

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

**Public Comment - March 15, 2023
University of Alaska Fairbanks
HAARP Facility**

**STATEMENT OF BASIS
for the terms and conditions of
Permit No. AQ0440TVP03**

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit AQ0440TVP03.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit AQ0440TVP03 contains information on the stationary source as provided in the Title V permit application.

The HAARP Facility is owned and operated by the Permittee, University of Alaska Fairbanks (UAF). The SIC code for this stationary source is 8221 - Colleges, Universities, and Professional Schools. The NAICS code for this stationary source is 611310 - Colleges, Universities, and Professional Schools.

The High Frequency Active Auroral Research Program (HAARP) Facility is an existing stationary source classified as a noncommercial research organization. The HAARP Facility was previously owned and operated by the U.S. Air Force (USAF) under Minor Permit AQ0440MSS01 and Operating Permit AQ0440TVP01. Operating Permit AQ0440TVP01 expired on August 14, 2014. The Department rescinded Minor Permit AQ0440MSS01 on August 28, 2014, as requested by the USAF. UAF became the operating and controlling party of the emissions units at the source in August 2015.

The HAARP Facility is located in a remote area of Alaska because it is not connected to the Alaska Railbelt Grid, which meets the partial exemption of 40 CFR 63.6603(b)(2)(i). UAF will meet the partial exemption of 40 CFR 63.6603(b)(2)(ii) by providing power to Copper Valley Electric Association (CVEA) to support CVEA's renewable energy systems. The power agreement detailing the transfer of electrical power from UAF's HAARP Facility to CVEA was signed August 4, 2016. UAF will meet the partial exemption of 40 CFR 63.6603(b)(2)(iii) by limiting the total generating capacity of the stationary source to less than 12 megawatts. As long as the Permittee meets the requirements of 40 CFR 63.6603(b)(2), the numerical CO emission limits in NESHAP Subpart ZZZZ are not applicable to EUs 1 through 5.

EMISSIONS UNIT INVENTORY AND DESCRIPTION

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

The emissions units at the HAARP Facility that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit AQ0440TVP03.

Table A of Operating Permit AQ0440TVP03 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.

The HAARP Facility is permitted to operate five diesel-fired reciprocating internal combustion engines (RICE), two diesel-fired process heaters, two diesel-fired heaters, and three 12,000-gallon fuel storage tanks.

EMISSIONS

A summary of the potential to emit (PTE)¹ and assessable PTE as indicated in the application for the HAARP Facility is shown in the table below.

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

Pollutant	NO _x	CO	PM	PM ₁₀	SO ₂	VOC	CO ₂ e	HAP	Total
PTE	182.36	74.97	9.84	7.60	19.34	8.74	23,801	0.19	295.25
Assessable PTE	182.36	74.97	9.84	0	19.34	8.74	0	0	295.25

Notes:

1. CO₂e emissions are defined as the sum of the mass emissions of each individual greenhouse gas (GHG) adjusted for its global warming potential. CO₂e emissions are excluded from the total PTE and total assessable PTE as they are not regulated under 18 AAC 50.
2. HAP emissions are a subset of either VOC emissions or PM emissions and are excluded from the total PTE and total assessable PTE to avoid double counting. PM₁₀ is a subset of PM and therefore also excluded from the totals.

The assessable PTE listed under Condition 32.1 is the sum of the PTE of each individual air pollutant, other than greenhouse gases (GHGs), for which the stationary source has the potential to emit. The emissions listed in Table C 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 and are based on the owner requested limits from Minor Permit AQ0440MSS02 Revision 1. Emission factors are from AP-42 and source test results. The highest PTE for a single HAP is less than 10 tpy and the PTE for total HAP is less than 25 tpy, therefore the stationary source is not a major source of HAP emissions. HAP estimates are not included in the total PTE or the total assessable PTE for the reason provided in Note 2 above.

The Permittee only provided PM₁₀ so the Department calculated total PM, which is assessable. The particulate matter emission factors include both filterable and condensable particulate, as required by the definition of PM.

VOC emission factors for EU IDs 1 through 5 represent the 91 percent nonmethane hydrocarbon portion of Total Organic Compounds found in Table 3.4-1 of AP-42. VOC emission factors for EU IDs 6 through 9 represent Nonmethane Total Organic Compounds found in Table 1.3-3 of AP-42.

Potential emissions of SO₂ are estimated based on a liquid fuel sulfur content of 0.13 percent by weight. This Title I limit is identified in Minor Permit AQ0440MSS02 Revision 1 as having been established to protect ambient air quality. GHG emissions are quantified as the sum of CO₂, CH₄,

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).

and NO₂, adjusted by their global warming potential factors, expressed as CO₂e from all emission units and activities that emit GHG emissions using emission factors from 40 CFR 98.

BASIS FOR REQUIRING AN OPERATING PERMIT

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

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

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

The Permittee is required to obtain an operating permit for the HAARP Facility as specified under 18 AAC 50.326(a) and 40 CFR 71.3(a), because the stationary source is:

- A major source, as defined in Section 302 of the CAA, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation.

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

PAEL No. AQ0440PL201. The Department issued a pre-approved limit to this stationary source, owned and operated by the USAF, on October 14, 1998 which limited the quantity of diesel fuel burned during any consecutive 12-month period to 280,000 gallons. This PAEL was rescinded by Minor Permit AQ0440MSS01.

Minor Permit AQ0440MSS01. The Department issued Minor Permit AQ0440MSS01 to this stationary source, owned and operated by the USAF, on April 30, 2007. The permit was classified under 18 AAC 50.502(c)(3) for increases in NO_x and SO₂ emissions greater than 10 tpy and under 18 AAC 50.508(5) for establishing ORLs to avoid classification as a PSD major source. The permit was rescinded by request on August 28, 2014, following decommissioning of the five diesel engines.

Minor Permit AQ0440MSS02. The Department issued Minor Permit AQ0440MSS02 to this stationary source, owned and operated by UAF, on July 25, 2016 with a permit classification of 18 AAC 50.508(5) for establishing an ORL to avoid PSD review. UAF asked the Department to limit the combined operation of EUs 1 through 5 (previously decommissioned generator engines) to 6,750 hours per year. Condition 11, requested by the Permittee, restricts the generating capacity of the stationary source to less than 12 megawatts, to avoid certain requirements under 40 CFR 63 Subpart ZZZZ. Condition 11 was rescinded by Minor Permit AQ0440MSS03.

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)].

- Revision 1 to Minor Permit AQ0440MSS02 was issued August 18, 2017 to correct an error in Condition 10. Revision 1 rescinded Minor Permit AQ0440MSS02. All applicable stationary source specific requirements established in this permit are included in Operating Permit No. AQ0440TVP03 as described in Table D.

Minor Permit AQ0440MSS03. The Department issued Minor Permit AQ0440MSS03 to this stationary source on March 22, 2018, with a permit classification of 18 AAC 50.508(6) for revising or rescinding terms and conditions of a Title I permit. The Department notified UAF of its decision to rescind Condition 11 of Minor Permit AQ0440MSS02 Revision 1 and to reestablish it directly in the Title V permit. The requirement to restrict the generating capacity of the stationary source to less than 12 megawatts avoids certain requirements under 40 CFR 63 Subpart ZZZZ, but it does not avoid a permit classification. Therefore, the Department chose to establish the avoidance strategy in the operating permit.

Title V Operating Permits

Permit No. AQ0440TVP01. USAF submitted a complete application for an initial Title V operating permit on January 25, 2008. The Department received a request to rescind the operating permit following decommissioning of the five diesel engines. The permit was rescinded on August 28, 2014.

Permit No. AQ0440TVP02. UAF submitted a complete application for an initial Title V operating permit on June 9, 2017. The permit was issued on July 3, 2018.

Permit No. AQ0440TVP03. UAF submitted a complete application for a renewal Title V operating permit on December 16, 2022.

COMPLIANCE HISTORY

UAF became the operating and controlling party of the HAARP Facility in August 2015. 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. One exception was a full compliance evaluation (FCE) covering the period between March 16, 2018 through November 30, 2019. The Department found the Permittee out of compliance with Conditions 15.3 and 21.3 of Operating Permit AQ0440TVP02 and Condition 10.3 of Minor Permit AQ0440MSS02 Revision 1 for missing the recording date of January 15, 2019. The recordkeeping was completed by January 25, 2019 and no further actions were required. The FCE covering the period between December 1, 2019 and August 31, 2021 found the Permittee to be operating in full compliance with Operating Permit AQ0440TVP02 and Minor Permit AQ0440MSS02 Revision 1.

APPLICABLE REQUIREMENTS FROM PRECONSTRUCTION PERMITS

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

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

- 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 AQ0440TVP03.

Table D below lists the requirements carried into Operating Permit AQ0440TVP03 to ensure compliance with the preconstruction permit requirements.

Table D - Comparison of Minor Permit AQ0440MSS02 Rev 1 Conditions to Operating Permit AQ0440TVP03 Conditions

AQ0440MSS02 Revision 1 Condition No.	Description of Requirement	AQ0440TVP03 Condition No.	How Condition was Revised
Table 1	Emission unit inventory	Table A	Insignificant tanks (EUs 10–12) were not included.
5–9	Ambient Air Quality Protection Requirements	10–14	Not revised
10	Owner Requested Limit to avoid PSD	15	Not revised
11	Restricts total generating capacity of stationary source to 12 megawatts	20	The Title I requirement was rescinded by Minor Permit AQ0440MSS03 because it did not avoid a permit classification. The Department reestablished the condition directly in the Title V permit.

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.

- **40 CFR 60 Subpart III:** The stationary CI ICE (EUs 1 through 5) have not been modified or reconstructed since the subpart applicability date.
- **40 CFR 64 Compliance Assurance Monitoring (CAM):** These provisions apply to emission units that employ the use of an add-on control device to meet an emission limit or standard and have pre-control emissions greater than 100 tons/year for the pollutant for which the control device is operated. 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 CFR 68 Chemical Accident Prevention Provisions:** The Risk Management Plan requirements do not apply because the stationary source has no threshold quantities of a regulated substance used in a process as defined in 40 CFR 68.10.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The Department adopted regulations from 40 CFR 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 CFR 70. This Statement of Basis, required under 40 CFR 71.11(b), provides the legal and factual basis for each condition of Operating Permit AQ0440TVP03. Additionally, and as required by 40 CFR 71.6(a)(1)(i), the state and federal regulations for each permit condition are cited in the permit.

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

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

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU ID(s) 1 through 9 are fuel-burning equipment.

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

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1). MR&R requirements are listed in Conditions 2 through 4 of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid Fuel-Burning Equipment and Flares.

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. (The Permittee requested that the Smoke/No Smoke option be removed from the permit.)

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.

Liquid Fuel- Burning Equipment:

Monitoring – For EU IDs 1 through 5, the emissions unit exhaust must be observed by either the Method 9 or Smoke/No Smoke Plan as detailed in Condition 2. 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 a statement of which visible emissions plan was used for each emissions unit and copies of the results of all visible emissions observations in each operating report.

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

EUs 6 through 9 do not qualify as insignificant per 18 AAC 50.326(d)(1) because they are subject to operating limits established under a Title I permit. However, these units have potential emissions below the significant emissions thresholds in 18 AAC 50.326(e). EUs 6 and 7 are 1.5 MMBtu/hr each and meet the definition of process heater in 40 CFR 63.11237. EUs 8 and 9 are 0.75 MMBtu/hr heaters. Therefore, the Department has waived visible emissions monitoring for EUs 6 through 9 in accordance with Department Policy and Procedure No. 04.02.103, Topic #3. The Permittee must annually certify compliance under Condition 56 with the visible emissions standard based on reasonable inquiry.

Conditions 5 through 8, Particulate Matter (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 1 through 9 are fuel-burning equipment or industrial processes.

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 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 5 prohibits emissions in excess of the applicable state PM standard. MR&R requirements for EU IDs 1 through 5 are listed in Conditions 6 through 8 of the permit. These conditions have been adopted into regulation as SPC IX.

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

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.

The results of the correlation study predict 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):

EUs 6 through 9 do not qualify as insignificant per 18 AAC 50.326(d)(1) because they are subject to operating limits established under a Title I permit. However, these units have potential emissions below the significant emissions thresholds in 18 AAC 50.326(e) and no monitoring is required, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3. The Permittee must annually certify compliance under Condition 56 with the PM emissions standard based on reasonable inquiry.

Condition 9, 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 1 through 9 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 CFR 71.6(a)(3) and 71.6(c)(1).

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

The Permittee must comply with the sulfur content limit in Condition 11.2 and the MR&R requirements in Condition 13, which are from Minor Permit AQ0440MSS02 Revision 1. Compliance with the fuel sulfur limit in Condition 11.2 will ensure compliance with the 500 ppm SO₂ emission limit of Condition 9. The Permittee is required to obtain receipts from the fuel supplier or to determine the sulfur content of the fuel using an approved test method. The records must be submitted with the operating report.

The Department concludes that the condition as modified meets the requirements of 40 CFR 71.6(a)(3) and intent of the Standard Operating Permit Condition XI MR&R.

Condition 10 through 15, Preconstruction Permit Requirements

Legal Basis: The Permittee is required to comply with all stationary source-specific requirements that were carried forward from previous SIP-approved Permits to Operate issued on or before January 17, 1997 and operating permits issued between January 18, 1997 and September 30, 2004, and with all stationary source-specific requirements in EPA PSD permits, SIP-approved construction permits, SIP-approved minor permits, and owner requested limits (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 10 through 14 were established to protect ambient air quality. Condition 15 is an owner requested limit to avoid classification as a PSD major source under 18 AAC 50.306. The requirements are carried forward from Minor Permit AQ0440MSS02 Revision 1, issued August 18, 2017.

Condition 16, Insignificant Emissions Units

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

Factual Basis: The condition requires insignificant emissions units to comply with the state emission standards for visible emissions, particulate matter emissions, and sulfur-compound emissions. Insignificant emissions units are not generally listed in operating permits unless specific monitoring, recordkeeping, and reporting are necessary to ensure compliance 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 and therefore used the language in SPC V, adopted by reference under 18 AAC 50.346(b)(4), for the permit condition.

Condition 16.4.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.

Conditions 17, Asbestos NESHAP

Legal Basis: The requirements of 40 CFR 61 are applicable requirements for Title V permitting purposes, as stated in item 4 of the “applicable requirement” definition under 40 CFR 71.2. Condition 17 requires the Permittee to comply with asbestos demolition or renovation requirements in 40 CFR 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 40 CFR 61.145 and 61.154 of Subpart M (Asbestos), along with other sections and appendices which are referenced in 40 CFR 61.145, as 61.145 applies to sources 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

Condition 18, 40 CFR 63 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 CFR 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.

Conditions 19 through 24, 40 CFR 63 Subpart ZZZZ Requirements

Legal Basis: The Department has incorporated by reference the NESHAP requirements for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart ZZZZ applies to owners and operators of any existing, new, or reconstructed stationary reciprocating internal combustion engines (RICE), 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. The HAARP Facility is an area source that owns and operates RICE units, EU IDs 1 through 5, subject to NESHAP Subpart ZZZZ.

Factual Basis: These conditions incorporate the current (as amended through August 10, 2022) NESHAP Subpart ZZZZ requirements applicable to the existing stationary RICE, EU IDs 1 through 5. The HAARP Facility is located within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid. Therefore, pursuant to 40 CFR 63.6603(b), these units do not have to meet the numerical CO emission limits in Table 2d to Subpart ZZZZ as long as the Permittee maintains compliance with Conditions 20 and 21. Also, pursuant to 40 CFR 63.6603(b), EU IDs 1 through 5 must meet the work and management practices for stationary non-emergency CI RICE with a rating of less than or equal to 300 Hp as specified in Table 2d item 1.

Condition 20 is a Department imposed limit to keep the generating capacity of the source below 12 megawatts and Condition 21 will demonstrate that at least 10 percent of the power generated by EU IDs 1 through 5 on an annual basis, is used for residential purposes. The Permittee tracks the power transfer operations on a fiscal year basis, which is dictated by the Memorandum of Understanding that UAF has with CVEA. Demonstrating compliance with

Condition 21 on a fiscal year basis will ease the burden of compliance and ensure that calculations are correct. NESHAP Subpart ZZZZ requires an annual demonstration and does not preclude the use of fiscal year records.

Under 40 CFR 71.6(a)(1), the conditions of the permit must include "...those operational requirements and limitations that ensure compliance with all applicable requirements...". Therefore, the Department has established both of these operating limits directly in the Title V permit in order to ensure compliance with NESHAP Subpart ZZZZ.

For EU IDs 1 through 5, the Permittee is required to perform inspections and maintenance at intervals specified by the subpart (see Conditions 22.1 through 22.3); as well as comply with the NESHAP good air pollution control practice (GAPCP) requirements, as reflected in Condition 19.2, which satisfies the state requirement under 18 AAC 50.346(b)(5).

The Permittee must comply with the recordkeeping requirements of 40 CFR 63.6655(e), 63.6625(i), and 63.6660, as set out in Condition 23. The reporting requirements are provided in Condition 24. The Permittee is required to include reports of deviations from NESHAP Subparts A and ZZZZ requirements with the semiannual operating reports, per 40 CFR 63.6650(f). The Department also added an excess emissions and permit deviation gap-fill reporting requirement in Condition 24.2.

The Permittee is exempt from the fuel requirements per 40 CFR 63.6604(d), and from the notification requirements per 40 CFR 63.6645(a)(5) since none of the affected emissions units are subject to numerical emission standards.

The provisions of NESHAP Subpart ZZZZ listed in Conditions 19 through 24 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 25 and 26, 40 CFR 82, Protection of Stratospheric Ozone

Legal Basis: The requirements of 40 CFR 82 are applicable requirements for Title V permitting purposes, as stated in item 12 of the "applicable requirement" definition under 40 CFR 71.2. The Permittee has certified that halon is not used at the facility, so Subpart H requirements are not included in this permit.

Condition 25 requires compliance with the applicable requirements in 40 CFR 82, as adopted by reference under 18 AAC 50.040(d). The requirements apply if the Permittee engages in the recycling or disposal of certain refrigerants. The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants in 40 CFR 82, Subpart F.

Condition 26 also requires compliance with the applicable requirement adopted under 18 AAC 50.040(d). Condition 26 prohibitions apply to all stationary sources that use substitutes for ozone-depleting compounds. The condition prohibits the Permittee from causing or allowing violations of these requirements.

Factual Basis: These conditions incorporate applicable 40 CFR 82 requirements. The Permittee may not cause or allow violations of these prohibitions.

Condition 27, 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 HAP major 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 CFR 63 and to keep records of applicability determinations and make those records available to the Department.

Conditions 28 through 30, 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 CFR 71.6(a)(5) – (7).

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

Condition 31, 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 CFR 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 32 and 33, 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 CFR 71.9 is not applicable.

Factual Basis: The Department used the language in SPC I, adopted by reference under 18 AAC 50.346(b), for the permit. 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 (AS 46.14.250(h)(1)).

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.

Condition 34, 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 CFR 60, 61, or 63, those subject to continuous emission or parametric monitoring requirements, and insignificant emissions units.

Factual Basis: The condition requires the Permittee to comply with good air pollution control practices for EU IDs 6 through 9.

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 34.2 for units subject to GAPCP need to be maintained for 5 years in accordance with Condition 50 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 35, 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 CFR 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 36, 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 CFR 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 unit or stack would need to be modified to accommodate stack injection.

Condition 37, 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 CFR 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 CFR 71.6(a)(3) and 71.6(c)(1).

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

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

Condition 38, 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 54. Excess emission reporting under Condition 54 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 54.

Condition 39, 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 CFR 71.2. The 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 39.1 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 56.

Condition 40, 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 41 through 43, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 41 and 43 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 42 specifies source test methods, as required by 40 CFR 71.6(a)(3)(i) and 71.6(c)(1). These requirements apply because the Permittee is required by the permit to conduct source tests, or a source test may be requested by the Department. The Permittee is required to conduct source tests in the manner set out in Conditions 41 through 43.

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

Condition 44, 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 45 through 48, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: Conditions 46 through 48 require compliance with the applicable requirements in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 45 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 49, 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 50, Recordkeeping Requirements

Legal Basis: This condition requires the Permittee to keep records in accordance with 40 CFR 71.6(a)(3)(ii), which the Department adopted by reference under 18 AAC 50.040(j)(4). It also incorporates the general NSPS recordkeeping requirement under 40 CFR 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 CFR 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part while 40 CFR 71.6(a)(3)(ii) requires at least five years of records retention. The five-year records retention requirement in Condition 50 satisfies both 40 CFR 60.7(f) and 40 CFR 71.6(a)(3)(ii).

Condition 51, 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 54 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 52, 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 53, 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 54, 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. The Department used the notification form in SPC IV adopted by reference under 18 AAC 50.346(b)(3), for the notification requirements (see Section 12) for the notification requirements.

Condition 55, Operating Reports

Legal Basis: The condition specifies reporting requirements as required by 40 CFR 71.6(a)(3)(iii)(A) which the Department has adopted by reference under 18 AAC 50.040(j)(4).

Factual Basis: The Department used the language in SPC VII, 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 56, Annual Compliance Certification

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

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

Condition 56.2 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 57, Emission Inventory Reporting

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

Factual Basis: The Department used the language in SPC XV, as adopted by reference under 18 AAC 50.346(b)(8), for the permit condition.

The emission inventory data is due to EPA 12 months after the end of the reporting year (40 CFR 51.30(a)(1) and (b)(1)). Permittees have until April 30th to compile and submit the data to the Department. To expedite the Department's process of transferring data into EPA's electronic reporting system, the Department encourages Permittees to submit the emission inventory through the Department's electronic emission inventory submission system in the Permittee Portal on the Department's Air Online Services webpage <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, email, or fax.

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, Title V stationary sources are required to submit with each report emissions data described in 40 CFR 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 CFR 51 Subpart A, as applicable. Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds shown in Condition 57.1 for Type A (large) sources, as listed in Table 1 to Appendix A of 40 CFR 51 Subpart A, are required to report emission inventory data every year for the previous calendar year (also known as the inventory year). For triennial inventory years, Type A sources only need to submit one report, not both an annual report and a separate triennial report.

Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds for Type B (small) sources shown in Condition 57.2.a (for attainment and unclassifiable areas) and Condition 57.2.b (for nonattainment areas), as listed in Table 1 to Appendix A of 40 CFR 51 Subpart A, are required to report emission inventory data every third year (i.e., triennially) for the previous inventory year. The emission thresholds for nonattainment areas listed in Condition 57.2.b vary depending on the nonattainment status of the area. As of June 9, 2017, Fairbanks and North Pole urban area have been designated by the federal administrator as "serious nonattainment" for PM_{2.5}. Therefore, a stationary source located in Fairbanks and North Pole urban area is subject to the triennial reporting requirement if its potential to emit is greater than or equal to any of the threshold values in Conditions 57.2.b(i), 57.2.b(ii), 57.2.b(iii) (PM₁₀ only), and 57.2.b(iv).

Condition 58, 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 CFR 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 CFR 60, 40 CFR 61, and 40 CFR 63. The reports themselves provide monitoring for compliance with this condition.

Condition 59, Permit Applications and Submittals

Legal Basis: 40 CFR 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 CFR 71.10(d)(1) from the Department to the Permittee as allowed under 40 CFR 71.10(d)(1).

Conditions 60 through 62, 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 CFR 71.6(a)(8), (12),

and (13), incorporated by reference under 18 AAC 50.040(j), require that these provisions be included in operating permits.

Factual Basis: 40 CFR 71.6(a)(12) and (13), as reflected in Conditions 61 and 62, respectively, specify changes that may be made without a permit revision, and 40 CFR 71.6(a)(8) (Condition 60) states permit revisions are not required for some emissions trading and similar programs.

The Permittee did not request trading of emission increases and decreases as described in 40 CFR 71.6(a)(13)(iii); therefore, language addressing these provisions has not been included in this permit as part of Condition 60.

Condition 63, Permit Renewal

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

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

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

Condition 64, General Compliance Requirements and Schedule

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

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

Conditions 70 and 71, Permit Shield

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

Factual Basis: Table B of Operating Permit AQ0440TVP03 shows the permit shield that the Department granted to the Permittee. 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. The following table shows the requests that were denied and the reasons that they were denied.

Table E - Permit Shields Denied

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 60 Subparts D, Da, Db, Dc	EU IDs 6 & 7 each have a heat input less than 10 MMBtu/hr and are exempt per 40 CFR 60.40(a), 60.40Da(a), 60.40b(a), and 60.40c(a). EU IDs 8 & 9 are not “steam generating units” as defined in 40 CFR 60.41Da, 60.41b, and 60.41c.	These subparts are not considered potentially applicable and therefore permit shields are not relevant.
40 CFR 63 Subpart DDDDD	The HAARP Facility is not a major source of HAP, so EUs 6 – 9 are exempt per 40 CFR 63.7485	40 CFR 63 Subpart DDDDD is not considered potentially applicable and therefore a permit shield is not relevant.
40 CFR 60 Subpart IIII	EU IDs 1 – 5 were not manufactured after April 1, 2006, and have not been modified or reconstructed after July 11, 2005.	These are not considered potentially applicable requirements and therefore permit shields are not relevant.
40 CFR 63.6600, 63.6601, 63.6602, 63.6610, 63.6611, 63.6625(d), 63.6645(b), (c), (d), (e)	The affected source is not a major source of HAP.	These are not considered potentially applicable requirements and therefore permit shields are not relevant.
40 CFR 63.6625(d), & (j) and 63.6640(c) & (d) of 40 CFR 63 Subpart ZZZZ	EU IDs 1 – 5 meet 40 CFR 63.6603(b) and 63.6603(b)(2) and are not subject to any emission limitations or operating limitations.	The reason provided does not justify a shield for 40 CFR 63.6625(d), (j), 63.6640(c) & (d). 40 CFR 63.6625(d), (j) and 63.6640(c) are only applicable to spark ignition engines and 63.6640(d) is applicable to new, reconstructed, and rebuilt RICE during the first 200 hrs of operation.

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 63.6640(f), 63.6650(h), 63.6655(f)	EU IDs 1 – 5 are not emergency stationary RICE.	These are not considered potentially applicable requirements and therefore permit shields are not relevant.
40 CFR 63.6625(c), 63.6650(g), 63.6655(c)	EU IDs 1 – 5 do not fire landfill gas or digester gas.	These are not considered potentially applicable requirements and therefore permit shields are not relevant.
40 CFR 82 Subpart G	Halon is not used at the HAARP Facility	The purpose of this subpart is to implement section 162 of the CAA, as amended, regarding the safe alternatives policy and applies to substitutes for ozone-depleting compounds. This requirement is generally applicable to all sources and the Department has decided to include this regulation in operating permits.