Alaska Department of Environmental Conservation
Air Permits Program

Public Comment: September 14, 2021
Alyeska Pipeline Service Company
Pump Station 1

STATEMENT OF BASIS
for the terms and conditions of
Permit No. AQ0072TVP04

Reviewed by Aaron Simpson
ADEC AQ/APP (Juneau)

Prepared by Dave Jones
ADEC AQ/APP (Juneau)

INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0072TVP04.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0072TVP04 contains information on the stationary source as provided in the Title V permit application.

The stationary source Pump Station 1 (PS-1) is jointly owned by Harvest Alaska, LLC, ConocoPhillips Transportation Alaska, Inc., and ExxonMobil Pipeline Company. PS-1 is operated by Alyeska Pipeline Service Company (APSC) and APSC is the Permittee for the stationary source's operating permit. The Standard Industrial Classification code for this stationary source is 4612 – Crude Petroleum Pipelines. The North American Industrial Classification System code for this stationary source is 486110 – Pipeline Transportation of Crude Oil.

The stationary source is a crude oil pumping facility. PS-1 is the northern terminus of the Trans-Alaska Pipeline System (TAPS), which transports crude oil by pipeline from the North Slope of Alaska to the Valdez Marine Terminal.

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 (EUs) at PS-1 that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0072TVP04.

Table A of Operating Permit No. AQ0072TVP04 contains information on the EUs regulated by this permit as provided in the application, including five gas turbine prime movers for pumps, compressors, and generators; two diesel internal combustion engine prime movers; four heaters; crude oil breakout and fuel oil storage tanks; and a flare. The solid waste incinerator (EU ID 21, 31-IN-1) previously included in initial Title V Operating Permit No. AQ 0072TVP01 has been permanently shut down and removed from its building enclosure. 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 from PS-1 as indicated in the application and verified by the Department is shown in the table below.

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

[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).

Emissions	NO_X	CO	PM_{10}	SO_2	VOC	CO_2e[1]	HAPs[2]	Total[3]
PTE	235.1	1,226.8	22.6	64.8	63.9	229,246	14.1	1,614
Assessable PTE	235	1,227	23	65	64	0	0	1,614

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. 6.4 tpy N-hexane is the biggest contributor to the HAP emissions. VOC emissions include HAPs.

3. Total PTE and total assessable PTE shown in the table do not include CO_2e and HAPs. The increase in assessable emissions of 1,555 to 1,614 tpy from the previous operating permit is because of an increase in the AP-42 emission factor for THC from the flare as well as a total increase in flare throughput for all criteria pollutants.

The assessable PTE listed under Condition 54.1 is the sum of the PTE of each individual air pollutant, other than greenhouse gases (GHGs), for which the stationary source has PTE of 10 TPY or greater. 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, as follows: For fuel-burning equipment, the Permittee applied manufacturer-provided emission factors or AP-42 emission factors as applicable to the allowable operating limits to obtain emissions. For SO_2 emissions from fuel combustion, the Permittee used mass balance to estimate the emissions. For VOC and HAP emissions from the crude oil tanks, the Permittee used mass balance and procedures specified in Section 11 of this permit to estimate the emissions. For greenhouse gas emissions, the Permittee applied emission factors from 40 C.F.R. 98 to the fuel combustion to estimate the emissions.

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 Clean Air Act;
- Another stationary source designated by the Federal Administrator by regulation.

The Permittee is required to obtain an operating permit for PS-1 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

[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)].

- as defined in Section 302 of the Clean Air Act, it directly emits, or has the potential to emit, 100 TPY or more of any air pollutant subject to regulation.

AIR QUALITY PERMITS

Permits to Operate

The most recent permit-to-operate issued for this stationary source is Permit to Operate No. 9572-AA012. This permit-to-operate was issued on March 4, 1996, and revised on September 5, 1996, December 16, 1996, December 31, 1996, and December 4, 1998. All stationary source-specific requirements established in Permit to Operate No. 9572-AA012 were included in the Operating Permit AQ0072TVP02 as described in Table H of the Statement of Basis for Operating Permit AQ0072TVP02.

Construction Permit No. 9872-AC021 was issued to the Permittee on December 4, 1998 (in the form of Permit to Operate No. 9572-AA012 Amendment 4). All stationary source-specific requirements established in this previous permit are included in the Title V Operating Permit AQ0072TVP02 as described in Table H of the Statement of Basis for Operating Permit AQ0072TVP02.

Title I (Construction and Minor) Permits

Construction Permit No. AQ0072CPT02 was issued to the Permittee on October 28, 2005. This permit implemented owner requested emission limits to cap flare emissions and thereby ensure that PS-1 is a HAP minor source. All stationary source-specific requirements established in this previous permit are included in the Title V Operating Permit AQ0072TVP02 as described in Table I of Statement of Basis for Operating Permit AQ0072TVP02.

Construction Permit No. AQ0072CPT03 was issued to the Permittee on May 3, 2005. This permit authorized the installation of three turbines and one reciprocating internal combustion engine at PS-1 as part of the Strategic Reconfiguration Project. All effective stationary source-specific requirements established in this Title I permit are included in the Title V Operating Permit AQ0072TVP02 as described in Table J of Operating Permit AQ0072TVP02.

Minor Permit No. AQ0072MSS01 was issued to the Permittee on November 7, 2006 to install solids treatment equipment to process pigging solids from Prudhoe Bay. APSC requested the minor permit be rescinded April 17, 2007. The Department rescinded this permit April 30, 2007.

Minor Permit No. AQ0072MSS02 was issued to the Permittee on October 29, 2010 to revise the sulfur content limits of fuel gas and diesel fuel. This permit was incorporated in to the Title V Operating Permit by Revision 2 to Permit No. AQ0072TVP01, issued on November 23, 2010.

Minor Permit No. AQ0072MSS03 was issued to the Permittee on March 7, 2013 to revise the emission unit inventory and certain terms of Construction Permit AQ0072CPT03 as part of the Strategic Reconfiguration (SR) Project now known as the Electrification and Automation of Pump Station 1. All effective stationary source-specific requirements established in this Title I permit are included in the Title V Operating Permit AQ0072TVP02 as described in Table J of Operating Permit AQ0072TVP02.

The Department has not issued any Title I permits for PS-1 since issuing AQ0072TVP02 Rev 4.

Title V Operating Permits

Under AS 46.14.190, the owner or operator has requested multiple operating permits for this stationary source.

The Permittee submitted an application for a Title V operating permit on October 1, 1997 and supplements to the application on March 6, 2000; December 15, 2000; February 5, 2001; and July 17, 2001. On November 22, 2002, the Department issued Title V Operating Permit No. AQ0072TVP01.

The Permittee submitted a Title V operating permit renewal application on June 21, 2007. The Permittee submitted amendments to the Title V operating permit renewal application on August 13, 2008, October 30, 2008, and April 1, 2009. In the first amendment, the Permittee requested permit hygiene and the removal of the turbine relocation monitoring, recordkeeping, and reporting terms contained in PS-1, 2, 4, 5, 7, and 12 operating permits. For PS-1, the Department retained these terms because the turbine units being used as replacements for EU IDs 6 – 10 are the Solar Turbine engines, and not the Avon Gas components. Two of these replacement Solar turbines has been identified as NSPS Subpart GG units. To ensure that future turbine engine changes do not result in a "modification" or a "reconstruction" as defined under 40 C.F.R. 60, the Permittee is required to keep maintenance records and to report the relocation and replacement of the Solar gas turbines. The purpose of the second amendment was to withdraw the Permittee's previous applicability determination on 40 C.F.R. 63 Subpart CCCCCC to the stationary source and also to request for a permit shield from the requirements of the subpart. The Department concurred with the Permittee's assessment and shield requests, and therefore, granted the requests in the renewal permit. Upon request of the Department, the Permittee provided relevant additional information by e-mail on February 6 and 25, 2009. On April 1, 2009, APSC provided a third application amendment to withdraw the Permittee's previous applicability determination on 40 C.F.R. 63 Subpart HHHHHH to the stationary source and also to request for a permit shield from the requirements of the subpart. The Department concurred with the Permittee's assessment regarding inapplicability of 40 C.F.R. 63 Subpart HHHHHH and added a shield. The shield is not valid if APSC operations change in regards to using MeCl.

On July 24, 2009, the Department received an e-mail and attached notification letter to EPA from the Permittee regarding the permanent shutdown of the solid waste incinerators from PS-1, 3, and 4. The Permittee also requested deletion of EU ID 21 and all associated monitoring, recordkeeping, and reporting requirements. The Department granted the request in the renewal permit.

On May 3, 2010 Alyeska Pipeline Service Company requested an informal review of certain aspects of the recently issued Permit No. AQ0072TVP02. By letter correspondence on June 22, 2010 the Department replied in the "*Decision on Informal Review for Air Quality Operating Permit AQ0072TVP02 for Alyeska Pipeline Service Company, TAPS Pump Station 1*" to administratively amend the TVP02 permit to add a note in Table A of TVP02 permit for EU ID 22 to indicate that it is a control device for EU IDs 27 and 28, the Crude Oil Tanks 110 and 111. This was added as Table Note 9.

On November 23, 2010 the Department issued Revision 2 to Permit No. AQ0072TVP02 to incorporate changes from Permit No. AQ0072MSS02.

Revision 3 is presented in the CAM section following Table K in the Statement of Basis for Permit No. AQ0072TVP02 Revision 3.

Revision 4 incorporates Minor Permit No. AQ0072MSS03 in order to revise the emission unit inventory and specific terms of the SR Project now known as the Electrification and Automation of Pump Station 1. The technical basis for the changes made in Revision 4 can be found in the Technical Analysis Report for Minor Permit No. AQ0072MSS03.

The Permittee submitted a permit renewal application on October 6, 2014. The Permittee submitted an application amendment on June 17, 2015 to revise the emission estimates. The Department issued Operating Permit AQ0072TVP03 on November 17, 2015.

Revision 1: Alyeska requested a minor modification to Operating Permit AQ0072TVP03 on January 5, 2017 to revise monitoring language as they worked to transfer on-site operations over to the Operations Control Center in Anchorage. Alyeska requested similar changes as comments to Permit No. AQ0072TVP03, and requested further clarifying revisions to Conditions 36.1 through 36.4. The Department finds that this permit action satisfies the minor modification procedures under 40 C.F.R. 71.7(e)(1), including the application content requirements under 40 C.F.R. 71.7(e)(1)(ii).

The Department also corrected typographical errors in AQ0072TVP03 Rev. 1 Table C to correct the ‘greater than’ and ‘less than or equal to’ symbols to be consistent with Conditions 21.2b(i) and 21.2b(ii). The updated table correctly indicated that operation of EU ID 25a at less than 75 percent load represents Tier 3 operation and operation at loads greater than or equal to 75 percent load represents Tier 1 and 2 operation. This is consistent with the development of the condition in Minor Permit No. AQ0072MSS03. The Department issued AQ0072TVP03 Rev. 1 on April 6, 2017.

Revision 2: The Department received an application for a significant modification to Operating Permit AQ0072TVP03, Rev 1 on May 1, 2018. The revisions made to the operating permit are listed in Table G of the Statement of Basis for Operating Permit AQ0072TVP03 Rev. 2. The Department issued AQ0072TVP03 Rev. 2 on February 21, 2019.

AQ0072TVP04: The Permittee submitted a permit renewal application on February 6, 2020. The application requested to remove portions of Conditions 20 – 22 from Operating Permit AQ0072TVP03 which contain a one-time only CO source test requirement for EU IDs 23 and 25a that has already been completed as well as the ability to use the lower source tested emissions rates to calculate emissions. The Department made the changes as requested as the CO source test has already been completed and calculating emissions using the vendor maximum emissions rates is a more conservative method. The Department public noticed Operating Permit AQ0072TVP04 on Month XX, 2021, and issued the final permit on Month XX, 2021.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1977. PS-1 is classified as PSD major because it emits or has the potential to emit 250 TPY or more of a regulated air pollutant. Although the stationary source as a whole is designated as major under PSD, a PSD permit has not been required because the source commenced construction prior to August 7, 1977 (the effective date of the PSD regulations) and has not been modified to a level above PSD emission thresholds since. Review of the permit files indicates the following compliance history.

In 1990, the Permittee and the Department entered into a Compliance Order by Consent (COBC) No. 90-245-2621 to resolve allegations regarding unauthorized modifications to the TAPS pump stations, including the addition of rim cooling on the mainline turbines. The COBC capped fuel sulfur contents and prohibited installation of turbine rim cooling without pre-construction review. COBC No. 90-245-2621 is closed.

The flare (EU ID 22) has had a history of exceeding the opacity standard during pipeline upset conditions when large volumes of crude oil were being diverted into the PS-1 crude oil tanks. The flare, which controls crude oil vapors, could not completely combust the large volumes of tank vapors generated without causing excess visible emissions. The flare vapor control efficiency was increased in 2001 by the addition of a large air blower, which provided more combustion air and enhanced the air/fuel mixing at the flare tip. On September 5, 2001, the Permittee demonstrated to the Department that the flare, as modified, could efficiently control the quantity of crude vapors generated during the periods that the tanks were receiving full crude flow.

The Permittee was issued Compliance Letter No. 2006-0420-30-5544 on June 22, 2006 and Compliance Letter No. 2006-0827-37-5880 on October 6, 2006 for procedural violations associated with monitoring and reporting. The Department also issued Compliance Letter No. 2007-0404-37-6374 (EU ID 21) on January 23, 2007 and Compliance Letter No. 2009-0874-37-8047 (EU ID 22) issued on November 17, 2009 for violations of excess opacity. An Excess Emission report for EU ID 22 was submitted on June 10, 2006 for EU ID 22, based on the VE observations conducted on June 10, 2006. These issues are resolved.

A full compliance evaluation performed on November 7, 2011 covering the period September 1, 2010 through May 1, 2010 found the stationary source to be in full compliance. A full compliance evaluation performed on March 19, 2014 covering the period May 2, 2012 through March 19, 2014 found that the flare (EU ID 22) had visible emissions exceedances on five occasions between June 2, 2012 and May 22, 2013. The Permittee also did not include a November 2, 2012 CAM Plan excursion event in the December 2012 facility operating report. These issues are resolved.

A full compliance evaluation with a site visit on July 18, 2017 covering the period November 1, 2015 through August 31, 2017 found numerous areas of non-compliance. The Permittee was late in reporting the decommissioning of EUs 8-10 and 11-15, the permittee had eight self-reported excess emissions from the flare EU 22 resulting from the flare blower temporarily losing power, a failure to include H_2S content for fuel gas used in a quarterly report, a failure to include fuel consumption for an EU that did not operate, and late reporting of the commissioning date of EU IDs 25a and 26.

A full compliance evaluation with a site visit on September 20, 2018 covering the period September 1, 2017 through May 31, 2019 found two instances of the flare EU ID 22 exceeding emissions standards. One exceedance was for 18 minutes and one for 24 minutes. One event resulted from the full facility losing power from the Central Power Station and one from an HVAC/ fire detection systems update resulting in a temporary loss of power to the switch board controlling the flare blower.

A full compliance evaluation with a virtual inspection on January 27, 2021 covering the period June 1, 2019 through February 28, 2021 found two instances of the flare EU ID 22 exceeding emissions standards. One exceedance was for 8 minutes and one for 6 minutes. Permit deviations

were submitted for EU IDs 23 and 25a for failing to record the hourly intake temperature of the turbines when routine maintenance and processor upgrades to the PCLs. A permit deviation was also submitted for an intermittently operated EU ID 26 for failing to analyze Total Base Number (TBN) as required in place of an oil change in NESHAP Subpart ZZZZ requirements. APSC has since switched oil analyses vendors and is now analyzing TBN. Permittee self-reported that a decommissioned air dryer was taken to the landfill for disposal and likely contained 6.5 oz of R-12 in violation of 40 C.F.R. 82 Subpart F. APSC has since reviewed disposal procedures with station personnel to ensure compliance with the Subpart.

Except as described above, a review of the permit files for this stationary source, which includes the past inspection reports and compliance evaluations, indicate a stationary source generally operating in compliance with its operating permit.

APPLICABLE REQUIREMENTS FROM PRECONSTRUCTION PERMITS

Incorporated by reference at 18 AAC 50.326(j), 40 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. AQ0072TVP04.

Table D below lists the requirements carried over from Operating Permit No. AQ0072TVP03 Rev. 2 into Operating Permit No. AQ0072TVP04 to ensure compliance with the preconstruction permit requirements.

Table D - Comparison of Operating Permit No. AQ0072TVP03 Rev. 2 Conditions to Operating Permit No. AQ0072TVP04 Conditions[1]

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
Section 1	Source Information Identification Table	Section 1	Update of owners and contacts information
Section 2	Emission Unit Inventory	Section 2	No change
1	Visible Emissions Standard	1	Revised to match Standard Permit Conditions VIII and IX (Visible Emissions and Particulate Matter Monitoring Plan for Gas Fuel-Burning
1.1	VE monitoring for gas units	1.4	
1.2	VE monitoring for insignificant EUs without limit	1.2	

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
1.3	VE monitoring for insignificant EUs with limit	1.1	and Liquid Fuel-Burning Equipment and Flares) and included EU ID 20.
1.4	VE monitoring for duel-fuel EUs	1.3	
1.5	VE monitoring for flare	1.5	
2	VE monitoring for liquid fuel-fired EUs	2	
3	VE recordkeeping	3	
4	VE reporting	4	
5	VE MR&R for Flares	5	
6	PM emissions standards	6	Revised to match Standard Permit Conditions VIII and IX (Visible Emissions and Particulate Matter Monitoring Plan for Gas Fuel-Burning and Liquid Fuel-Burning Equipment and Flares) and included EU ID 20.
6.1	PM monitoring for gas units	6.4	
6.2	PM monitoring for insignificant EUs without limit	6.2	
6.3	PM monitoring for insignificant EUs with limit	6.1	
6.4	PM monitoring for duel-fuel EUs	6.3	
6.5	PM monitoring for flare	6.5	
7	PM monitoring for liquid fuel-fired engines & turbines	7	
No equivalent	PM recordkeeping	8	
8	PM reporting	9	
9	PM monitoring for liquid-fired boilers and heaters	10	
10	PM recordkeeping	11	
11	PM reporting	12	
12	VE & PM MR&R for duel fuel-fired EUs	13	
13	Sulfur compound emissions	14	Revised to match Standard Permit Condition XI (Sulfur Compound Emissions Standard).
13.1 – 13.4	Sulfur fuel oil monitoring, recordkeeping, & reporting	15	Streamlined with MR&R contained in Conditions 22.2.a through 22.2.d
13.5 – 13.7	Sulfur fuel gas monitoring, recordkeeping, & reporting	16	Streamlined with MR&R contained in Conditions 22.1.a through 22.1.d
14	EU IDs 16-18, hour limit to avoid PSD modification	17	No change
15	EU ID 19, hour limit to avoid PSD modification	18	No change
16	EU ID 22 (flare), HAP ORL	19	No change
17	EU IDs 23 & 25a, Dry Low Emissions	20	No change

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
18	EU ID 26, Operating hour limit	21	No change
19	Fuel sulfur limits to protect ambient air quality	22	Revised Condition 22.1.a to include the sulfur testing methods described in the template for fuel gas which was previously referenced to Condition 13.5b which has been removed for streamlining MR&R for sulfur reporting. Added new Conditions 22.1.d and 22.2.d because the sulfur state standard MR&R Condition 16 was streamlined to reference this Condition and Condition 3.3 of Minor Permit AQ0072MSS03 requires reporting the sulfur information in the operating report.
20	EU IDs 23 & 25a, ORL for CO	23	Corrected an error reference in Condition 23.1 that referenced Condition 28.3 instead of 23.3. Included a cross reference to report excess emissions from Condition 23.1.b. Removed language referencing calculating emissions using emissions rates derived from a CO source test as the Permittee has chosen to continue calculating emissions using the vendor maximum emissions rates. Removed language referencing a one-time CO source test that has been completed.
21	CO emissions source test	No Equivalent	Deleted the one-time requirement for a CO source test on EU IDs 23 and 25a that has already been completed.
22	Unit specific operating hours	No Equivalent	Deleted the ability for EU IDs 23 and 25a to calculate CO emissions based off emissions rates determined from a source test. This change was requested by the Permittee who has chosen to continue calculating CO emissions using the vendor maximum emissions rates found in Condition 23. Note that the Permittee has already source tested to verify that CO emissions on the turbines are lower than the vendor maximum emissions rates.
23	Insignificant emission units	24	Revised to match Standard Permit Condition V (Insignificant Emissions Units) and removed reference to significant (per 18 AAC 50.326(D)(1)) EU ID 20.
24	NSPS Subpart A Notification	25	No change

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
25	Startup, shutdown, malfunction requirements	26	No change
26	NSPS Performance Tests	27	Removed language referencing already completed initial source tests on EU IDs 23 and 25a.
26.1		27.1	No change
26.2		27.2	Added EU IDs, "6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21)" as they are subject to 40 C.F.R. 60.8.
26.3 – 26.4		27.3 – 27.4	No change
27	NSPS Good Air Pollution Control Practices	28	No change
28	NSPS Credible Evidence	29	No change
29	NSPS Concealment of Emissions	30	No change
30	Subpart GG Turbine Applicability and Pooling	31	Added "(10 MMBtu)" from 40 C.F.R. 60.330(a).
31 – 31.1.b	Subpart GG NOx Standard	32 – 32.1.b	No change
31.2.a	Subpart GG NOx Monitoring	32.2	Deleted requirement for already completed initial performance test.
31.3	Subpart GG NOx Recordkeeping	32.3	No change
31.4	Subpart GG NOx Reporting	32.4	No change
32	Subpart GG SO_2	33	Added language from 40 C.F.R. 60.334(h)(3) which requires the Permittee to make a demonstration that the fuel gas meets the sulfur standard in Subpart GG. Also included new recordkeeping and reporting Conditions 33.4 and 33.5 to gap fill for ensuring compliance.
33	NSPS Subpart KKKK NOx Standard	34	Identified EU ID 25a as the affected EU in the opening sentence of condition.
34	NSPS Subpart KKKK SO_2 Standard	35	Identified EU ID 25a as the affected EU in the opening sentence of the condition and corrected Condition 35.1.a to remove NSPS Subpart GG language that is not applicable with language from 40 C.F.R. 60.4365 that requires the Permittee to make a demonstration that the fuel gas meets the sulfur standard in Subpart KKKK. Also added new Conditions 35.1.a(i) and 35.1.a(ii) from 40 C.F.R.4365(a) and (b), and added new recordkeeping and reporting

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
			Conditions 35.2 and 35.3 to gap fill for ensuring compliance.
35	Subpart KKKK General Compliance Monitoring	35.2	No change
36	CAM for HAPs	45	Changed opening sentence of the condition to identify the types of EUs in the CAM plan and moved to new location used in template for 40 C.F.R. 64, which comes after 40 C.F.R. 63.
37	NESHAP Subpart A Applicability	37	Identified EU IDs 20 and 26 in permit condition.
38	NESHAP Supbart ZZZZ Applicability	38	Identified EU IDs 20 and 26 as applicable non-emergency EUs and the stationary source as an area source of HAPs.
39	Subpart ZZZZ Management Practices	39	Included language, “except as allowed by Condition 41.2” for the alternative oil sampling allowed under 40 C.F.R. 63.6625(i).
40	Subpart ZZZZ General Compliance Requirements	45	No change
41	Subpart ZZZZ Monitoring Requirements	41	Used format in new template for clarity on optional oil analysis program allowed under 40 C.F.R. 63.6625(i).
42	Subpart ZZZZ Recordkeeping	42	No change
43	Subpart ZZZZ Reporting	43	No change
44	NESHAP Subpart M Asbestos	44	No change
45	Subpart F Refrigerant Recycling	46	No change
46	Subpart G Significant New Alternatives	47	No change
47	Subpart H Halons Emissions Reduction	48	No change
46	NESHAP Applicability Determinations	49	Used format in new template for clarity.
47	NSPS and NESHAP Reports	81	Updated with new template language for clarity and moved to new location in template, Section 7 General Recordkeeping and Reporting Requirements.
Section 5	General Conditions	Section 5	Updated Conditions 54, 55, 60 to the new Standard Permit Conditions and updated Condition 61 to the new template language for clarity.
Section 6	General Source Testing and Monitoring Requirements	Section 6	Updated Condition 71 to new template language requiring only one copy of source test reports.

AQ0072TVP03 Rev. 2 Condition No.	Description of Requirement	AQ0072TVP04 Condition No.	How Condition was Revised
Section 7	General Recordkeeping and Reporting Requirements	Section 7	Updated Conditions 74, 75, 77, 78, and 80 to the new Standard Permit Conditions and updated Condition 79 to the new template language for clarity. Also moved the NSPS and NESHAP reports Condition 81 to this section.
Section 8	Permit Changes and Renewal	Section 8	Updated Condition 82 to the new Standard Permit Condition and updated Conditions 85 and 86 to the new template language for clarity.
Section 9	General Compliance Requirements	Section 9	Updated Conditions with current template language for clarity.
Section 10	Permit Shield	Section 10	No change
Section 11	Source test operating hour limits calculation spreadsheet	No Equivalent	Deleted the calculation spreadsheet for establishing new CO emissions rates after a source test has been completed on EU IDs 23 and 25a. The Permittee has already performed source tests on these EUs and has chosen to continue using vendor maximum emissions rates which is a more conservative method than the source tested values.
Section 12	HAP content of crude oil storage tank vapors and gas	Section 11	No change
Section 13	Visible Emissions forms	Section 12	Update to new section in current template for clarity.
Section 14	SO_2 material balance calculation form	No equivalent	Deleted this section because liquid fuel sulfur requirements were streamlined with Condition 22.2, which limits liquid sulfur to 0.2 percent by weight.
Section 15	Notification form	Section 13	Update to new section in current template for clarity.
Section 16	Emission inventory form	No equivalent	Deleted as per SPC XV and XVI

NON-APPLICABLE REQUIREMENTS

This section discusses standard conditions that have been removed from the permit or are not included for specific reasons. See Table B (Permit Shield) for more details of items that were not included in the permit for specific reasons.

- 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. AQ0072TVP04. 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, 2 through 5, and 13, Visible Emissions Standard and MR&R

Legal Basis: These conditions require compliance with the visible emissions standards in 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 4, 6, 7, 16 – 20, 22, 23, 25a, and 26 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 2 through 4 (for liquid fuel-burning equipment), Condition 5 (for flares), and Condition 13 (for dual fuel- burning equipment) 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 only change the Department made to SPC IX is the removal of the optional smoke/no smoke plan as APSC has chosen to use Method 9 readings to demonstrate compliance with visible emissions.

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, which may be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the state's 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 5 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-fired emissions units for visible emissions is waived; i.e., no Method 9 or Smoke/No Smoke observations will be required. The Department has found that natural gas-fired equipment inherently has negligible visible emissions. However, the Department can request a source test for particulate matter 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 units must be observed by Method 9 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.

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 copies of the results of all visible emission observations in the operating report.

Dual Fuel-Burning Equipment:

As long as dual fuel-burning equipment operate only on gas, monitoring consists of a statement in each operating report indicating only gaseous fuels were used in the equipment during the reporting period. When any of EU IDs 16 – 19 operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Condition 13 is required for that emissions unit in accordance with Department Policy and Procedure No. 04.02.103, Topic # 2. When any of these emissions units operates on a backup liquid fuel for 400 hours or less in a calendar year, monitoring for that emissions unit consists of an annual certification of compliance with the opacity standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Flares:

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

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

EU IDs 4, 20, and 26 do not qualify as insignificant per 18 AAC 50.326(d)(1) because they are subject to operational limits established under a Title I permit, and for EU IDs 20 and 26 standards established under NESHAP Subpart ZZZZ. EU ID 4 is an intermittently operated 800 kW Solar turbine generator, while EU ID 20 is an intermittently operated 215 hp firewater pump engine, and EU ID 26 an intermittently operated 65 kW backup generator; thus, these units have actual (for EU ID 4) and potential (for EU IDs 20 and 26) emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived visible emissions monitoring for EU IDs 4, 20, and 26, but these units are subject to compliance certification requirements under Condition 79, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Conditions 6 and 7 through 13, Particulate Matter Standard and MR&R

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

- 18 AAC 50.055(b)(1) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 4, 6, 7, 16 – 20, 22, 23, 25a, and 26 are fuel-burning equipment.

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

Factual Basis: Condition 6 prohibits emissions in excess of the applicable state particulate matter standard. MR&R requirements are listed in Conditions 7 through 13 of the permit. These conditions have been adopted into regulation as SPC IX.

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, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the state's emission standards for particulate matter.

Gas Fuel-Burning Equipment:

Monitoring – The monitoring of gas-fired emissions units for particulate matter is waived, i.e. no source testing will be required. The Department has found that natural gas-fired equipment inherently has negligible particulate matter emissions. However, the Department can request a source test for particulate matter 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 – 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.

Dual Fuel-Burning Equipment:

As long as dual fuel- burning equipment operate only on gas, monitoring consists of a statement in the operating report to indicating only gaseous fuels were used in the equipment during the reporting period. When any of these emissions units operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Condition 13.2 is required for that emissions unit in accordance with Department Policy and Procedure No. 04.02.103, Topic # 2. When any of these emissions units operates on a backup liquid fuel for 400 hours or less in a calendar year, monitoring for that emissions unit consists of an annual certification of compliance with the particulate matter standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

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

EU IDs 4, 20, and 26 do not qualify as insignificant per 18 AAC 50.326(d)(1) because they are subject to operational limits established under a Title I permit, and for EU IDs 20 and 26 standards established under NESHAP Subpart ZZZZ. EU ID 4 is an intermittently operated 800 kW Solar turbine generator, while EU ID 20 is an intermittently operated 215 hp firewater pump engine, and EU ID 26 an intermittently operated 65 kW backup generator; thus, these units have actual (for EU ID 4) and potential (for EU IDs 20 and 26) emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived PM monitoring for EU IDs 4, 20, and 26, but these units are subject to compliance certification requirements under Condition 79, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Flares:

Monitoring of flares for particulate matter 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.

Conditions 14 through 16, 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 IDs 4, 6, 7, 16 – 20, 22, 23, 25a, and 26 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. coal, natural gas, fuel oils).

Liquid Fuels:

For oil fired fuel burning equipment, EU IDs 4, 16-19, and 26 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 the liquid-fuel burning EU IDs 4, 16-20, and 26, 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 22.2. Therefore, the MR&R requirements in Condition 15 for compliance with the state SO_2 standard in Condition 14 have been streamlined based on the more stringent fuel sulfur content limit of 0.20 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. Mercaptans are a concentrated thiol molecule (e.g., ethanethiol) composed of hydrogen and sulfur used to detect the presence of natural gas by its strong odor as in t-butyl-mercaptan. Basically, it is the mercaptan that allows the presence of gas to be detected by its odor, so it is naturally used as a leak detectant. However, by that same token, it can raise the sulfur content of the natural gas and should be accounted for in determining compliance with the state sulfur compound emissions standard. The Department has therefore revised the basic MR&R requirements to monitor the total sulfur quantity, instead of H_2S concentration, in the natural gas fuel due to the presence of mercaptans in the gas supply which raise the sulfur concentration.

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. Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas were not included in this permit. 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. Conditions 22.1.a through 22.1.d streamlines MR&R requirements for compliance with the state sulfur compound emission standard in Condition 14 by requiring compliance with the more stringent fuel gas H_2S limit in Condition 22.1 of 150 ppmv H_2S for protection of the SO_2 ambient air quality standards and associated MR&R requirements rather than have two sets of MR&R.

Conditions 17 – 23, 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 17 and 18 incorporate owner requested limits to avoid PSD modification and protect ambient air as developed in Permit No. 9572-AA012 and revised by Permit No. 9872-AC021. During the processing of the renewal permit AQ0079TVP02, the Department edited the following conditions as explained below. For Condition 17, the

text "23,870 scf/hr per heater, monthly average, or 1,500 hours of operation per calendar year on liquid fuel" was revised to state "23,870 scf/hr per heater, monthly average, and 1,500 hours of operation per 12-month period on liquid fuel". In addition, the reporting basis was changed from "for the previous calendar year" to "per rolling 12-month period for each month of the reporting period." For Condition 18, the reporting basis was changed from "for the previous calendar year" to "per rolling 12-month period for each month of the reporting period."

Condition 19 incorporates ORLs with MR&R requirements. The limits, as developed in Permit No. AQ0072CPT02, clarify that PS 1 is not a HAP major source. APSC uses a flare at PS-1 to combust crude vapors and fuel gas vapors from the crude oil breakout tanks (EU IDs 27 and 28, Tanks 110 and 111). To stay under the HAPs major thresholds, potential emissions specifically from the flare, EU ID 22, are limited to no more than 7.1 TPY for any individual HAP and 13.4 TPY for the aggregate total of HAPs. The Department made no changes to these terms.

Conditions 20 through 23 incorporate terms and conditions as developed in Minor Permit No. AQ0072MSS03 for the electrification and automation alternative operating scenario. With the issuance of Operating Permit AQ0072TVP04 the Department deleted the requirement for a one-time only CO source test requirement for EU IDs 23 and 25a that has already been completed as well as the ability to use the lower source tested emissions rates to calculate emissions. The Department made the changes as requested in the application as the CO source test has already been completed and calculating emissions using the vendor maximum emissions rates is a more conservative method.

Conditions 21 and 22 are ORLs to protect ambient air quality. The Department reduced the monitoring frequency of the fuel gas H_2S content in Condition 22.1 to once in three months during the electrification and automation (strategic reconfiguration) operations when the H_2S limit of 150 ppmv takes effect. Conditions 23 contains ORLs to avoid PSD major modification. The permit incorporates associated MR&R requirements.

Condition 24, 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 50.050(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 24.4.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 25 through 30, NSPS Subpart A Requirements

Legal Basis: The EPA approved Alaska's Part 70 Program granted on November 30, 2001 (40 CFR 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 *GG and KKKK* 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 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 or 0753S21) and 23 are subject to NSPS Subpart GG. EU ID 25a is subject to NSPS Subpart KKKK. EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 or 0753S21), 23, and 25a are therefore subject to Subpart A.

Conditions 25.1 through 25.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU IDs6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 or 0753S21), 23, and 25a.. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility[3] or in the event of a modification or reconstruction of an existing facility[4] into an affected facility.

Condition 25.4 - 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 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.

[3] *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.

[4] *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.

Condition 26 – The requirements in 40 C.F.R. 60.7(b) to maintain start-up, shutdown, or malfunction records are applicable to all NSPS affected facilities subject to Subpart A.

Condition 27 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21), 23, and 25a. 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 28 - 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 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 or 0753S21), 23, and 25a.

Condition 29 - states that any credible evidence may be used to demonstrate compliance or to establish violations of relevant NSPS standards for EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21), EU IDs 23 and 25a.

Condition 30 - Concealment of emissions prohibitions in 40 C.F.R. 60.12 are applicable to EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21), EU IDs 23 and 25a.

Conditions 31, Turbine Replacements and Relocations

Legal Basis: This condition reflects the EPA determination letter dated August 1, 2002 regarding 40 C.F.R. 60 Subpart GG applicability on the Solar turbine engines that are moved from location to location between TAPS pump stations.

Factual Basis: The Permittee has a family of turbine engines that are rotated in and out of operation for EU IDs 1 – 15 as dictated by maintenance. Two replacement Solar Turbine Engines (Serial Nos. 0756S21 and 0753S21), each of which consists of a generator and a turbine, were manufactured after the applicability dates for 40 C.F.R. 60, Subpart GG. This permit has permit terms that address the replacement of the existing turbines with the Solar Turbine Engines that have been identified as being subject to 40 C.F.R. 60, Subpart GG. EU IDs 6 and 7 are the only positions where the Permittee has requested the flexibility of operating these Subpart GG turbines.

The Permittee received a letter from EPA dated August 1, 2002 that concurred the practice of relocating turbine engines to existing turbine locations did not act as a form of "commenced construction" under 60 C.F.R. 52.21(b) or 40 C.F.R. 60.2. To ensure that future turbine engine changes do not result in a "modification" or a "reconstruction" as defined under 40 C.F.R. 60, the Permittee is required to keep maintenance records and to report under Condition 78 the relocation and replacement of the Solar gas turbines. Condition 31.2 through 31.5 require monitoring, recordkeeping, and reporting to document that the turbines not subject to NSPS Subpart GG can be clearly identified and that the relocation and replacement of existing turbines from the pool does not constitute a "modification" or "reconstruction", as those terms are defined in 40 C.F.R. 60 Subpart A. These conditions apply only to the affected Solar turbine units.

Conditions 32 – 33, NSPS Subpart GG Requirements

Legal Basis: These conditions prohibit the Permittee from exceeding emission standards set out in Subpart GG. NSPS Subpart GG 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 per hour (10 MMBtu/hr), based on the lower heating value of the fuel fired and constructed, modified, or reconstructed after October 3, 1977. EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21) and EU ID 23 meet these criteria and are therefore subject to these requirements.

Factual Basis: Conditions 32 and 33 incorporate NSPS Subpart GG NO_X and sulfur compound emissions standards. The Permittee may not allow equipment to violate these standards. Per Condition 33.3 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. The Permittee has elected not to monitor the total sulfur content of the gaseous fuel as allowed under Condition 33.3 and has an NSPS Subpart GG applicability determination from EPA dated December 11, 2006 that confirms that the initial fuel gas demonstration under Section 2.3.2.4(a)(2) of Appendix D of Part 75 shows that the fuel gas meets the definition of natural gas as defined by 40 C.F.R. 60.331(u).

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 NO_X emissions (percent by volume at 15 percent oxygen and on a dry basis)

Y = manufacturer's maximum rated heat input (kJ/W-hr), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the affected stationary source. The value of Y shall not exceed 14.4 kJ/W-hr; and

F = NO_X emissions 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 150 ppmv for EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21), 212 ppmv for EU ID 23.

SO_2 Standard: The Permittee is required to comply with one of the following sulfur requirements for EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21) and EU ID 23 (turbines):

(1) do not cause or allow SO_2 emission 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 the emissions units to exceed 0.8 percent by weight.

The Permittee chooses to comply with option (2) above.

Exemptions: Gas turbines exempted from NSPS Subpart GG emission standards are as provided in 40 C.F.R. 60.332(e) – (l).

Conditions 32.2 – 32.4, NO_X Monitoring, Recordkeeping, and Reporting

Legal Basis: Conditions 32.2 – 32.4 includes 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 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 limit shown in Condition 32.1, 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 issue 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 issue date in accordance with Condition 32.2.a(i)(B). The 6-month trigger identifies when Condition 32.2.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 32.2.a(i)(B) once it finally triggered Condition 32.2.a(i)(C).

If the most recent performance test showed operations at greater than 90 percent of the emissions listed in Condition 32.1, then periodic monitoring source testing is required every year until two consecutive tests show emissions at less than or equal to 90 percent of the 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[5]" and exempts turbines meeting that definition from the Subpart GG NO_X emission standards, per 40 C.F.R. 60.332(g). 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 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 32.2.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 33, SO_2 Standard, Monitoring, Recordkeeping, and Reporting

Legal Basis: This condition requires the Permittee to comply with NSPS Subpart GG SO_2 or fuel quality monitoring, recordkeeping, and reporting.

Factual Basis: Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and have been referenced here. The Department added gap filling recordkeeping and reporting requirements outside of the Subpart GG requirements to ensure compliance with the NSPS SO_2 standard when the Permittee uses a method under 40 C.F.R. 60.334(h)(3) which does not require continuous sulfur monitoring.

[5] Emergency Gas Turbine means any stationary gas turbine that operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation, as defined in 40 C.F.R. 60.331(e).

Monitoring: Condition 33.3 incorporates NSPS Subpart GG fuel sulfur monitoring requirements. Per 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. The Permittee submitted a demonstration to EPA, pursuant to 40 C.F.R. 60.334(h)(3), to show that the fuel gas combusted at the stationary source meets the definition of natural gas as defined by 40 C.F.R. 60.331(u). EPA confirmed by letter dated December 11, 2006 that the stationary source has adequately demonstrated that total sulfur and methane content of the fuel gas meets the definition of fuel gas found in 40 C.F.R. 60.331(u). However, the EPA demonstration used representative fuel sampling data under 40 C.F.R. 60.334(h)(3)(ii) and Section 2.3.2.4(a)(2) of Appendix D of Part 75 to show that the fuel gas meets the definition of natural gas as defined by 40 C.F.R. 60.331(u). Therefore, on-going sampling under Section 2.3.2.4 of Appendix D of Part 75 or the gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract under 40 C.F.R. 60.334(h)(3)(i) is required. The Department added recordkeeping and reporting Conditions 33.4 and 33.5 to gap fill and ensure compliance with the Subpart GG sulfur requirement for EU IDs 6 and 7 (when equipped with Solar Turbine Engine Serial Nos. 0756S21 and 0753S21) and EU ID 23 when they burn natural gas.

Conditions 34 through 36, NSPS Subpart KKKK Requirements

Legal Basis: Conditions 34 and 35 prohibit the Permittee from exceeding emission standards for NO_X and SO_2 set out in Subpart KKKK. Condition 35.2 reiterates the "good air pollution control practices" requirements for the affected emissions unit. The Subpart applies to combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. EU ID 25a meets these criteria and is therefore subject to these requirements.

Factual Basis: These conditions incorporate the Subpart KKKK NO_X and SO_2 emissions standards. The Permittee may not cause or allow EU ID 25a to violate these standards. These conditions also provide MR&R specifically called out for within the Subpart. Condition 34.2, which requires keeping records of performance tests data by referencing the standard requirement in Condition 73, is added to fill gap in the recordkeeping requirement under this Subpart.

If the Permittee needs to revise a criteria for the performance test required in Condition 34.4, the Permittee must obtain a waiver from EPA, as allowed by Condition 27.1, and provide it to the Department. For example, Condition 34.4.f requires the NOx performance test to be conducted when ambient temperature is greater than 0°F. It may be necessary to obtain such a waiver in order to conduct a source test in the Arctic Circle during winter.

The Department added Conditions 35.2 and 35.3 to gap fill in the recordkeeping and reporting SO_2 requirements for the turbine as the Permittee has elected not to monitor the total sulfur content of the fuel combusted as allowed by 40 C.F.R. 60.4365.

Condition 37, NESHAP Subpart A Requirements

Legal Basis: The Permittee must comply with applicable 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 Subparts 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 38 through 43, NESHAPs 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. PS-1 is an area source that owns and operates RICE units EU IDs 20 and 26 subject to NESHAP Subpart ZZZZ.

Factual Basis: These conditions incorporate the current (as amended through December 4, 2020) NESHAP Subpart ZZZZ requirements applicable to the existing stationary RICE, EU IDs 20 and 26. Due to their small size (215 hp and 65 kW respectively), EU IDs 20 and 26 do not have to meet the numerical CO emission limitations (therefore, no operational limitations apply as well) under Subpart ZZZZ but must meet the work and management practices for stationary non-emergency CI RICE with a rating of less than or equal to 300 Hp as specified in Table 2d item 1. The Permittee requested the Department to classify EU ID 20, firewater pump engine rated at 215 hp, as a non-emergency engine, for purposes of 40 C.F.R. 63, Subpart ZZZZ.

The applicable work and management practices standards for EU IDs 20 and 26 are provided in Condition 39.1. The NESHAP Good Air Pollution Control Practices requirement provided in 40 C.F.R. 63.6605(b) and 63.6625(e), as reflected in Condition 40.1, suffices the State Good Air Pollution Control Practices requirement under 18 AAC 50.346(b)(5).

The Permittee must comply with the recordkeeping requirements of 40 C.F.R. 63.6655(e) and 40 C.F.R. 63.6660, as set out in Condition 42. The reporting requirements are provided in Condition 43. The Permittee is required to include reports of deviations from NESHAP Subparts A and ZZZZ requirements with the semiannual operating reports, per 40 C.F.R. 63.6650(f).

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

Condition 44, 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.

Condition 45, Compliance Assurance Monitoring (CAM)

Legal Basis: This condition applies because the stationary source has pollutant-specific emitting units that satisfy all of the CAM applicability criteria in 40 C.F.R. 64.2(a)(1-3):

(1) the emission units are subject to an applicable emission limitation or standard;

(2) the units use a control device to comply with any such applicability emission limitation or standard; and

(3) the units have potential pre-control device emissions of the applicable regulated air pollutant equal to or greater than the major source thresholds for the applicable regulated air pollutant.

Factual Basis: The Permittee has an ORL in Condition 19 to restrict the potential HAP emissions to avoid classification as a HAPs major source (third criterion). The stationary source uses a flare, EU ID 22, as a control device (second criterion) to combust crude vapors from the crude oil breakout tanks, EU IDs 27 and 28 (first criterion). The two breakout tank units are the source of hydrocarbon vapors and HAPs. Although the flare is an emission unit and source of air pollutants as products of combustion, the flare is the control device for 98.5% of HAPs generated and released from these two tanks. The initial version of Permit No. AQ0072TVP02 included a compliance schedule in Condition 89 of AQ0072TVP02 to ensure compliance with the 40 C.F.R. 64 CAM rule. Permit No. AQ0072TVP02 Revision 3 replaced the CAM applicability determination of Condition 43 of AQ0072TVP02 with specific language to incorporate the April 11, 2011 CAM plan submitted and approved by the Department. The use of 15% visible emissions viewed on a control room screen as an indicator of an excursion reading was replaced with consistent visible smoke viewed on a control room screen as an indicator of an excursion after a phone consultation between the Permittee's (APSC) representatives Don Cook and Don Mark Anthony and ADEC Title V Supervisor Moses Coss and Engineering Associate Elizabeth Kerin. During this meeting, the Permittee also provided information supporting the breakout tank maximum pressure reading of 2 inches of water column as an indicator. The Permittee indicated that between a pressure of 2 inches of water column and venting to atmosphere at 2.15 inches of water,

automatic and manual corrections could be taken to control pressure. Investigation and reporting requirements outlined by the Permittee in a September 22, 2011 letter to the Department were incorporated into the CAM plan conditions of Operating Permit AQ0072TVP02 with minor adaptations by the Department to ensure consistency and complete reporting.

Conditions 46 through 48, 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 46 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 47 and 48 also require compliance with the applicable requirement adopted under 18 AAC 50.040(d). Condition 47 prohibitions apply to all stationary sources that use substitutes for ozone-depleting compounds. Condition 48 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. PS-1 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 49, NESHAPs Applicability Determinations

Legal Basis: This condition requires the Permittee to determine rule applicability of NESHAPS, 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 50 through 52, 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 53, 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 54 and 55, 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: 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 at 10 tons per year or greater (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 56, 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.

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 56.2 for units subject to GAPCP need to be maintained for 5 years in accordance with Condition 73 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 57, 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 58, 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.

This requirement applies because the Permittee has an emission unit or activity listed under Table 7 of 18 AAC 50.346(c). The listed emission units and activities in Table 7 are: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted stationary source or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle that ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic.

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 59, 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 unit or stack would need to be modified to accommodate stack injection.

Condition 60, 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 61, 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 77. Excess emission reporting under Condition 77 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 77.

Condition 62, 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 62.1 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 79.

Condition 63, 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 64 through 66, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 64 and 66 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 65 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 64 through 66.

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

Condition 67, 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 68 through 71, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: Conditions 69 through 71 require compliance with the applicable requirements in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 68 contains the requirement in 18 AAC 50.345(l). The requirements in 18 AAC 50.345(l) through (o) constitute standard conditions that must be included in each operating permit, as specified in 18 AAC 345(a). These requirements apply because the Permittee is required to conduct source tests as set out by this permit or as requested by the Department.

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

Condition 72, 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 73, 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 73 satisfies both 40 C.F.R. 60.7(f) and 40 C.F.R. 71.6(a)(3)(ii).

Condition 74, 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 77 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 75, 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 76, 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 77, 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 13) for the notification requirements.

Condition 78, Operating Reports

Legal Basis: This 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 79, 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 79.2 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 its discretion.

Condition 80, 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 emission inventory requirement applies to sources defined as point sources in 40 C.F.R. 51.50. 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: The Department used the language in SPC XV, as adopted by reference under 18 AAC 50.346(b)(8), for the permit condition. To increase governmental efficiency and reduce costs associated with information requests that occur on a routine basis, it has been determined that a standard permit condition best fulfills the need to gather the information needed to satisfy the requirements of Subpart A of 40 C.F.R. 51.

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, 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 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 80.1 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.

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 80.2.a (for attainment and unclassifiable areas) and Condition 80.2.b (for nonattainment areas), as listed in Table 1 to Appendix A of 40 C.F.R. 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 80.2.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 80.2.b(i), 80.2.b(ii), 80.2.b(iii) (PM_{10} only), and 80.2.b(iv).

As of the issue date of this permit, PS-1 is a *"Type B"* stationary source.

Condition 81, 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 82, 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 83 through 85, Permit Changes and Revisions Requirements

Legal Basis: The Permittee is obligated to notify the Department of certain off-permit source changes and operational changes under18 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 84 and 85, respectively, specify changes that may be made without a permit revision, and 40 C.F.R. 71.6(a)(8) (Condition 83) 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 83.

Condition 86, 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 87 through 92, 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 93 and 94, 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 B of Operating Permit No. AQ0072TVP04 shows the permit shield that the Department granted to the Permittee. The permit conditions set forth the requirements that the Department determined were not applicable to the stationary source at the time of permit issuance. 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 Permittee did not request any permit shields beyond those already in Operating Permit AQ0072TVP03.