissions at less than or equal to 90% of that limit.

The condition does not state how load must be measured. For some turbines it may be possible to directly measure load as either mechanical or electrical output. For others, it may be necessary to calculate load indirectly based on measurements of other parameters. The Department is not attempting to dictate what method is most appropriate through the permit condition, but should evaluate the adequacy of methods of calculating load based on the load monitoring proposed by the Permittee.

Subpart GG defines “emergency gas turbine” and exempts turbines meeting that definition from the Subpart GG NO_x emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the Department has added a Method 20, or Method 7E and either Method 3 or 3A, monitoring threshold of 400 hours per 12-month period. For turbines expected to operate less than 400 hours the Department has also added recordkeeping for hours of operation. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

The condition requires testing at a range of loads, consistent with the performance test requirements in Subpart GG, that is, test at 30, 50, 75, and 90-to-100 percent load. If testing at these four loads is not reasonable, the condition allows the Permittee to propose to the Department what test loads will be reasonable and adequate, and the Department will have the responsibility to make a finding on that proposal. If EPA has already approved alternative test loads for the initial performance test the Department would allow those test loads if the information that went into that decision were still representative of the turbine operation.

In Condition 42.1.b(ii)(C)(4), the Department considers “fuel type” to mean, for liquid fuels a type of fuel as described in an ASTM or similar fuel specification.

Load measurements or load calculations from load surrogate measurements are for one-hour periods. The intent is to match the averaging period for the test method. Method 20 identifies a number of traverse points that vary with the size of the stack. From these points the tester is to choose at least 8 points for NO_x measurements. The time at each point is to be at least one minute plus the average response time of the instrument. The recorded value is the average steady state response. Presumably, the steady state response would exclude some or all of the response time of the instrument. Three runs are to be done at each test load.

The three runs would represent 24 minutes of measurement time or more. A one-hour average load is therefore a reasonable approximation of a load period corresponding to the test method.

Condition 44, SO_2 Monitoring, Recordkeeping, and Reporting

Legal Basis: Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and have been referenced here. These MR&R requirements are necessary to ensure that turbine emissions comply with the Subpart GG SO_2 standard, as required under 40 C.F.R. 71.6(a)(3) and in accordance with corresponding MR&R requirements provided under NSPS Subpart GG.

Factual Basis: Conditions 44.1 through 44.4 include periodic monitoring, recordkeeping, and reporting requirements for all turbines subject to the NSPS Subpart GG SO_2 emissions standards. No additional monitoring outside of the Subpart GG requirements is necessary to ensure compliance with the Subpart GG SO_2 standard.

Monitoring: Condition 44.1 incorporates NSPS Subpart GG fuel sulfur monitoring requirements and the fuel gas sulfur monitoring schedule requirements of the November 12, 1998 EPA-approved alternative monitoring plan (AMP) and schedule granted to BPXA in accordance with 40 C.F.R. 60.334(i)(3). The Permittee may demonstrate compliance with the Subpart GG SO_2 standard by either periodically monitoring the total sulfur content of the gaseous fuel being fired in the affected turbine (as described in Condition 44.1.a) or by demonstrating that the gaseous fuel burned at the stationary source meet the definition of natural gas in 40 C.F.R. 60.331(u) using representative fuel sampling data, as described in Condition 44.1.b.

Recordkeeping: The Permittee is required to maintain records of all sulfur monitoring data required by NSPS Subpart GG for five years as specified in Condition 86. Condition 44.3 provides the recordkeeping requirements as set out in the EPA-granted AMP on November 12, 1998.

Reporting: NSPS Subpart GG SO_2 reporting requirements, as established under Subpart GG and under the EPA-approved AMP, are incorporated in the permit in Condition 44.4. According to the EPA-approved AMP, the Permittee is required to submit results of fuel gas H_2S monitoring to EPA at least annually, and any changes in supplier or source of fuel or use of any fuel other than fuel gas within 60 days of such changes. The Department gap-filled by adding a February 1 due date for submitting a copy of the results of fuel gas H_2S monitoring to the Department pursuant to Condition 44.4.d, as carried over from previous renewal permit at the Permittee's request, so that the submittal due date coincides with the submittal due date for the 2nd half operating reports.

For the purpose of the EEMSP report (Condition 31) and summary report (Condition 32) required under 40 C.F.R. 60.7(c), report daily periods during which the sulfur content of the

fuel being fired in the turbine exceeds 0.8 percent as excess emissions. 40 C.F.R. 60.334(j)(5) requires EEMSP reporting 30 days after the end of each 6-month period, but the alternative monitoring schedule approved for Badami Development Facility reduces the required frequency of these reports for gaseous fuel to at least annually, as set out in Condition 44.4.d. As stated in Condition 94.1, reports are to be submitted to the Department and EPA, and summarized in the operating report required under Condition 91. If the Permittee has demonstrated that the gaseous fuel burned at the stationary source meets the definition of "natural gas" in 40 C.F.R. 60.331(u), as set out by Condition 44.1.b, then the reporting requirements under Condition 44.4.a do not apply. The Department added Condition 44.4.b to gap-fill reporting requirements if the Permittee elects to comply with Condition 44.1.b.

Conditions 45 through 51, NSPS Subpart IIII Requirements

Legal Basis: NSPS Subpart IIII applies to stationary compression ignition internal combustion engines (CI ICE) that commence construction, modification, or reconstruction after July 11, 2005 where the stationary CI ICEs are manufactured after April 1, 2006 for non-fire pump engines and manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006 for fire pump engines.

Factual Basis: These conditions incorporate the Subpart IIII emissions standards applicable to EU IDs 420a and 421a, non-emergency CI ICE. The Permittee may not cause or allow these emissions units to violate these standards. These conditions also provide MR&R specifically called out for the EUs within the Subpart. Compliance with the emission standards is achieved by purchasing an engine certified to the applicable emission standards. 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.

The NSPS GAPCP requirements provided in 40 C.F.R. 60.4211(a), as reflected in Condition 46, suffices the State GAPCP requirement under 18 AAC 50.346(b)(5).

Emission standards that apply to Subpart IIII-affected CI ICE depend on several factors, including, but not limited to, the unit's purpose (whether emergency or non-emergency), model year, displacement in liters/cylinder (L/cyl), and location. Some of this information is provided in Table A of the permit.

Because the stationary source location meets the definition of "remote Alaska" in 40 C.F.R. 60.4219, the applicable standards and MR&R requirements for EU IDs 420a and 421a are rooted in the provisions under 40 C.F.R. 60.4216 that specifically address engines used in remote Alaska. In particular, 40 C.F.R. 60.4216(c) allows the Permittee to comply with the applicable emission standards for emergency engines in 40 C.F.R. 60.4202 and 60.4205, and not those for non-emergency engines in 40 C.F.R. 60.4201 and 60.4204, whether the unit is operated as emergency or non-emergency CI ICE. Consequently, as shown in Condition 48, EU ID 420a and 421a are subject to EPA Tier 2 for new nonroad CI engines as specified in 40 C.F.R. Appendix 1 to part 1039(b) as well as the exhaust opacity standards under 40 C.F.R. 1039.105(b), Subpart B.

EU IDs 420a and 421a do not need and are not equipped with diesel particulate filter to comply with the applicable PM standard. Therefore, the provisions regarding diesel particulate filter in 40 C.F.R. 60.4209(b) and 60.4214(c) are not included in the permit.

The Department added Condition 50 to gap-fill the operating and excess emissions and permit deviation reporting requirements. The Department has also added Condition 49.3 to provide compliance monitoring for the fuel requirements under Condition 47.

MR&R requirements are provided in Conditions 49 through 50. Provisions for importing or installing stationary CI ICE in previous model years required under 40 C.F.R. 60.4208 are provided in Condition 51.

The provisions of NSPS Subpart IIII listed in Conditions 45 through 51 are current as amended through August 10, 2022. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Conditions 52 through 55, NSPS Subpart OOOOa Requirements

Legal Basis: NSPS Subpart OOOOa applies to crude oil and natural gas facilities for which construction, modification, or reconstruction commenced after September 18, 2015. The Badami Development Facility is an onshore O&G production facility that contains wells and fugitive emissions components that are listed as affected facilities in 40 C.F.R. 60.5365a. Each hydraulically fractured well is an affected facility according to 40 C.F.R. 60.5365a(a) and the collection of fugitive emissions components at a well site, as defined in 40 C.F.R. 60.5430a, is an affected facility.

Factual Basis: These conditions incorporate the Subpart OOOOa requirements for affected facilities which may or may not be emission unit specific. The Permittee must monitor fugitive emissions from the affected facilities and make repairs as necessary, as well as, comply with the associated recordkeeping and reporting requirements described in the subpart.

The provisions of NSPS Subpart OOOOa listed in Conditions 52 through 55 are current as amended through May 10, 2024. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

On July 1, 2024, EPA responded to Savant's June 12, 2024 request for an alternative OOOOa annual reporting period. The EPA approved Savant's proposed future reporting periods. In the example provided for 2024-2025, the reporting period is April 1, 2024 through March 31, 2025, with reporting due June 29, 2025. This reporting period better aligns with the fugitive emissions components monitoring schedule, which is weather dependent on the North Slope.

Condition 56, NESHAP Subpart A Requirements

Legal Basis: Most sources subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements are subject to NESHAP Subpart A. This stationary source is subject to 40 C.F.R. 63 Subpart ZZZZ, and therefore is subject to the general provisions of Subpart A as specified in the provisions for the applicability of NESHAP Subpart A in Table 8 to NESHAP Subpart ZZZZ.

Factual Basis: Subpart A contains the general requirements applicable to all affected sources subject to NESHAP. In general, the intent of NESHAP is to regulate specific categories of stationary sources that emit or have the potential to emit one or more hazardous air pollutants.

Condition 57, NESHAP 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), whose construction commenced before June 12, 2006, located at major and area sources of HAP emissions, excluding stationary RICE units being tested at a stationary RICE test cell/stand. Badami Development Facility is an area source that owns and operates RICE units, EU IDs 420a and 421a, subject to NESHAP Subpart ZZZZ.

Factual Basis: This condition incorporates the NESHAP Subpart ZZZZ requirements applicable to the existing stationary RICE, EU IDs 420a and 421a. In accordance with 40 C.F.R. 63.6590(a)2)(iii), the Permittee must meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of SNPS Subpart IIII. No further requirements apply to EU IDs 420a and 421a under NESHAP Subpart ZZZZ.

The provisions of NESHAP Subpart ZZZZ listed in Condition 57 are current as amended through August 10, 2022. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in this condition.

Condition 58, Asbestos NESHAP

Legal Basis: The requirements of 40 C.F.R. 61 are applicable requirements for Title V permitting purposes, as stated in item 4 of the "applicable requirement" definition under 40 C.F.R. 71.2. The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M and associated general provisions under Subpart A, as adopted by reference under 18 AAC 50.040(b)(1) and (2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation. ADEC received delegation for §61.145 and §61.154 of Subpart M (Asbestos), along with other sections and appendices which are referenced in §61.145, as §61.145 applies to sources required to obtain an operating permit under Alaska's regulations. ADEC has not received delegation for Subpart M for sources not required to obtain an operating permit under Alaska's regulations.

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.

Conditions 59 through 61, Protection of Stratospheric Ozone, 40 C.F.R. 82

Legal Basis: The requirements of 40 C.F.R. 82 are applicable requirements for Title V permitting purposes, as stated in item 12 of the "applicable requirement" definition under 40 C.F.R. 71.2.

Condition 59 requires compliance with the applicable requirements in 40 C.F.R. 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 C.F.R. 82, Subpart F.

Conditions 60 and 61 also require compliance with the applicable requirement adopted under 18 AAC 50.040(d). Condition 60 prohibitions apply to all stationary sources that use substitutes for ozone-depleting compounds. Condition 61 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. The Badami Development Facility uses halon and is therefore subject to the federal regulations contained in 40 C.F.R. 82.

Factual Basis: These conditions incorporate applicable 40 C.F.R. 82 requirements. 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 require compliance with this federal regulation.

Condition 62, NESHAP Applicability Determinations

Legal Basis: This condition requires the Permittee to determine rule applicability of NESHAP and requires record keeping for those determinations if required by the source classification.

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 EPA if the stationary source becomes an affected source subject to a standard promulgated by EPA under 40 C.F.R. 63 and to keep records of applicability determinations and make those records available to the Department.

Conditions 63 through 65, Standard Terms and Conditions

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

Factual Basis: These are standard conditions that apply to all permits.

Condition 66, Administration Fees

Legal Basis: This condition requires compliance with the applicable fee requirements in 18 AAC 50.400-403. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 C.F.R. 71.9 is not applicable.

Factual Basis: Paying administration fees is required as part of obtaining and holding a permit with the Department or as a fee for a Department action. The regulations in 18 AAC 50.400-403 specify the amount, payment period, and the frequency of fees applicable to a permit action.

Conditions 67 and 68, Emission Fees

Legal Basis: These conditions require compliance with the applicable fee requirements in 18 AAC 50.410-420. 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 C.F.R. 71.9 is not applicable.

Factual Basis: Except as noted in the last paragraph, the Department used the language in SPC I, adopted by reference under 18 AAC 50.346(b), for the permit. SPC I requires 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.

SPC I also allows the Permittee to recalculate the stationary source's 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 must be based on actual emissions 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.

As indicated in Condition 68.3, if the stationary source has not commenced construction or operation on or before March 31st, the Permittee may submit a waiver letter certified by the responsible official under 18 AAC 50.205 indicating that the assessable emissions for the source is zero for the previous fiscal year.

The Department has modified Condition 67 by deleting the phrase "in quantities 10 tons per year or greater" to match the revision made in 18 AAC 50.410 effective September 7, 2022. Beyond as noted, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3).

Condition 69, Good Air Pollution Control Practice

Legal Basis: This condition requires compliance with the requirements in 18 AAC 50.346(b)(5) and applies to all emissions units, **except** those subject to an emission standard in 40 C.F.R. 60, 61, or 63, those subject to continuous emission or parametric monitoring requirements, and insignificant emissions units, i.e., except EU IDs 420a, 421a, 500, 501, and 503.

Factual Basis: The condition requires the Permittee to comply with good air pollution control practices for all units.

The Department adopted this condition under 18 AAC 50.346(b) as SPC VI pursuant to AS 46.14.010(e). Records kept in accordance with Condition 69.2 for units subject to GAPCP need to be maintained for 5 years in accordance with Condition 86 even if a unit is no longer subject to this condition.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The

Department may use these records as a trigger for requesting source testing if the records show that an adequate maintenance schedule is not maintained.

Condition 70, Dilution

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

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

Condition 71, 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. 18 AAC 50.045 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2.

Factual Basis: The Department used the language in SPC 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 72, Stack Injection

Legal Basis: This condition reiterates 18 AAC 50.055(g), which 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). 18 AAC 50.055 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2.

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 verified by inspections, because the emissions unit or stack would need to be modified to accommodate stack injection.

Condition 73, Air Pollution Prohibited

Legal Basis: This condition requires compliance with 18 AAC 50.110. 18 AAC 50.110 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2. 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 C.F.R. 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 74, Technology-Based Emission Standard

Legal Basis: The Permittee is required to take reasonable steps to minimize emissions if unavoidable emergency, malfunction, or non-routine repair 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 90. Excess emission reporting under Condition 90 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 90.

Condition 75, Open Burning

Legal Basis: The condition requires the Permittee to comply with the regulatory requirements in 18 AAC 50.065 when conducting open burning at the stationary source. 18 AAC 50.065 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2. 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-info. Condition 75.1 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. Compliance is demonstrated through annual certification required under Condition 92.

Condition 76, 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). Compliance is demonstrated through the submission of the required source test plan and report.

Conditions 77 through 79, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 77 and 79 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 78 specifies source test methods, as required by 40 C.F.R. 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 77 through 79.

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

Condition 80, 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 81 through 84, Test Deadline Extension, Test Plans, Notifications, and Reports

Legal Basis: Conditions 82 through 84 require compliance with the applicable requirements in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 81 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 50.345(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 85, 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 86, Recordkeeping Requirements

Legal Basis: This condition requires the Permittee to keep records in accordance with 40 C.F.R. 71.6(a)(3)(ii), which the Department adopted by reference under 18 AAC 50.040(j)(4). It also incorporates the general NSPS recordkeeping requirement under 40 C. F. R. 60.7(f), which the Department adopted by reference under 18 AAC 50.040(a)(1).

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide evidence of compliance with this requirement.

40 C.F.R. 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part while 40 C.F.R. 71.6(a)(3)(ii) requires at least five years of records retention. The five-year records retention requirement in Condition 86 satisfies both 40 C.F.R. 60.7(f) and 40 C.F.R. 71.6(a)(3)(ii).

Condition 87, Certification

Legal Basis: All operating permits must contain a requirement to certify permit applications, reports, affirmations, or compliance certification, per 18 AAC 50.345(j). The requirement is a part of the SIP approved by EPA.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. 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). 18 AAC 50.345(j) allows the excess emissions reports to be certified with the operating report. However, the Department reminds the Permittee that excess emissions reports must be submitted according to the applicable deadline given in Condition 90 and must not be withheld from the Department until the deadline for submittal of an 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 88, Submittals

Legal Basis: This condition applies because the Permittee is required to send reports to the Department and supplements the standard reporting and notification requirements of this permit.

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. This condition states that the Department requires one certified copy of submitted reports (except as otherwise required by the Department or other conditions of the permit) and provides an allowance for either electronic or hard copy document submittals. 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 89, 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 90, 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). 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, adopted by reference under 18 AAC 50.346(b)(2), for the permit condition. In accordance with 18 AAC 50.270, beginning September 7, 2023, the Department requires electronic notification of excess emissions and permit deviations. Therefore, the notification form in SPC IV adopted by reference under 18 AAC 50.346(b)(3), may only be used for the notification requirements upon written Department approval (see Section 13).

Condition 91, Operating Reports

Legal Basis: The condition specifies reporting requirements as required by 40 C.F.R. 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, adopted by reference under 18 AAC 50.346(b)(6), for the permit condition. The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements identified 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 92, Annual Compliance Certification

Legal Basis: This condition requires compliance with the requirements in 40 C.F.R. 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 92.2 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 93, 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 C.F.R. 51.15 and 51.321. The federal emission inventory requirement applies to sources defined as point sources in 40 C.F.R. 51.50. Under 18 AAC 50.275, the state also requires reporting of emissions triennially for stationary sources with an air quality permit, regardless of permit classification. This includes sources that do not meet the federal emission thresholds in Table 1 to Appendix A of 40 C.F.R. 51 Subpart A. The state must report emissions data as described in 40 C.F.R. 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 C.F.R. 51 Subpart A to EPA.

Factual Basis: Except as noted in the last paragraph, 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 C.F.R. 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 http://dec.alaska.gov/Applications/Air/airtoolsweb/. A myAlaska account and profile are needed to gain access to the Permittee Portal. Other options are to submit the emission inventory via mail or email.

Detailed instructions on completing and submitting the emission inventory and the report form are available at the Point Source Emission Inventory page http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory 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, stationary sources with air quality permits are required to submit with each report emissions data described in 40 C.F.R. 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 C.F.R. 51 Subpart A, as applicable. Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds shown in Condition 93.1 for Type A (large) sources, as listed in Table 1 to Appendix A of 40 C.F.R. 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.

Stationary sources, excluding owner requested limits (ORLs) issued under 18 AAC 50.225 and preapproved emission limits (PAELs) issued under 18 AAC 50.230, that do not meet any of the emission thresholds in Condition 93.1 for Type A (large) sources are required to report

emission inventory data every third year (i.e., triennially) for the previous inventory year under Condition 93.2.

As of the issue date of this permit, the Badami Development Facility is required to report under Condition 93.2 for other stationary sources.

The Department has modified Condition 93 by lowering the thresholds that require reporting to include all stationary sources regardless of permit classification (excluding ORLs and PAELs) to capture the new requirements found in 18 AAC 50.275, effective September 7, 2022. Beyond as noted, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3).

Condition 94, NSPS and NESHAP Reports

Legal Basis: The Permittee is required to provide the Department a copy of each report submitted to EPA as required for emissions units subject to NSPS or NESHAP federal regulations under 18 AAC 50.326(j)(4). Appendix A to 40 C.F.R. 70 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 C.F.R. 60, 40 C.F.R. 61, and 40 C.F.R. 63. The reports themselves provide monitoring for compliance with this condition.

Condition 95, Permit Applications and Submittals

Legal Basis: 40 C.F.R. 71.10(d)(1), adopted by reference 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, adopted by reference under 18 AAC 50.346(b)(7), for the permit condition. The condition directs the applicant to send a copy of each application for modification or renewal of this permit to the EPA. The information may be submitted in electronic format, if practicable. This condition shifts the burden of compliance with 40 C.F.R. 71.10(d)(1) from the Department to the Permittee as allowed under 40 C.F.R. 71.10(d)(1).

Conditions 96 through 98, Permit Changes and Revisions Requirements

Legal Basis: The Permittee is obligated to notify the Department of certain off-permit source changes and operational changes under 18 AAC 50.326(j)(4). 40 C.F.R. 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 C.F.R. 71.6(a)(12) and (13), as reflected in Conditions 97 and 98, respectively, specify changes that may be made without a permit revision, and 40 C.F.R. 71.6(a)(8) (Condition 96) 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 C.F.R. 71.6(a)(13)(iii); therefore, language addressing these provisions has not been included in this permit as part of Condition 96.

Condition 99, 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 C.F.R. 71.5(a) – (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 C.F.R. 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 C.F.R. 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 C.F.R. 71.5(c) and remits payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 C.F.R. 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 C.F.R. 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 100 through 104, 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 C.F.R. 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 105 and 106, Permit Shield

Legal Basis: These conditions require compliance with the requirements in 40 C.F.R. 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. AQ0417TVP04 shows the permit shield that the Department granted to the Permittee. The following table shows the requests that were denied and the reasons that they were denied. The Department based the determinations on the permit application, past operating permit, Title I permits, and inspection reports. Should any of the shielded requirements become applicable during the permit term, the Permittee is required to take necessary steps to comply with all applicable requirements in a timely manner.

Table H - Permit Shields Denied

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 C.F.R. 60 Subpart D, Da, Db, Dc	Insignificant emission unit heaters do not exceed the minimum threshold (10 MMBtu/hr).	A shield is not necessary for NSPS Subparts that are inherently irrelevant and inapplicable to the stationary source's line of operations and activities. No shield included in the permit does not mean the requirement is applicable.
40 C.F.R. 63 Subpart JJJJJJ	Insignificant emission unit heaters are not subject to Subpart JJJJJJ	A shield is not necessary for NESHAP Subparts that are inherently irrelevant and inapplicable to the stationary source's line of operations and activities. No shield included in the permit does not mean the requirement is applicable.
40 C.F.R. 82 Subpart B	Stationary Source does not perform service on motor vehicle air conditioners.	A shield is not necessary for Regulation Subparts that are inherently irrelevant and inapplicable to the stationary source's line of operations and activities. No shield included in the permit does not mean the requirement is applicable.

ATTACHMENT A

FIGURE 1--SUMMARY REPORT--GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE

[Note: This form is referenced in 40 C.F.R. 60.7, Subpart A-General Provisions]

Pollutant *(Circle One)*: SO_2 NO_X TRS H_2S CO Opacity

Reporting period dates: From _____ to _____

Company:
Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period [1]: _____

Emission Data Summary [1]	**CMS Performance Summary** [1]
1. Duration of excess emissions in reporting period due to:	1. CMS downtime in reporting period due to:
a. Startup/shutdown ..... ____	a. Monitor equipment malfunctions ..... ____
b. Control equipment problems ..... ____	b. Non-Monitor equipment malfunctions ..... ____
c. Process problems ..... ____	c. Quality assurance calibration ..... ____
d. Other known causes ..... ____	d. Other known causes ..... ____
e. Unknown causes ..... ____	e. Unknown causes ..... ____
2. Total duration of excess emissions ..... ____	2. Total CMS Downtime ..... ____
3. Total duration of excess emissions x (100) / [Total source operating time] ..... ____ % [2]	3. [Total CMS Downtime] x (100) / [Total source operating time] ..... ____ % [2]

[1] For opacity, record all times in minutes. For gases, record all times in hours.

[2] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 C.F.R. 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____ *Date*: _____

Title: _____