Alaska Department of Environmental Conservation
Air Permits Program

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ConocoPhillips Alaska, Inc.
Kuparuk Central Production Facility #1

STATEMENT OF BASIS
of the terms and conditions for
Permit No. AQ0267TVP02

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0267TVP02.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0267TVP02 contains information on the stationary source as provided in the Title V permit application.

The stationary source is owned and operated by ConocoPhillips Alaska, Inc., and ConocoPhillips Alaska, Inc. is the Permittee for the stationary source's operating permit. The SIC code for this stationary source is 1311 - Petroleum and Natural Gas Production .

CPF-1 processes crude oil fluids produced from the Kuparuk River Unit located on the North Slope of Alaska. CPF-1 can process 150,000 barrels of crude oil per day and 250 million standard cubic feet of gas. Three-phase crude is transferred from the surrounding drill sites to CPF-1 where it is separated into crude oil for sale, produced water for reinjection, and natural gas for further processing as fuel and for reinjection. Energy needed to support operations comes primarily from combustion of produced hydrocarbon gas.

CPF-1 also contains a crude oil topping unit, KUTP, for production of Arctic grade diesel. Diesel is used in vehicles, support equipment, and in various well work activities. CPF-1 is also the location of two crude oil divert tanks which are used during upset or emergency situations which may affect transportation of oil.

The Kuparuk Operations Center (KOC), which is the main office and camp service for the Kuparuk River Unit, is located adjacent to CPF-1 on the same gravel pad. A potable water and wastewater treatment plant services KOC. Two incinerators are located at the wastewater treatment plant which are used to incinerate trash generated at KOC and sewage sludge generated at the treatment plant.

EMISSION 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 emission units at the Kuparuk Central Production Facility #1 that are classified and have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0267TVP02.

Table A of Operating Permit No. AQ0267TVP02 contains information on the emission units regulated by this permit as provided in the application. The table is provided for informational and identification purposes only. Specifically, the emission unit rating/size provided in the table is not intended to create an enforceable limit.

EU IDs 1, 2, and 3 were upgraded from GE Frame 3J AT models to GE Frame 3K HE models in May 2004, October 2003, and November 2004, respectively. These units were originally constructed in the early 1980s after issuance of EPA permit PSD-X82-01, dated December 29, 1981, which authorized construction of these units and other equipment at CPF-1. The units were later modified in May 1993 to upgrade to Advanced Technology parts (ATP upgrade). The J-to-K upgrades completed in 2003 and 2004 were authorized by the Department without the need to first obtain a construction permit as documented in correspondence to CPAI dated November 13, 2003. Letters notifying the Department and EPA of the "off-permit" facility changes were provided by the Permittee on October 9, 2003, May 6, 2004, and October 14, 2004.

EMISSIONS

A summary of the potential to emit (PTE)[31] and assessable PTE as indicated in the permit application from the Kuparuk Central Production Facility #1 is shown in the table below.

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

Pollutant	NO_X	CO	PM-10	SO_2	VOC	HAPs	CO_2e[32]	Total
PTE	3,341	1,080	130	324	129	36.1[1]	1,044,826	5040
Assessable PTE	3,341	1,080	130	324	129	0	0	5,004

Table Note: 1) HAP total is 22 tpy for CPF-1 production pad emission units only.

The assessable PTE listed under Condition 74.1 is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit quantities greater than 10 TPY or greater than GHG permitting thresholds[33]. For the combustion emission units, essentially all the Hazardous Air Pollutant (HAP) emissions are a subset of the VOC emissions, so HAP emissions are not included in the total column for the row labeled "PTE". Doing so would double count emissions. (Note: The HAP emissions shown in Table I are the total HAP PTE for all regulated emission units at all CPF-1 locations. However, per 40 C.F.R. 71.2 and CAA 112(b)1, emissions from oil or gas exploration or production wells with their associated equipment are not aggregated when determining the total potential to emit hazardous air pollutants. Therefore, emissions from units located at any drill site, including DS1E, DS1J, and DS1R are not aggregated with emission units located at CPF-1 when determining the HAPs major status of the stationary source.) The emissions listed in Table I are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit to the stationary source.

Potential criteria pollutants and HAPs emissions were estimated in the November 2009 amended permit renewal application. The PTE for criteria pollutants was estimated based on AP-42 emission factors and any allowable emission rates and/or operational limits applicable to emission units at the stationary source. Potential emissions of SO_2 are estimated based on mass balance and an assumed fuel gas H_2S content of 200 ppmv and liquid fuel sulfur content of 0.25 percent by weight, except for emission units with a fuel sulfur limit of 0.15 percent by weight. For Greenhouse Gas (GHG) Emissions CO_2e, CPAI submitted calculations on November 1, 2011. CPAI estimated PTE based on the emission factors found in 40 C.F.R. 98, Subpart C, Tables C-1 and C-2.

[31] 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(23), effective 12/3/05.

[32] CO_2e *emissions* are defined as the sum of the mass emissions of each individual GHG adjusted for its global warming potential (GWP).

[33] See EPA's November 2010 PSD and Title V Permitting Guidance, Table V-A.

HAP emissions were calculated using GRI-HAPCalc Version 3.01 software, AP-42 emission factors, and, for turbine formaldehyde emissions, the results of an August 2005 CPF-3 Frame 5 HAP stack test conducted by the Permittee. Each individual HAP has a PTE less than 10 TPY; the estimated aggregated HAP total emission rate is 22 TPY from emission units at the CPF-1 production pad. The highest individual HAP is HCl (due entirely to potential emissions from the CPF-1 incinerators) with an estimated emission rate of 6 TPY.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with AS 46.14.130(b), an owner or operator of a Title V source[34] 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 three categories of sources that require an operating permit:

(1) A major source;

(2) A stationary source subject to Federal new source performance standards or national emission standards;

(3) Another stationary source designated by the Federal Administrator by regulation.

This stationary source requires an operating permit because it is classified under 18 AAC 50.326(a) and 40 C.F.R. 71.3(a), and EPA's March 2011 *PSD and Title V Permitting Guidance for Greenhouse Gases* as:

a) A major stationary source as defined in Section 302 of the Clean Air Act that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant;

b) Contains a source, including an area source, subject to a standard, limitation or other requirement under Section 111 of the Act (Standards of Performance for New Stationary Source, NSPS) not exempted or deferred under AS 46.14.120(e) or (f);

c) Contains a source, including an area, subject to a standard or other requirement under Section 112 of the Act (National Emission Standards for Hazardous Air Pollutants, NESHAP) not exempted or deferred under AS 46.14.120(e) or (f);

d) Contains a source, including an existing or newly constructed GHG emission source, that emit or have a PTE equal to or greater than 100,000 TPY of CO2e and 100 TPY GHGs on a mass basis.

AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

Title I (Construction and Minor) Permits

Construction Permit No. 9773-AC016 was issued to this facility on February 13, 1998 and was administratively revised on June 27, 2001. Construction Permit No. 267CPT01 was issued to this stationary source on April 28, 2003 and amended Permit to Operate No. 9373-AA004 and PSD Construction Permit No. 9773-AC016 Revision 1. The BACT emission limits for the stationary source contained in EPA PSD permit number PSD X82-01, as amended through October 7, 1997, have been adopted as the current limit in Construction Permit No. 267CPT01. The stationary source-specific requirements established in this construction permit were included AQ0267TVP01.

[34] "Title V source" means a stationary source classified as needing a permit under AS 14.130(b) *[ref. 18 AAC 50.990(111)]*.

By letter dated May 28, 2003, the Permittee requested an administrative amendment to Operating Permit No. 267TVP01. The administrative amendment, Revision 1 of the permit, was issued on June 20, 2003. The revision consisted of changing the expiration date of the permit from April 28, 2008 to May 27, 2008.

Construction Permit No. 267CP02 was issued March 26, 2004 and was later rescinded by Minor Stationary Source Permit No. AQ0267MSS01 which was issued August 5, 2005 and administratively revised in AQ0267MSS01, Rev. 1, on March 24, 2006. This same permit was later rescinded and replaced by Minor Permit No. AQ0267MSS02, which was issued on November 13, 2006. These permits authorize use of generic drill rig and associated equipment, well serving equipment, one portable flare, and construction of production heaters at Kuparuk Drill Sites 1E and 1J. Permit No. AQ0267TVP01, Revision 2 was issued on August 8, 2007 to incorporate Minor Permit No. AQ0267MSS02.

The following changes were made as part of AQ0267TVP01, Revision 2:

General revisions that apply to incorporation of Minor Permit No. AQ0267MSS02

- Updated the emission unit inventory to reflect new equipment permitted under AQ0267MSS02, shut down of a freeze protection pump at DS1E, and upgrades to the Frame 3 turbines from J model to K model;
- Updated the assessable PTE to account for the emission unit inventory changes stated above; and
- Updated the Statement of Basis based on permit revisions.

Incorporation of Terms and Conditions of Minor Permit No. AQ0267MSS02

- Updated the visible emissions and PM monitoring, recordkeeping and reporting conditions of the permit to incorporate new permitted equipment and the requirements stated in permit no. AQ0267MSS02.
- Added fuel consumption and hours of operation monitoring for new equipment.
- Revised the liquid fuel sulfur content limits to incorporate the limits in permit no. AQ0267MSS02.
- Carried forward from permit no. AQ0267MSS02 the limits established to protect ambient air quality to avoid classification as PSD major.
- Carried forward the requirement to establish and monitor exclusion zones around DS1E and DS1J; and
- included the off-permit change provisions stated in permit no. AQ0267MSS02.

Add two new Owner Requested Limits

- Add the incinerator recordkeeping requirements of 40 C.F.R. 60, Subpart O and 40 C.F.R. 62, Subpart III to demonstrate exemptions and to remain exempt from the limits of these rules.

Add Operational Flexibility Provisions

- Add the provisions of 40 C.F.R. 71.6(a)(13).

Revised the Permit to indicate that NSPS Subpart J applies to the flare tag no. H-KF01

- Add flare tag no. H-KF01 to conditions that address NSPS Subpart J and applicable portions of NSPS Subpart A

General Permit Revisions and Corrections

- Re-numbered the emission unit ID(s) throughout the permit to account for equipment that has been added and subtracted. Insert the new EU ID(s) into the appropriate EU group types in Table A.
- Updated the citations to NSPS and NESHAP standards to reflect the currently adopted versions of these rules (as of the December 14, 2006 amendment to the Alaska air quality regulations).
- Removed all tanks from the permit that were formerly subject to NSPS Subpart Kb and conditions in the permit that address Subpart Kb.
- Corrected the VOC BACT emission limit for incinerator H-347 to match the administrative revision made to EPA permit no. PSD-X82-01, dated October 27, 2003.
- Added applicable recordkeeping provisions of NSPS Subpart Dc to the permit for the DS1E and DS1J production heaters.
- Revised conditions that outline the NSPS Subpart GG monitoring requirements to incorporate the revisions to Subpart GG dated July 8, 2004.
- Added a new condition to include the applicable recordkeeping and reporting requirements of 40 C.F.R. 61, Subpart FF.
- Revised the permit shield to address new equipment, changes to NSPS Subpart Kb, and new rules that have been promulgated since permit no. AQ0267TVP01 was first issued.
- Updated the HAP emissions totals stated in Table A of the Statement of Basis to incorporated the updated calculations provided by the Permittee in October 2006 application to amend the Permit; and
- Made other general corrections to the permit and Statement of Basis.

Minor Stationary Source Permit No. AQ0267MSS03 was issued December 14, 2007 and authorized the use of two well injection pump engines at DS1R. Also found at DS1R is a drill site production heater and a freeze protection pump which were authorized to operate at DS1R prior to the issuance of permit AQ0267MSS03.

Minor Stationary Source Permit No. AQ0267MSS04 was issued October 20, 2009 which rescinded and replaced Condition 3.3 of Minor Stationary Source Permit No. AQ0267MSS03 (i.e., record keeping requirement for NOx PSD avoidance condition for EU IDs 64 and 65).

All stationary source-specific requirements established in permit nos. 267CPT01, 9773-AC016 (Rev. A),AQ0267MSS02, AQ0267MSS03, AQ0267MSS04, and AQ0267TVP01, Revision 2 are included in Operating Permit No. AQ0267TVP02.

Title V Operating Permit Application, Revisions and Renewal History

The most recent permit issued for this stationary source is operating permit number AQ0267TVP01. This operating permit includes all construction authorizations issued through April 28, 2003. All stationary source-specific requirements established in this previous permit are included in the new operating permit as described in Table N.

The owner or operator submitted an application on November 19, 2007. Additional information (emission calculations) was received on June 2, 2008. The application was amended on November 19, 2009.

The Permittee submitted a revision request on March 5, 2012. The Permittee has indicated that the construction and post-construction drilling phases authorized by Minor Source Permit AQ0267MSS02, Revision 1, issued on November 13, 2006, concluded in 2009; and all drilling that has occurred since 2009 at the 1E and 1J pads should be considered as routine drilling covered under the Kuparuk Transportable Drill Rig Title V permit. As such, the Permittee has requested the Department "sunset", as obsolete and no longer applicable, several specified conditions of Minor Permit No. AQ0267MSS02 that had been incorporated into Title V Permit No. AQ0267TVP01. The Department agrees that the sunsetted conditions will not be incorporated into the current renewal since the request does not change the existing minor source permit terms. The Permittee should submit a separate application to the Department's Title I permitting section to request a revision to AQ0267MSS02 to eliminate the same sunsetted conditions, as delineated in the March 5, 2012 request.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1979. 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. Minor reporting violations noted in the latest Full Compliance Evaluation of June 8, 2010 are believed to have been corrected.

The Department did pursue a compliance action regarding two emission units brought to Kuparuk River Unit (KRU) in 1996 as portable non-road engines. The units lost their non-road engine status as both engines have remained in operation at DS1R since 2000. The action resulted in CPAI applying for and obtaining Air Quality Minor Permit AQ0267MSS03 on December 14, 2007.

APPLICABLE REQUIREMENTS FROM PRE-CONSTRUCTION PERMITS

Incorporated by reference at 18 AAC 50.326(j), 40 C.F.R. Part 71.6 defines "applicable requirement" to include the terms and conditions of any pre-construction permit issued under rules approved in Alaska's State Implementation plan.

Alaska's State Implementation Plan included the following types of pre-construction permits:

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

Pre-construction 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 source-specific requirement established in these permits issued under 18 AAC 50 that are still in effect at the time of this operating permit issuance.

Table J, Table K, Table L, Table M, Table N and Table O below lists the requirements carried over from Construction Permit No. 267CPT01 and 9773-AC016, Minor Source Specific Permit Nos. AQ0267MSS02, AQ0267MSS03, and AQ0267MSS04, and Operating Permit No. AQ0267TVP01 into Operating Permit No. AQ0267TVP02 to ensure compliance with the applicable requirements.

Table J - Comparison of Construction Permit No. 267CPT01 Conditions to Operating Permit No. AQ0267TVP02 Conditions[35]

Permit No. 267CPT01 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
3 and Exhibit A	Source inventory list	Section 1	Same requirements.
4 and Exhibit B	BACT Emission Limits	17 - 20	Same requirements.
5 and Exhibit C	Monitoring – Fuel gas meters for Turbines and Heaters. H_2S content of natural gas fuel used.	21, 23, and 16.1	Same requirements.

Table K - Comparison of Construction Permit No. 9773-AC016 Conditions to Operating Permit No. AQ0267TVP02 Conditions[36]

Permit No. 267CPT01 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
III.E, IX.B.1.e, IX.C.1.b, IX.C.1.c	The Permittee shall install, calibrate, and conduct applicable continuous monitoring system performance test listed in 40 CFR 60, Appendix B.	None.	Deleted. These conditions are not triggered and are no longer applicable. The two initial NOx emissions source tests results for EU ID 14 were both below 90%.
IV.A	Rated capacities of G-3203, H-3204, and H-102A.	Section 2	Changed rated capacities of G-3203, H-3204, and H-102A based on updated information received from CPAI.
IV.E	Monitor, record and report the hours of operation of sources in Condition IV.A	22	Same requirements. Different format.
V.A.3	Limits on fuel type and quality	23 and 16.1	No change.
V.B, VII.C.3, VI.B.3	Monitoring and recordkeeping – the Permittee shall conduct periodic fuel tests or obtain vendor certification of fuel sulfur content.	23 and 48.1	Deleted "or obtain vendor certification of the fuel sulfur content". Fuel vendors do not certify the sulfur content of their fuel.
V.C	Reporting – the Permittee shall report fuel sulfur test results or copies of vendor certification.	23.2 and 48.3.a	Deleted "or copies of vendor certification of the fuel sulfur content". Fuel vendors do not certify the sulfur content of their fuel.
VI.A	40 CFR 60, Subpart A – General Requirements	34 through 42	Included all applicable requirements of 40 CFR 60, Subpart A.

[35] This table does not include all standard and general conditions.
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Permit No. 267CPT01 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
IX.B.2 and VI.B	40 CFR 60, Subpart GG	47 and 48	MR&R requirements are based on EPA granted custom fuel monitoring and applicable Subpart GG requirements.
VII.C.1 & C.2	Conduct a visible emission surveillance no less than once each calendar year and upon Department request conduct a particulate matter emission test or visible emission surveillance.	1 and 19	Replaced condition. The monitoring for gas-fired emission units for visible emissions is waived. The Department has found that natural gas-fired equipment inherently has negligible PM emissions. Monitoring shall consist of an annual compliance certification. For gas-fired units subject to 10% opacity limits, conduct a visible emissions observation no less than once a year.
VII.C.4	Fuel consumption	21	Removed the obsolete requirement to submit a copy of the manufacturer's certification for each fuel meter within 90 days after installation.
IX.C.2 and VII.D	Reporting – Facility Operating Reporting Requirements	98	Replaced with Title V standard condition.
IX.A.1.a(1) & (2)	Install and operate EU IDs 14 and 17 with operational controls (CZ liner lean-head for EU ID 14, and low NO_X burners for EU ID 17) as BACT.	20.1	Installation of CZ liners and low NO_X Burners had been fulfilled; however, it is an ongoing requirement to operate with the CZ lean head liners for EU ID 14 and low NO_X burners for EU ID 17.
IX.A.1.b(1) & (2) and IX.A.2	BACT Emission Limits	20	No change.
IX.B.1.d and III.D.1.a	NO_X Monitoring	20.2	Added Method 7E for the process heater as method 20 is for Turbines.
IX.B.1. and IX.C.1	NO_X Recordkeeping and Reporting for EU ID 14	20.2	Replaced with current recordkeeping and reporting requirements for NO_X. The requirements in conditions IX.B.1.a & b and IX.C.1.a had already been fulfilled and are no longer applicable. The requirements in conditions IX.B.1.c & e and IX.C.1.b & c were not triggered and are therefore no longer applicable.

Table L - Comparison of Previous Minor Source Specific Permit No. AQ0267MSS02 Conditions to Operating Permit No. AQ0267TVP02 Conditions[37]

Permit No. AQ0267MSS02 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
3	Establish an ambient air boundary exclusion zone	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired.
4	Prohibit public access within the established ambient air boundary	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired.
5	Limit NOx emissions from units C-2101A, C-2101B and C-2101C to no greater than 824 tons per 12 consecutive month period	27	Same requirements.
6	Off-permit changes	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired.
7	Document when construction and post-construction drilling commence and are completed	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired.
8, 9, 10,	Limits on fuel combustion by drill rig operations	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.
11, 12.3, 13.3	Monitor, record, and report daily and monthly fuel consumption	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.
12	Limits on fuel consumption by well service heaters and engines and well frac unit engines	None	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.

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

Permit No. AQ0267MSS02 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
13	Limits on gas burned in portable flare	None.	Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. This requirement has been retired. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.
14	Limit heat input rating of production heaters to 184 MMBtu/hr	28	Same limit. Reporting requirement has not been carried forward as the one-time requirement has been met.
15	Limit fuel oil sulfur content to 0.150% by weight and field gas H_2S content to 275 ppmvd	23	Same requirements for production heaters in a different format. Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.
16	Limit combined SO_2 emission from drill rig heaters and boilers, production heaters, and portable flare to no greater than 35 tons per 12 consecutive month period.	29	Same requirement for production heaters. Per CPAI, construction and post-construction phases of development at drill sites 1E and 1J were completed in 2009. EU IDs 34 and 58-63 were removed from the source and eliminated from the permit.
17	Limit VOC emissions from the temporary crude oil storage tank to no greater than 34 tons per 12 consecutive month period. Record, estimate, and report emissions.	None.	Per CPAI's 3/5/12 request, this project is complete. Therefore, emissions limits for project-specific flowback emissions associated with the Temporary Crude Oil Storage Tanks (EU ID 56) are complete. EU ID 56 was removed from the source and eliminated from the permit.
18, 18.1, 18.2, 18.3, 18.4	Visible emission limits and associated monitoring and reporting	1 through 5	Same requirements in a different format for production heaters. EU IDs 59, 60, and 34 were removed from the source and eliminated from the permit.
19, 19.1, 19.2, 19.3	Particulate matter emission limit and associated monitoring and reporting	7	Same requirements in a different format for production heaters. EU IDs 59, 60, and 34 were removed from the source and eliminated from the permit.
20	Sulfur compound emission limit	16	Same requirements in a different format for production heaters. EU IDs 59, 60, and 34 were removed from the source and eliminated from the permit.
21, 22	Emission fees	74 and 75	Same requirement, different format.
Section 4	Public access control plan for ambient air boundaries	Section 14	Same requirements, different format

Permit No. AQ0267MSS02 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
Section 5	Emission unit inventory	Table A	Generic emission units have been grouped into single emission unit identifiers. EU IDs 34, 56, and 58-63 have been removed from the source and eliminated from the permit.

Table M - Comparison of Previous Minor Source Specific Permit No. AQ0267MSS03 Conditions to Operating Permit No. AQ0267TVP02 Conditions[38]

Permit No. AQ0267MSS03 Condition Number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
1.2 and 1.3	Document installation of a replacement unit for EU IDs 64 and 65	24	Same requirement
3	Limit combined total fuel consumption for EU IDs 64 and 65 to no more than 148,000 gallons per 12 consecutive month period	30	Same requirement
4	Visible emission limits	1	Same requirement
4.1	Visible emission monitoring and reporting	na	Reporting requirement has not been carried forward as the one-time requirement has been met.
5	Particulate matter emissions limit	7	Same requirement
6	Sulfur compound emission limit	16	Same requirement
7	Maintain equipment according to manufacturer's or operator's maintenance procedures	76	Same requirement
8	Assessable potential to emit	74	Same requirement, revised to reflect current emissions

Table N – Comparison of Previous Minor Source Specific Permit No. AQ0267MSS04 Conditions to Operating Permit No. AQ0267TVP02 Conditions[39]

Permit No. AQ0267MSS04 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
2 & 3	rescinded and replaced Condition 3.3 of AQ0267MSS03	30	Same requirement

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

Table O - Comparison of Previous Operating Permit No. AQ0267TVP01 Conditions to Operating Permit No. AQ0267TVP02 Conditions[40]

Permit No. AQ0267TVP01 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
Table 1	Emission Unit Inventory	Table A	Update turbine P-EF52-B (EU ID 5). This turbine was up-rated from a TB5000 to a TB5400 unit as of September 2003. Notification of this up-rate was made - an off permit change sent to the Department September 5, 2003.
1.1	Assessable Emissions	74	Updated the CPF-1 assessable PTE.
5.1 b	Sulfur Compound Emissions, Arctic Diesel Fuel	16	Add conditions to detail actions required if certain sulfur content thresholds are exceeded. The proposed revisions allow CPAI to calculate the emissions based on the measured fuel sulfur content, and then take appropriate actions based on the results of the calculations.
10	Fuel Consumption Monitoring for EU IDs 1 - 50	21	Condition revised to reference "fuel" instead of "fuel gas" to clairfy the requirements to monitor and report liquid fuel consumption by dual fired units (EU IDs 4 through 9, 12, 13, and 15).
NA	NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report and Summary Report Form	36	The July 8, 2004 amendment to NSPS Subpart GG clarifies that all turbines subject to the Subpart GG SO_2 standard are required to be included in periodic reports required under 40 C.F.R. 60.7(c) and (d). These new conditions outline the applicable requirements.
NA	NSPS Subpart A Performance (Source) Tests	38	40 C.F.R. 60.8 requirements were added to the permit to include the applicable provision to conduct source tests for NSPS-affected emission units, if requested by the Administrator.
NA	NSPS Subpart A, Monitoring.	42	40 C.F.R. 60.13 requirements were added to the permit to include the specific applicable provisions that apply to operation and maintenance of a CEMS. This language was added because it is applicable via NSPS Subpart J and the EEMSPR requirement.
26	NSPS Subpart GG NOx Standard Initial Periodic Testing and Substituting Test Data	47	Subpart GG periodic testing requirements have been revised to more accurately reflect the requirements as applicable to an existing facility.
27	NSPS Subpart GG Fuel Sulfur Monitoring and Reporting	48	Revise this condition to include the EPA-approved NSPS Subpart GG Fuel Sulfur Monitoring Requirements (as of July 8, 2004 revision) with revisions as allowed under EPA- approved October 2, 1997 alternate H_2S sampling method and the July 3, 1996 and April 6, 2004 custom fuel monitoring schedules.
28	NSPS Subpart J SO_2 Emission Standard	45	Revised condition so that it is consistent with the actual limitation expressed in the NSPS

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

Permit No. AQ0267TVP01 Condition number	Description of Requirement	Permit No. AQ0267TVP02 Condition Number	How condition was revised
NA	Emission Inventory Reporting	101	Emission inventory reporting condition added.
NA	NESHAP Subpart ZZZZ	55	Added applicable NESHAP Subpart ZZZZ to permit. EU IDs 19, 20, 22 through 28, and 64 through 66 shall comply with these requirements beginning no later than May 3, 2013.
NA	NESHAP Subpart CCCCCC	63	Added NESHAP Subpart CCCCCC applicable to EU 37 (portable gasoline dispensing tank).
Table 4	Permit Shield Granted	Table G	Added permit shield for NSPS Subpart EEEE, YYYY, and ZZZZ and NESHAP Subparts BBBBBB and CCCCCC with applicable explanations.

Table P lists emission units that have been removed from the regulated emission unit inventory.

Table P – Deleted Emission Unit Inventory

Tag No.	Emission Unit Description	Rating/ Size	Note	Permit Application
Engines				
P-1E02	GM Detroit Allison Freeze Protection Pump (1E)	240 hp	Removed from service and no longer located at Drill Site 1E	AQ0267TVP01, Rev 2
Storage Tanks				
T-175	Emulsion Breaker	595 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T-176	Triethylene Glycol (TEG)	595 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T-177	Ideal Plus (Lube Oil)	476 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T-178	Methanol	357 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T-1009	Waste Hydrocarbons (Recycle)	870 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T-1H01	Corrosion Inhibitor (Drill Site 1H)	870 bbls	Not subject to any enforceable requirements (as of 10/15/03, NSPS Subpart Kb no longer applies)	AQ0267TVP01, Rev 2
T1-P101A	Divert Tank (Crude Oil)	55,000 bbls	In a letter to CPAI dated August 18, 2006, EPA determined that these tanks fall within the definition of process tanks in 40 C.F.R. 60.111b (as amended 10/15/03), which are exempt from Subpart Kb.	AQ0267TVP01, Rev 2
T1-P101B	Divert Tank (Crude Oil)	55,000 bbls		AQ0267TVP01, Rev 2

Tag No.	Emission Unit Description	Rating/ Size	Note	Permit Application
Flares				
PF1	Portable Flare	150 Mscf/day 16.2 MMscf/yr	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Portable Storage Tanks				
Various	Temporary Crude Oil Storage Tank(s)	<10,000 gallons each	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Drilling Rig (Portable Emission Units) at Drill Sites 1E and 1J				
Various	Drill Rig Engines	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Various	Drill Rig Heaters and Boilers	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Various	Rig Camp Engines	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Generic Well Servicing Equipment and Well Frac Units (Portable Emission Units) at Drill Sites 1E and 1J				
Various	Well Servicing Heaters	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Various	Well Servicing Engines	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1
Various	Well Frac Unit Engines	Various	Removed per 3/5/12 CPAI request to sunset obsolete AQ0267MSS02, Revision 1 Conditions.	AQ0267MSS02, Revision 1

NON-APPLICABLE REQUIREMENTS

Each permit is required to contain a discussion of all applicable requirements as set forth in 40 C.F.R. 71.6(a) adopted in 18 AAC 50.040(j). This section discusses Standard Conditions that have been removed from the permit or are not included for specific reasons.

NESHAP Subpart HH: Although the Permittee operates several triethylene glycol (TEG) dehydration units at the stationary source, the glycol reboilers use electric elements to heat the glycol. There are no atmospheric vents in the glycol dehydration system, although the units do have pressure safety protection vents that are routed into the flare system.

Once the TEG is heated in the reboilers, the TEG off the bottom is pumped back around in the captive TEG system. The overhead from the reboilers is routed to an overhead condenser system, where the condensed water is pumped back into the CPF1 Produced Water system and the uncondensed material (the gas) is compressed into the plant fuel gas system. Further, the black oil exemption §63.760(e)(1) applies for the Subpart HH rule for area sources of HAP as well.

NSPS Subpart KKKK: Although the Permittee has several CI ICE (EU IDs 1 - 14), they are not currently applicable to the provisions of this Subpart as they have not been modified or reconstructed since the Subpart applicability date. The permit shield reflects this qualified non-applicability determination.

40 C.F.R. 64 Compliance Assurance Monitoring (CAM) Rule: The requirements of 40 C.F.R. 64 apply to a pollutant-specific emissions unit at a major source if the unit satisfies **all** of the following criteria: (1) the emission unit is subject to an applicable emission limitation or standard; (2) the unit uses a control device to comply with any such applicability emission limitation or standard; and (3) the unit has 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. Except for the KUTP (EU ID 57), no emission unit at this stationary source uses a control device to achieve compliance with any emission limitation or standard. The KUTP does not have potential pre-control device emissions of an applicable regulated air pollutant equal to or greater than 100 tpy of criteria pollutants, 10 tpy of any hazardous air pollutant (HAP), or 25 tpy of all HAPs combined. Additionally, the following Part 64 exemption further applies to the KUTP:

> **Kuparuk Unit Topping Plant (KUTP):** The closed vent systems installed at KUTP (EU ID 57) uses a control device (flare, EU ID 30) to comply with 40 C.F.R. 60, Subpart GGG/VV. The Department determined that the stationary source is exempt from CAM based on the exemption allowed under §64.2(b)(1)(vi) because EU ID 30 must comply with a permit condition that specifies a continuous compliance determination method, as defined in §64.1 and Condition 49.

Risk Management Plan (RMP): The Kuparuk Central Production Facility #1 is not subject to the general duty clause under the Clean Air Act Section 112(r)(1) (40 C.F.R. 68.10) because it does not have a threshold quantity of a regulated substance in a process as determined in §68.115.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The state and Federal regulations for each condition are cited in Operating Permit No. AQ0267TVP02. The Statement of Basis provides the legal and factual basis for each term and condition as set forth in 40 C.F.R. 71.6(a)(1)(i).

Conditions 1 through 6, & 15 Visible Emissions Standard and MR&R

Legal Basis: These conditions ensure compliance with the applicable requirements in 18 AAC 50.050(a) and 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 1 - 50, 64, and 65 are fuel-burning equipment or industrial processes.
- 18 AAC 50.050(a) applies to the operation of incinerators. EU IDs 35 and 36 are incinerators.

U.S. EPA incorporated these standards as revised in 2002 into the State Implementation Plan effective September 13, 2007.

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of 18 AAC 50.055(a)(1).

MR&R requirements are listed in Conditions 3 through 6, and 15 of the permit.

These conditions have been adopted into regulation as Standard Conditions. These conditions have been modified as follows: the Permittee has opted not to use the Smoke/No Smoke plan, and requested that this option not be included in the permit. The Department has agreed to not include this provision in the permit. The Department also revised the Standard Permit Condition language for flares as incorporated into this permit in Condition 5 to read "The Permittee shall observe one daylight flare event within 12 months after the preceding flare event observation or within 12 months after the permit effective date, whichever is later." The Department has also revised Footnote 3 to read "For purposes of this permit, a "flare event" is flaring of gas at a rate that exceeds the source's de minimis pilot, purge, and assists gas rates for a minimum of 18 consecutive minutes."

Beyond as noted above, the Department has determined that the Standard Conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission 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).

The Permittee must establish by actual visual observations that can 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 and particulate matter.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired emission units. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emission units either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Insignificant Emission Units:

For EU IDs 19 through 28, no visible emissions monitoring is required because these units are insignificant emission units based on actual emissions as long as the calendar year operating time does not exceed the values show Table B. As long as the units do not exceed these limits, they are insignificant by emissions rate as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 3, 10/8/04. The Permittee must annually certify compliance under Condition 99with the opacity standard.

Gas-Fired Fuel Burning Equipment:

Monitoring – The monitoring of gas-fired emission 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 PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

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

Liquid Fuel-Fired Burning Equipment:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Dual Fuel-Fired Units:

For EU IDs 4-9, 12, 13, and 15 as long as they operate only on gas, monitoring consists of an annual certification that only gaseous fuels were used in the equipment. When any of these emission units operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Condition 15 is required for that emission unit in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 2, 10/8/04. When any of these units operates on a backup liquid fuel for less than 400 hours in a calendar year, monitoring for that 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 (EU IDs 29 - 33) 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.

The above notwithstanding, the Permittee requested that the Department modify Condition 6 to account for a situation when a flare event is deemed as intermittent (i.e. typically no more than once per year). The Department did not agree to this request, as the requirements of Condition 6 apply to all operated flares and distinction of an "intermittently" operated flare is unnecessary. The Permittee also requested that the Condition 6.2 requirement to record the volume of gas flared be deleted, based on the claim that the form in Section 11 does not include a location to record this information. The Department did not agree to this request. The Visible Emissions Form in Section 11 does provide a location to record this information as the *operating rate*, which is the box space for "Operating Mode" next to "Process Equipment". The 4th bullet in the left column of the instruction page states "Process Equipment, Operating Mode: brief description of process equipment (include type of facility) and operating rate, % capacity, and/or mode (e.g. charging, tapping, shutdown)." The Permittee should record the volume of gas flared in this location of the Visible Emissions Form.

Incinerator Visible Emissions MR&R:

This visible emission standard applies to the operation of any incinerator in Alaska, including an air curtain incinerator.

The condition requires the Permittee to comply with the visible emission standard applicable to incinerators. The Permittee shall not cause or allow the affected incinerator to violate this standard.

For EU IDs 35 and 36, the Permittee is required to monitor, record and report according to Condition 2 as well as Condition 19.3 for EU ID 36. The monitoring requirements for incinerators are more stringent than for other fuel burning equipment since the fuels burnt are variable consisting of everything from domestic waste to medical waste. The Permittee is typically required to observe incinerators for smoke on days that they operate and, if smoke is observed, the operator must perform a Method 9 reading to determine if the Particle Matter standard is being violated with 6 months of the initial occurrence. However, the incinerators at CPF-1 have historically demonstrated no visible emissions compliance problems. As such, the Department agrees with the annual VE monitoring schedule and Method 9 monitoring (rather than smoke/no-smoke) specified in Condition 2.1. This is consistent with AQ0267TVP01.

Conditions 7 through 15, Particulate Matter (PM) Standard

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.055(b). This requirement applies to operation of all industrial processes and fuel-burning equipment in Alaska.

- EU IDs 1 - 50, 64, and 65 are fuel-burning equipment.

These PM standards also apply because they are contained in the Federally approved SIP effective September 13, 2007.

Factual Basis: Condition 7 prohibits emissions in excess of the state PM (also called grain loading) standard applicable to fuel-burning equipment and industrial processes. The Permittee shall not cause or allow fuel-burning equipment nor industrial processes to violate this standard.

MR&R requirements are listed in Conditions 9 - 10, 13 - 15 of the permit.

The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Operation and Maintenance Program, which the emission unit is in continuous compliance with the State's emission standards for particulate matter.

Gas-Fired:

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

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 Fired:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report

Dual Fuel-Fired Units:

For EU IDs 4 - 9, 12, 13, and 15, as long as they operate only on gas, monitoring consists of certification statement in the operating report to indicate whether only gaseous fuels were used in the equipment during the period covered by the report. When any of these emission units operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Condition 15 is required for that emission unit in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 2, 10/8/04. When any of these emission units operates on a backup liquid fuel for 400 hours or less in a calendar year, monitoring for that emission 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.

Insignificant Emission Units:

For EU IDs 19 - 28, no monitoring is required because are insignificant emission units based on actual emissions and as long as the calendar year operating time does not exceed the values show Table B, they are insignificant by emissions rate as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 3, 10/8/04. The Permittee must annually certify compliance under Condition 99 with the particulate matter standard.

Flares:

Monitoring of gas-fired flares for particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The department has recognized this fact by incorporating the waiver in the State Implementation Plan adopted in November 1984, which has not been Federally approved. No recordkeeping or reporting is required.

Incinerator Particulate Matter Emissions and MR&R

Legal Basis: Condition 12 ensures compliance with the incinerator particulate matter standards under 18 AAC 50.050(b). The particulate matter emission standard for EU ID 35 as listed in Condition 12 for this permit applies to the operation of the incinerator based on its rated capacity. U.S. EPA incorporated these standards as revised in 2002 into the State Implementation Plan effective September 13, 2007.

Factual Basis: The condition requires the Permittee to comply with the particulate matter emission standards applicable to incinerators based upon rated capacity. The Permittee may not cause or allow the affected incinerator to violate this standard.

Under 18 AAC 50.050(b), EU ID 36 is not subject to particulate matter standard because the incinerator has a rated capacity of less than 1000 pounds per hour. However, under EPA PSD-X82-01 (revised October 7, 1997), a BACT limit of 12 tpy and 0.1 gr/dscf at 12% CO_2 was established for particulate matter emissions from EU ID 36 (see Condition 19).

For EU ID 35, the Permittee is required to monitor, record and report in accordance with Condition 8.1. For EU ID 36, the Permittee is required to monitor, record and report according to Condition 19, which includes an initial particulate matter emissions test (Condition 19.4), and periodic monitoring, record keeping and reporting (Condition 19.5). While EU ID 36 is not subject to the particulate matter standard under 18 AAC 50.050(b), for purposes of permit streamlining, the same Part 71 monitoring, record keeping and reporting required for EU ID 35 are applied at Condition 19.5 for EU ID 36.

Condition 16, Sulfur Compound Emissions

Legal Basis: This condition requires the Permittee to comply with the sulfur compound emission standard for all fuel-burning equipment and industrial processes in the State of Alaska.

- EU IDs 1 - 34, 37 - 50, 64 and 65 are fuel-burning equipment and industrial processes.

These sulfur compound standards also apply because they are contained in the Federally approved SIP effective September 13, 2007.

Factual Basis: The condition requires the Permittee to comply with the sulfur compound emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow the affected equipment to violate this 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, the MR&R conditions are Standard Permit Conditions XI and XII adopted into regulation pursuant to AS 46.14.010(e).

Beyond as noted above, the Department has previously determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission 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 meets the requirements of 40 C.F.R. 71.6(a)(3).

Gaseous Fuels: Fuel sulfur testing will verify compliance with SO_2 emission standard.

Condition 16.5.a(ii) requires the Permittee to conduct a semiannual analysis for the fuel gas sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or a listed method approved in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

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

Conditions 17 **through 20, Pre-Construction Permit Requirements (BACT Emission Limits)**

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits (ORLs) established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT) limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007.

Factual Basis: On December 29, 1981, EPA Region 10 issued PSD permit number PSDX82-01 to ARCO Alaska, Inc. for construction of new equipment at four Kuparuk facilities. EPA twice administratively approved equipment lists under this PSD permit, once on March 23, 1983, and a second time on June 13, 1984. EPA on October 7, 1997 and October 27, 2003 issued revisions to the EPA PSD permit. The primary revisions include apportionment of field-wide ton per year limits to stationary source-specific equipment group limits, and updating emission limits based solely on AP-42 factors to the values in the edition of AP-42 that were current in 1997.

As part of the EPA process, ARCO Alaska demonstrated to Region 10 that on a ton per year basis an overall decrease in allowable emissions would occur under the permit revision. The only exception was an increase in allowable SO_2 emissions due to subsequent permitting by the Department that raised the SO_2 BACT limit originally established by EPA.

The majority of these changes reflect the revised emission limits granted by EPA on October 7, 1997 and October 27, 2003. The EPA revisions established ton per year emission limitations on a group basis for turbines and heaters, and one incinerator. For turbines and one incinerator, ton per year emission limits apply for NOx, CO, SO_2, PM, and VOC. Ton per year emissions limits for heaters apply to the same pollutants except there is no limit for VOCs. For NOx and CO in turbines and heaters, EPA established BACT emission limits in terms of tons per year as well as other terms (e.g. ppmv and lb/MMBtu). Emission limits for SO_2, PM, and VOC were established by EPA only in terms of tons per year. An opacity limit of 10% was also established for certain turbines and one incinerator.

Compliance with the short-term BACT NOx emission limits for turbines EU IDs 1 - 3 and 8 - 13; and EU IDs 16, 37 - 41, 43 - 45, and 48 - 50, reflect the MR&R NO_x requirements for NSPS Subpart GG in Condition 47.2 - 47.4. While only EU IDs 1-3 and 10-13 are subject to the NSPS Subpart GG - NOx emission limit, the same MR&R conditions (Condition 47.2 - 47.4) are applied to the remaining turbines based on the periodic MR&R requirements of 40 C.F.R. Part 71. Periodic CO testing and related record keeping and reporting require routine testing on no less than a 5-year cycle for those emission units operating at least 400 hours per year at any time during this 5-year cycle. If the most recent performance test on a turbine showed CO emissions at less than or equal to 90 percent of the limit shown in Condition 17, then periodic monitoring is required within 12 months after exceeding 400 hours of run time in any 12-month period ending after the effective date of this permit if a test has not been completed on any representative unit of the turbine group during the previous 4 years. If the most recent performance test showed operations at greater than 90 percent of the emissions listed in Condition 17, 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.

EU IDs 14 and 17 were permitted under construction permit No. 9773-AC016 on February 13, 1998 and were installed in 1999. The NOx and SO_2 BACT limits for these emission units were derived from the PSD review conducted in 1998 as part of the construction permit requirement. EU ID 14 will show compliance with the short term NO_x BACT limit by conducting testing once every two years, which is in accordance with Construction permit No. 9773-AC016 and consistent with AQ0267TVP01. While the emission limit verification frequency for BACT is typically based on the source test results and the resultant percentage as compared to the emission limit, the construction permit does not clarify whether or not the ongoing testing is reset based on the result of each subsequent source test. In order to avoid potential future changes in source test frequency, CPAI has opted to test every 2 years. For EU ID 17, the Permittee will monitor, record, and report in accordance with Condition 47.2 through 47.4. While these conditions are under NSPS Subpart GG, the basis for the specified periodic monitoring, record keeping and reporting is 40 C.F.R Part 71 in order to demonstrate compliance with the short-term BACT NOx emission limit in Table F. It is noted that the construction permit also included an optional requirement to install a CEMs on the exhaust stack for EU ID14. This requirement was not carried forward in AQ0267TVP01 and does not appear in the renewal permit. The intent of the CEMs option was to assure compliance with the short term NO_x standard found in Table F; however the Department accepts periodic stack testing as the compliance demonstration method used by the Permittee for this unit.

The EPA revisions for Permit No. PSD-X82-01 and the BACT emissions limits from Construction Permit No. 9773-AC016 have been incorporated into Construction Permit No. 267CPT01 and this Title V Operating Permit. For affected turbines and incinerators, the Permittee is required to calculate and report emission levels for NOx, SO_2, CO, PM, and VOC. For affected heaters, the Permittee is required to calculate and report emission levels for NOx, SO_2, CO and PM.

Conditions 21 through23, Operating and Construction Permit Conditions Carried Forward

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007.

Factual Basis: The old Permit to Operate No. 9373-AA004, Construction Permit No. 9773-AC016, and Minor Stationary Source Permit No. AQ0267MSS02 contain conditions that must be carried forward to this Title V permit. These conditions contain requirements to monitor fuel consumption and operating hours for fuel-fired equipment so that emission levels may be calculated, and to monitor the H_2S concentration for the gas-fired equipment and sulfur content in the liquid fuel for certain emission units, to demonstrate compliance with the limits in Conditions 23 and 16.1.

Some of these conditions were applied to the stationary source to verify compliance with BACT limits; other conditions were applied to verify compliance with ambient air quality increments or to avoid classification as a PSD-major modification at DS1E and DS1J in the case of certain limits established under Permit No. AQ0267MSS02. It is noted that, with respect to AQ0267MSS02, the Permittee submitted a notification on March 6, 2012 to advise that construction drilling and post-construction drilling activities were completed during 2009; and that certain of the permit conditions have "sunsetted" and are obsolete. The affected conditions are identified in Table L and Table P.

Condition 24, Installation of Replacement Units at DS1R

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007.

Factual Basis: This condition applies to the well injection pump engines (EU IDs 64 and 65) in operation at DS1R. During January 2012, the Permittee indicated to the Department that they may replace these diesel fuel fired pump engines with electric pump equipment in the future. This possibility was reflected in Minor Permit No. AQ0267MSS03, Conditions 1.2 and 1.3, as incorporated at Condition 24. Condition 24 requires the Permittee to notify the Department whenever a replacement unit is to be installed in place of EU IDs 64 and 65, and to include documentation of the replacement unit with the notification.

Condition 25, ORL Emergency Equipment Operating Hours

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee has requested this condition as an owner requested limit.

Factual Basis: This condition requires MR&R to verify compliance with the 200-hour limit for non-emergency operation. The Permittee requested this limit so that the emergency equipment will be considered insignificant emission units and thus avoid monitoring for compliance with opacity and particulate matter standards. There is no limit on emergency operation The Permittee is required to monitor the rolling 12-month operational hours.

Condition 26, ORL to Limit Firing Rate of EU ID 16

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee has requested this condition as an owner requested limit.

Factual Basis: Permit to Operate No. 9373-AA004 established a requirement for Process Heaters rated at greater than 43 MMBtu/hr to install, maintain, and operate in good working order a Continuous Emission Monitoring System (CEMS) for recording and monitoring flue gas content of CO or O_2 calibrated and operated according to 40 C.F.R. Part 60, Appendix B. As an alternative to the CEMS requirement, the Permittee may conduct monitoring of the process heater not less than once per month. The CPF-1 stationary source has one process heater (EU ID 16) with a heat input rating of 44.4 MMBtu/hr.

In order to avoid the above stated monitoring requirement, an ORL was established for EU ID 16 to restrict the heat input firing rate to 42.9 MMBtu/hr by maintaining a daily average of 0.039 MMscf/hr based on a fuel LHV of 1,100 MMBtu/MMscf. If, at any time, CPAI elects to remove this ORL, the requirement for process heaters greater than 43 MMBtu/hr would still apply. The Permittee is required to monitor the daily operating time and fuel consumption using the emission unit's fuel monitoring device. The maximum daily average fuel consumption rate (MMscf/hr) for each month is report in each operating report.

Conditions 27 through 30, ORLs to Avoid Project Classification as a PSD Major Modification

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee has requested these conditions as owner requested limits.

Factual Basis: Conditions 27 through 30 require MR&R to verify compliance with the NOx, SO_2, and VOC emission limits established to avoid a PSD modification for the West Sak Development Project drilling, construction, and production activities at DS1E and DS1J. Condition 28 does not include MR&R because the total duty rating is less than the imposed limit. Condition 30 includes MR&R to verify compliance with the fuel consumption limit established for the well injection pump engines at DS1R to avoid a PSD modification for NOx. The Permittee must monitor the total fuel usage of EU IDs 64 and 65 to determine the emissions of NOx, SO_2, and VOC.

Conditions 31 and 32, ORL for Incinerators to avoid classification as "HAPs major"

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. Implementation of these operating limits will ensure that the stationary source's potential to emit any single Hazardous Air Pollutant will remain below 10 tpy or 25 tpy in the aggregate of two or more HAPs.

Factual Basis: The Permittee has requested that the Department limit the combined solid throughput of EU IDs 35 and 36 to avoid classification as "HAPs major" under 18 AAC 50.990(45). The stationary source has potential emissions greater than 25 tpy of HAPs without this limit. The Permittee is required to keep daily records of the solid waste -put and is restrict to a rolling total of under 5,500 tons on an annual basis.

Conditions 33, Insignificant Emission Units

Legal Basis: The Permittee is required to meet state emission standards set out in 18 AAC 50.055 for all industrial processes fuel-burning equipment, and incinerators regardless of size.

Factual Basis: This condition re-iterates the emission standards and require compliance for insignificant emission units. The Permittee may not cause or allow their equipment to violate these standards. Insignificant emission units are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The Department finds that the insignificant units at this stationary source do not require specific monitoring, recordkeeping and reporting to ensure compliance under this condition.

Condition 33.4 requires certification that the units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution. EU IDs 19 - 28, are insignificant EUs based on actual emissions and have permit conditions that limit their hours of operation. For EU IDs 19 - 28, as long as they do not exceed the limits of their hours of operation as stated in Conditions 15 and 25, they are considered insignificant units and no monitoring is required in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 3, 10/8/04. EU IDs 22 through 28 and 66 do not qualify as insignificant units per 18 AAC 50.326(d)(1) because they are subject to a Federal requirement (NESHAP Subpart ZZZZ), but have potential emissions (based on historical operating hours below the significant emissions thresholds in 18 AAC 50.326(e).

Conditions 34–42, NSPS Subpart A Requirements

Legal Basis The Permittee must comply with those New Source Performance Standard (NSPS) provisions incorporated by reference the NSPS effective July 1, 2007, for specific industrial activities, as listed in 18 AAC 50.040[41].

Most affected facilities (with the exception of some storage tanks) affected facilities subject to an NSPS are subject to Subpart A. At this stationary source, NSPS Subpart A applies to all emission units subject to NSPS Subparts Dc, Ka, GG, J, and GGG/VV. EU IDs 1 - 14 are subject to NSPS Subpart GG. EU IDs 42, 46, and 47 are subject to NSPS Subpart Dc. EU IDs 51 - 55 are subject to NSPS Subpart Ka. EU IDs 16 and 30 are subject to Subpart J. EU ID 57 is subject to Subparts GGG/VV.

Condition 34.1 through 34.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU IDs 1 - 14, 16, 30, 42, 46, 47, 51 - 55, and 57. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility or in the event of a modification or reconstruction of an existing facility into an affected facility.

Condition 34.4 - The requirements to notify the EPA and the Department of any proposed replacement of components of an affected facility (40 C.F.R. 60.15) applies to EU IDs 1 - 14, 16, 30, 42, 46, 47, 51 - 55, and 57 in the event that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

Condition 34 - Start-up, shutdown, or malfunction record maintenance requirements in 40 C.F.R. 60.7(b) are applicable to all NSPS affected facilities subject to Subpart A.

[41] EPA has not delegated to the Department the authority to administer the NSPS program as of the issue date of this permit.

Conditions 36 and 37- NSPS excess emission reporting requirements and summary report form in 40 C.F.R. 60.7(c) & (d) are applicable to EU IDs 1 - 14, 16, and 30 because EU IDs 1 - 14 are required to conduct period fuel sulfur monitoring, and EU IDs 16 and 30 are equipped with an NSPS required continuous monitoring system. The Permittee will state in the EEMSP if the emergency fuel exemption provided in §60.332(k) is in effect for EU IDs 12 and 13. The Department has included in Attachment A of the statement of basis a copy of the federal EEMSP summary report form for use by the Permittee. The Permittee obtained EPA approval for annual instead of semi-annual fuel sulfur reporting in Custom Fuel Monitoring Schedules dated April 5, 2000 (for fuel gas). Therefore, the EEMSP reports that address fuel sulfur monitoring for Subpart GG-affected turbines are required to be submitted annually for these units instead of semi-annually.

Recordkeeping requirements in 40 C.F.R. 60.7(f) are applicable to all NSPS affected facilities. (Satisfied by Condition 93)

Condition 38 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU IDs 1 - 14. 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 39 - Good air pollution control practices in 40 C.F.R. 60.11 are applicable to all NSPS affected facilities subject to Subpart A (EU IDs 1 - 14, 16, 30, 31, 35, 36, 42, 46, 47, 51 - 55, and 57).

Condition 40 - states that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS standards for EU IDs 1 - 14, 16, 30, 31, 42, 46, 47, and 57.

Condition 41 - Concealment of emissions prohibitions in 40 C.F. R. 60.12 are applicable to EU IDs 1 - 14, 42, 46, and 47.

Condition 42 – Monitoring requirements in 40 C. F. R. 60.13 are applicable to EU IDs 16 and 30 because a CEMS is used to determine compliance with NSPS Subpart J emission standards and the EEMSPR.

Condition 43 - General Control Device Requirements in 40 C.F.R. 60.13 are applicable to EU ID 30 (Kaldair I-58-VS Emergency Flare**)** since it is used as a control device for EU ID 57 and to meet the NSPS Subpart VV requirements. As a control device it is required to meet the operational and performance standards of 40 C.F.R. 60.18. Monitoring requirements were added to this condition to verify compliance.

The Permittee has provided explanation to indicate that the flares, EU IDs 31 – 33, are not subject to 40 C.F. R. 60.18 because they are safety devices and not control devices. No gas from the topping plant is routed to these safety flares unless the plant malfunctions or is upset.

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

Condition 43through 44, NSPS Subpart Dc Requirements

Legal Basis: Since the Permittee identified affected facilities at this stationary source, these conditions require the Permittee to comply with NSPS Subpart Dc. The NSPS applies steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989 and have maximum design heat input capacities of 29 MW (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). EU IDs 42, 46 and 47 were constructed on 8/15/05, and 12/1/04, respectively, and have maximum design heat input capacities of 30, 36.8, and 36.8 MMBtu/hr, respectively; and are therefore subject to Subpart Dc.

Factual Basis: EU IDs 42, 46 and 47 are only subject to the recordkeeping and reporting provisions of 40 C.F.R. 60.48c(g) and (i). The Permittee must keep records of the amount of fuel used by these units. The record retention schedule in 40 C.F.R. 60.48c(a) is satisfied by Condition 93.

Condition 45, NSPS Subpart J Requirements

Legal Basis: NSPS Subpart J applies to fluid catalytic cracking units catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plans of 20 long tons per day or less, at a petroleum refinery. The Kuparuk Unit Topping Plant (KUTP, EU ID 57) of Central Production Facility #1 is a petroleum refinery and EU IDs 16 and 30 are "fuel gas combustion devices" as defined by 40 C.F.R. 60, Subpart J, and were constructed after June 11, 1973. Therefore, these emission units are subject to certain provisions of Subpart J (40 C.F.R. 60.104(a)(1), 40 C.F.R. 60.105(e)(3)(ii), 40 C.F.R. 60.105(a)(4), and 40 C.F.R. 60.13).

Factual Basis: This condition incorporates the Subpart J sulfur oxides (as H_2S) emission standard. The Permittee may not cause or allow EU IDs 16 or 30 to violate this standard. It is noted that the emission standard was expressed as an equivalent converted value of 162 ppmv, based on a temperature of 59°F, in Condition 34 of AQ0267TVP01; however, the emission standard is specified in this permit AQ0267TVP02 in units of milligram per dry standard cubic meter (i.e., 230 mg/dscf), which is consistent with the NSPS. Compliance monitoring for this requirement includes maintenance and operation of two continuous emissions monitoring systems (CEMS) in good working order.

Condition 46, NSPS Subpart Ka Requirements

Legal Basis: NSPS Subpart Ka applies to storage vessels for petroleum liquids with storage capacity > 40,000 gallons that were built or modified after May 18, 1978 and prior to July 23, 1984. EU IDs 51 - 55 were constructed during this time frame. These affected facilities have storage capacities > 40,000 gallons and store petroleum liquids.

Factual Basis: If the true vapor pressure of the liquid stored within a tank is maintained below 1.0 psia, then there are no operational monitoring requirements. If the true vapor pressure is maintained below 1.5 psia, then there are no applicable equipment standards. If these conditions are met, then there are no applicable requirements other than those found in 40 C.F.R. 60, Subpart A. Otherwise, MR&R for Subpart Ka tanks are as provided in this condition.

Conditions 47 through 48, 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 degrees F, 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.

Factual Basis: These conditions incorporate NSPS Subpart GG NO_X emission and sulfur compound limits. The Permittee may not allow equipment to violate these standards.

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

$$STD_{NOX} = 0.015(14.4/Y) + F$$

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
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 161 ppmvd for EU IDs 1 - 3 and 162 ppmvd for EU IDs 10 - 13.

SO_2 Standard: The Permittee is required to comply with one of the following sulfur requirements for EU IDs 1 - 14 (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 to exceed 0.8 percent by weight.

Exemptions: Gas turbines exempted from NSPS Subpart GG emission standards are as provided in 40 C.F.R. 60.332(e) – (l). EU IDs 12 and 13 are dual-fired emission units and are exempt from this standard when fired on emergency liquid fuel. EU IDs 4 - 9 are exempt from the NSPS Subpart GG NOx standard of 40 C.F.R. 60.332(a) because they meet the exemption criteria of 40 C.F.R. 60.332(e). EU ID 14 is exempt from the NSPS Subpart GG NOx standard of 40 C.F.R. 60.332(a) because its rated base load at ISO conditions exceeds 30 MW (ref. 40 C.F.R. 60.332(d)).

Condition 47, NO_X Monitoring, Recordkeeping, and Reporting

Legal Basis: Periodic monitoring is included in Condition 47.2 for all turbines that normally operate for greater than 400 hours in a 12 month period. This additional monitoring is 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 NOx emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NOx 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 NOx monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

This condition does 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 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 NOx emissions at less than or equal to 90% of the limit shown in Condition 47, then periodic monitoring is required at the first applicable of two criteria: 1) within 1 year of the effective date of this permit if the last source test occurred greater than four years prior to the effective date of this permit and the turbine operated 400 hours or more in any 12-month period ending within 6 months before the permit effective date of this permit, or 2) within 1 year after operating 400 hours or more-in a 12-month period if the last source test occurred less than 4 years prior to operation over the 400-hour threshold at any time during the permit term. If the most recent performance test showed operations at greater than 90% of the emissions listed in Condition 47, then periodic monitoring source testing is required every year until two consecutive tests show emissions at less than or equal to 90% 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[42]" and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the Department has added a Method 20 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.

[42] *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), effective 7/1/03.

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 47.2.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 NOx 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 48, SO_2 Monitoring, Recordkeeping, and Reporting

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

Factual Basis*:* Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and have been referenced here. No additional monitoring outside of the Subpart GG requirements is necessary to ensure compliance with the NSPS SO_2 standard.

Monitoring: Condition 48.1 incorporates NSPS Subpart GG fuel sulfur monitoring requirements.

Recordkeeping: The Permittee is required to maintain records of all sulfur monitoring data required by NSPS Subpart GG for five years as set out in 40 C.F.R 60.7(f). This requirement is stated in Condition 93.

Reporting: NSPS Subpart GG SO_2 standard reporting requirements are incorporated in the permit in Condition 48.3. For the purpose of the EEMSP reports and summary report required under 40 C.F.R. 60.7(c), report daily periods during which the sulfur content of the fuel being fired in the turbine exceeds 0.8 percent. In Condition 48.3 the Department requests that a summary report of the results from the monitoring requirements in Condition 48.1 be included in the Operating Report required under Condition 98.

Condition 49, NSPS Subpart GGG/VV Requirements

Legal Basis: This condition applies to the group of all the equipment, as defined in 40 C.F.R. 60.591 Subpart GGG, within a process unit (in this case, EU ID 57 [KUTP]) and that commenced construction or modification after January 4, 1983. The equipment in KUTP subject to this condition include each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service.

Factual Basis: Thise condition requires the Permittee to comply with the applicable requirements of Subparts GGG and VV - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries and in the Synthetic Chemicals Manufacturing Industry. The MR&R are as provided in Subparts GGG/VV. EU ID 30 is used as control device in meeting these requirements.

Condition 50, ORL for Incinerators for Exemption from 40 C.F.R. 60, Subpart O

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT) limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee requested this condition as an owner requested limit.

Implementation of this operating limit will ensure that the incinerators at CPF-1, EU IDs 35 and 36, each combust less than 10 percent sewage sludge.

Factual Basis: The Permittee requested that the Department limit the sewage sludge burned in each of EU IDs 35 and 36 to less than 10 percent sewage sludge on a dry basis to avoid classification as a Sewage Treatment Plant under 40 C.F.R. 60, Subpart O and 18 AAC 50.040(2)(Q). The Permittee is required to sample on a biennial basis the dry sewage sludge weight as a percentage of the total wastes charges into the incinerators.

Condition 51 ORL for Incinerators for exemption from 40 C.F.R. 62, Subpart HHH

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee has requested this condition as an owner requested limit.

Factual Basis: The Permittee has requested that the Department limit each incinerator (EU IDs 35 and 36) to combust a fuel feed stream, the weight of which is comprised of ten percent or less hospital waste and medical/infectious waste, aggregated. Compliance with this requirement allows each incinerator to meet the definition of a co-fired combustor in 40 C.F.R. 60.14490, which is exempt from the requirements of 40 C.F.R. 62, Subpart HHH.

Condition 52 ORL for Incinerators for Exemption from 40 C.F.R. 62, Subpart III

Legal Basis: The Permittee is required to comply with all effective stationary source-specific requirements that were carried forward from previous EPA PSD permits, SIP approved permits to operate issued before January 18, 1997, SIP approved construction permit(s), SIP approved minor permits, operating permits issued between January 18, 1997 and September 30, 2004, or owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. State pre-construction requirements apply because they were originally developed through case-by-case action under a Federally approved SIP or approved Operating Permit program. EPA approved the latest SIP effective September 13, 2007. The Permittee requested this condition as an owner requested limit for the incinerators, which commenced construction on or before November 30, 1999 and meet the definition of existing Commercial/Industrial Solid Waste Incinerators.

Factual Basis: The purpose of the owner-requested limit and the record keeping required under 40 C.F.R. 62.14525(c)(2)(ii) is to confirm that the incinerators burn greater than 30 percent municipal solid waste or refuse-derived fuel and thereby satisfy the exemption criterion of 40 C.F.R. 62, Subpart III as stated in 40 C.F.R. 62.14525(c)(2).

Municipal Solid Waste (MSW) includes household, commercial/retail, and/or institutional waste.

Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing.

Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities.

Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and governmental facilities, and other similar establishments or facilities.

Condition 53, NESHAP Subpart E National Emission Standard for Mercury

Legal Basis: NESHAP Subpart E applies to stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. EU IDs 35 and 36 incinerate the stationary source's wastewater treatment plant sludge.

Factual Basis: The condition requires the Permittee to comply with the mercury emission standard provided in 40 C.F.R. 61.52(b) for sludge incinerators. The Permittee obtained an EPA approved waiver for stack and sludge mercury sampling and monitoring on October 16, 1997 from Bonnie Thé with EPA Region X. No changes shall be made in the operation of EU IDs 35 or 36 which would potentially increase emissions above the levels estimated to support the waiver granted by EPA under 40 C.F.R. 61.13 without first providing new estimates to EPA per 40 C.F.R. 61.53(d)(4) and 61.54(e).

Monitoring for this requirement consists of an annual compliance certification.

Conditions 55 through 62, NESHAP Subpart ZZZZ Requirements

Legal Basis: The Department has incorporated by reference the NESHAPs requirements effective July 16, 2007, for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart ZZZZ applies to owners and operators of stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.

Factual Basis: NESHAP Subpart ZZZZ applies to any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE units being tested at a stationary RICE test cell/stand. Kuparuk Central Production Facility #1 is an area source of HAP emissions that operates Liquid Fuel-Fired Equipment EU IDs 19 - 28. Kuparuk Central Production Facility #1 is located in an area of Alaska accessible by the Federal Aid Highway System (FAHS). These emission units are existing units subject to Subpart ZZZZ based on its construction, manufacture, or reconstruction date. Subpart ZZZZ emissions and operating limitations and corresponding MR&R requirements are provided in Conditions 55 through 62.

Existing, non-emergency engines rated between 301 and 500 hp at area sources (EU IDs 64 and 65are subject only to the general compliance requirements of 40 C.F.R. 63.6605 (good air pollution control practice) after the initial performance testing, compliance reports, and recordkeeping. No subsequent performance testing is required. Further, the requirements of §63.6625(e), §63.6640(a), §63.6655(d) & (e), and Tables 2b, 3, and 6 of Subpart ZZZZ do not apply to these engines. The initial notification for EU IDs 64 and 65 was submitted on October 28, 2010 in accordance with §63.6645(a)(2).

To remain in the designation of emergency under the NESHAP Subpart ZZZZ, EU IDs 19-28 must not exceed non-emergency operations over 100 hours. There is no limit on emergency operation. However, if the 100 hour limit is exceeded the Permittee must comply with the work practices and emission limitations under Subpart ZZZZ.

Conditions 63 through 66, NESHAP Subpart CCCCCC Requirements

Legal Basis: The Department has incorporated by reference the NESHAPs requirements effective July 16, 2007, for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart CCCCCC applies to owners and operators of gasoline storage tanks at gasoline dispensing facilities at area sources of HAP emissions.

Factual Basis: NESHAP Subpart CCCCCC applies to gasoline storage tanks at gasoline dispensing facilities at an area source of HAP emissions. EU ID 67 is a storage tank that started operation in June 2009 and is part of a new gasoline dispensing facility as defined in 40 C.F.R. 63.11112 (Subpart CCCCCC). The total monthly throughput is less than 10,000 gallons and, therefore, must comply with the requirements in 40 C.F.R. 63.11116 upon startup of the gasoline dispensing facility.

Condition 67, Asbestos NESHAP

Legal Basis: The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. This condition ensures compliance with the applicable requirement in 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.

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 68, Protection of Stratospheric Ozone, 40 C.F.R. 82

Legal Basis: Condition 68.1 ensures compliance with the applicable requirement in 18 AAC 50.040(d) and applies 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 set forth in 40 C.F.R. 82, Subpart F that will apply if the Permittee uses certain refrigerants. The prohibitions in Condition 68.2 - 68.3 apply to all stationary sources that use halon for extinguishing fires and inert gas to reduce explosion risk. The condition prohibits the Permittee from causing or allowing violations of these prohibitions. The **Kuparuk Central Production Facility #1** uses halon and is therefore subject to the Federal regulations contained in 40 C.F.R. 82..

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. This condition incorporates applicable 40 C.F.R. 82 requirements. The Permittee may not cause or allow violations of these prohibitions.

Condition 69, NESHAPS Applicability Determinations

Legal Basis: This condition requires the Permittee to determine rule applicability for 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 comply with any NESHAP that is issued and becomes effective subsequent to the issuance date of this permit, if such NESHAP is determined to apply to the source. Standard language contained in Title V permits for this condition typically requires Administrator and Department notification in accordance with the procedures in 40 C.F.R.63.9(b), should a new NESHAP be determined as applicable to the source. This notwithstanding, the Permittee has requested such language not be included in this condition. The Permittee has indicated their opposition to '*if triggered*' type conditions in the permit", and they have cited other stationary source Title V permits without such language as part of this condition. The Department has agreed to similarly omit the notification language herein; however, such omission does not obviate the requirement to 1) notify the Administrator and the Department if any NESHAP becomes applicable after permit issuance, and 2) keep and make available to the Department copies of the related major stationary source determination.

In addition, the Permittee has requested the standard condition citation, 40 C.F.R. 63.5(b)(4), not be included in the permit condition since there are no current plans to reconstruct CPF-1 and trigger the notification requirement provided in 40 CFR 63.5(b)(4). The Department has not removed this citation since it pertains to both construction and reconstruction.

Conditions 70 through 72, Standard Terms and Conditions

Legal Basis: These are standard conditions required under 18 AAC 50.345(a) and (e)-(g) for all operating permits. This provision is incorporated in the Federally approved Alaska operating permit program of November 30, 2001, as updated effective November 9, 2008.

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

Condition 73, Administration Fees

Legal basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.400-405 as derived from AS 46.14.130.This condition requires the Permittee, owner, or operator to pay administration fees as set out in regulation. Paying administration fees is required as part of obtaining and holding a permit with the Department or as a fee for a Department action.

Factual Basis: The owner or operator of a stationary source who is required to apply for a permit under AS 46.14.130 shall pay to the Department all assessed permit administration fees. The regulations in 18 AAC 50.400-405 specify the amount, payment period, and the frequency of fees applicable to a permit action.

Conditions 74 through 75, Emission Fees

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.410-420. The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

Factual Basis: These emission fee conditions are Standard Permit Condition I under 18 AAC 50.346(b) adopted pursuant to AS 46.14.010(e). Except for the modification noted in the last paragraph of this "Factual Basis", the Department determined that these standard conditions adequately meet the requirements of AS 46.14.250. No emission unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source specific conditions would better meet these requirements. Therefore, the Department concluded that the standard conditions meet the requirements of AS 46.14.250.

These standard conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are generally potential emissions of each air pollutant in excess of 10 tons per year authorized by the permit (AS 46.14.250(h)(1)(A)).

The conditions allow the Permittee to calculate actual annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air pollutant. Therefore, fees based on actual emissions shall be paid on any pollutant emitted whether or not the permit contains any limitation of that pollutant.

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emission based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emission 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.

The Department modified the standard condition to correct Condition 75.2 such that it referenced "submitted" (i.e., postmarked) rather than "received" in accordance with the timeframe of Condition 75.1.

Condition 76, Good Air Pollution Control Practice

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.346(b)(5) and applies to all emission units, **except** those subject to Federal emission standards, those subject to continuous emission or parametric monitoring, and for insignificant emission units, i.e., except EU IDs 29, 32, 33, 34, 37 - 41, 43 - 45, 48 - 50, 56, 58 - 60, 64, and 65. EU ID(s) 19 - 28, 64, and 65 are subject to the Good Air Pollution Control Practice condition only until the applicable compliance date for NESHAP Subpart ZZZZ as set forth in Condition 55.

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 Standard operating Permit Condition VI pursuant to AS 46.14.010(e). This condition has been modified in the permit as follows. The Department added the text "EU ID(s) 19 - 28, 64, and 65 are subject to this condition only until the applicable compliance date as set forth in Condition 55 because on the compliance date in Condition 55, EU IDs 19 - 28, 64, and 65 subject to NESHAP Subpart ZZZZ will no longer be subject to this condition (as units subject to Federal emission standards) and will instead be required to comply with Conditions 55 - 62. Records kept in accordance with Condition 76 for units previously subject to GAPCP need to be maintained for 5 years in accordance with Condition 76.2 even if a unit is no longer subject to this condition.

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

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 maintenance has been deferred.

Condition 77, Dilution

Legal Basis: This condition prohibits the Permittee from using dilution as an emission control strategy as set out in 18 AAC 50.045(a). This state regulation applies to the Permittee because the Permittee is subject to emission standards in 18 AAC 50.

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

Condition 78, Reasonable Precautions to Prevent Fugitive Dust

Legal Basis: This condition requires the Permittee to use reasonable precautions when handling, storing or transporting bulk materials or engaging in an industrial activity in accordance with the applicable requirement in 18 AAC 50.045(d). Bulk material handling requirements apply to the Permittee because the Permittee will engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the stationary source.

Factual Basis: The condition requires the Permittee to comply with 18 AAC 50.045(d), and take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air. Since the stationary source is not a significant source of fugitive PM emissions, there is no need for enhanced monitoring or recordkeeping. The Permittee has nonetheless requested, and the Department has included, a clarifying monitoring requirement (annual certification that reasonable precautions were taken) be included in Condition 78. The Permittee has also requested the standard condition citation, 18 AAC 50.346(c), not be included in the permit condition. The Department does not agree with this request, as this is an applicable rule citation.

Condition 79, Stack Injection

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.045(e)-(f). It prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). Stack injection requirements apply to the stationary source because the stationary source contains a stack or emission unit constructed or modified after November 1, 1982.

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

Condition 80, Air Pollution Prohibited

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.110. The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. Air Pollution Prohibited requirements apply to the stationary source because the stationary source will have emissions.

Factual Basis: While the other permit conditions and emissions limitation 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.

ADEC adopted this standard condition into 18 AAC 50.346(a) pursuant to AS 46.14.010(d). The Department determined that this condition adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No emission unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source specific conditions would better meet these requirements. Therefore, the Department concluded that the standard condition meets the requirements of 40 C.F.R. 71.6(a)(3).

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 to submit copies of these records upon request of the Department.

Condition 81, Technology-Based Emission Standard

Legal Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. This condition ensures compliance with the applicable requirement in 18 AAC 50.235. Technology Based Emission Standard requirements apply to the stationary source because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other "technologically feasible" determinations.

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 97. Excess emission reporting under Condition 97 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 97.

Condition 82, Open Burning

Legal Basis: The open burning state regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The Permittee has certified that they do not conduct open burning at the stationary source. However, the Permittee may conduct open burning by first requesting and obtaining a separate open burn permit in accordance with the Department guidelines posted at the website http://www.dec.state.ak.us/air/ap/applic.htm. No specific monitoring is required for this condition. 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 99.

Condition 83, Requested Source Tests

Legal Basis: The Permittee is required to conduct source tests as requested by the Department. The Department adopted this condition under 18 AAC 50.345(k) as part of its operating permit program approved by EPA November 30, 2001.

Factual Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.220(a) and applies because this is a standard condition to be included in all operating permits. Monitoring consists of conducting the requested source test.

Conditions 84 - 86, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.220(b) and apply because the Permittee is required to conduct source tests by this permit. The Permittee is required to conduct source test as set out in Conditions 84 through 86.

Factual Basis: These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with Conditions 84 through 86 consist of the test reports required by Condition 91.

Condition 87, Test Exemption

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.345(a) and applies when the emission unit exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), amended November 9, 2008, 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 88 through 91, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.345(l)-(o) and apply because the Permittee is required to conduct source test by this permit.

Factual Basis: Standard Conditions 18 AAC 50.345(l) - (o) are incorporated - these conditions. These standard conditions supplement specific monitoring requirements stated elsewhere in this permit. The source test itself monitors compliance with this condition.

Condition 92, Particulate Matter (PM) Calculations

Legal Basis: This condition requires the Permittee to reduce particulate matter data in accordance with 18 AAC 50.220(f). It applies when the Permittee tests for compliance with the PM standards in 18 AAC 50.050 or 50.055.

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

Condition 93, Recordkeeping Requirements

Legal Basis: Applies because the Permittee is required by the permit to keep records.

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 an evidence of compliance with this requirement.

Condition 94, Certification

Legal Basis: This condition requires the Permittee to comply with the certification requirement in 18 AAC 50.205 and applies to all Permittees under EPA's approved operating permit program of November 30, 2001.

Factual Basis: This standard condition is required in all operating permits under 18 AAC 50.345(j). It was modified to match the language of 18 AAC 50.345(j) and 50.205.

This condition requires the Permittee to certify any permit application, report, affirmation, or compliance certification submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be **certified** with the operating report, even though it must still be **submitted** more frequently than the operating report. This condition supplements the reporting requirements of this permit.

Condition 95, Submittals

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

Factual Basis: This condition lists the Department's appropriate address for reports and written notices. The Permittee is required to submit an original and one copy of reports, compliance certifications, and other submittals required by this permit. Receipt of the submittal at the correct Department office is sufficient monitoring for this condition. This condition supplements the standard reporting and notification requirements of this permit.

Condition 96, Information Requests

Legal Basis: This condition requires the Permittee to submit requested information to the Department. This is a standard condition from 18 AAC 50.345(i) of the state approved operating permit program effective November 30, 2001.

Factual Basis: This condition requires the Permittee to submit information requested by the Department. Monitoring consists of receipt of the requested information

Condition 97, Excess Emission and Permit Deviation Reports

Legal Basis: This condition requires the Permittee to comply with the applicable requirement in 18 AAC 50.235(a)(2) and 18 AAC 50.240. 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 adopted this condition as Standard Permit Condition III under 18 AAC 50.346(c) pursuant to AS 46.14.010(e). The Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission 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 condition meets the requirements of 40 C.F.R. 71.6(a)(3).*Section 14, Notification Form*

The notification form contained in Standard Permit Condition IV meets the requirements of Chapter 50, Air Quality Control. The above notwithstanding, the Permittee requested numerous revisions to standard permit Condition 97. In response, the Department indicates the following: on September 27, 2010, ADEC revised Standard Permit Condition III (SPC III) adopted by reference in 18 AAC 50.346(b)(2) to clarify the requirements for Excess Emissions and Permit Deviation Reports (EEPD). This revision was the result of working with and in consideration of the comments regarding SPC III received from different industries in Alaska. ADEC believes that the recent revision to SPC III adequately meets the requirements of 18 AAC 50 and the clarification sought for in this reporting requirement. The language revisions suggested by the Permitted add redundant similar language for the permit deviation report, with slight variation from that of excess emissions. Increasing the length and adding exceptions for one type of notice not authorized for the second type of notice will introduce potential for error and falls counter to the efforts the applicant and ADEC have taken to reduce the length of the operating permit. Therefore, the Department has not incorporated revisions suggested by the Permittee.

The Department notes one exception to the above. The Permittee requested a footnote be added to Condition 97 to give the CPAI compliance staff some examples of permit deviations that are not excess emissions. The Department agrees with the premise of the footnote, but since it is informational in nature, it is included herein as follows: generally, there has been some historical misunderstandings regarding permit deviations and excess emissions. Not all permit deviations are excess emissions, but all excess emissions of limits set out in the permit are permit deviations. Example permit deviations that are not also defined as excess emissions include, but are not limited to, a failure to report required information, incorrect or incomplete reported information, submittal of a report after the required deadline, failure to conduct monitoring prior to the required deadline, failure to maintain required records, etc.

Condition 98, Operating Reports

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.346(b)(6) and applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit. The reports themselves provide monitoring for compliance with this condition.

The Department used the Standard Permit Condition VII as adopted into regulation on August 20, 2008 pursuant to AS 46.14.010(e). The Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission 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 condition meets the requirements of 40 C.F.R. 71.6(a)(3). The Department deleted the text "The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Departmental submission requirements." since it duplicates Condition 95.These conditions have been modified to allow for quarterly instead of semi-annually reporting. The quarterly reports are due 45 days after the end of the preceding quarter.

For renewal permits, 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 99, Annual Compliance Certification

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.040(j)(4) and applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Each annual certification provides monitoring records for compliance with this condition.

Condition 99.2 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 original and one copy of an annual compliance certification report. The Permittee may submit one of the required copies electronically at their discretion. This change more adequately meets the requirements of 18 AAC 50 and agency needs, as the Department can more efficiently distribute the electronic copy to staff in other locations. The Department deleted the text "*The Permittee, at their discretion, may submit one copy in electronic format (PDF or other Department compatible image format).*" since it duplicates Condition 95.

Condition 100, NSPS and NESHAP Reports

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

Factual Basis: The condition supplements the specific reporting requirements in 40 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 101, Emission Inventory Reporting

Legal Basis: This condition requires the Permittee to submit emissions data to the State to satisfy the Federal requirement to submit emission inventory data from point sources as required under 40 CFR 51.321 (6/10/02). It applies to emission units defined as point sources in 40 CFR 51.20. The State must report all data elements in Table 2A of Appendix A to Subpart A of 40 CFR 51 to EPA (73 FR 76556).

Factual Basis: The emission inventory data is due to EPA 12 months after the end of the reporting year (40 CFR 51.30(a)(1) and (b)(1), 12/17/08). A due date of March 31 corresponds with sources reporting actual emissions for assessable emissions purposes and provides the Department sufficient time to enter the data into EPA's electronic reporting system.

The air emissions reporting requirements under 40 CFR Part 51 Subpart A apply to States; however, States rely on information provided by point sources to meet the reporting requirements of Part 51 Subpart A. In the past, the Department has made information requests to point sources, to which the point source is obligated to reply under 18 AAC 50.200. The information requests occur on a routine basis as established by Part 51 Subpart A and consume significant staff resources. 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 CFR 51.

To ensure that the Department's electronic system reports complete information to the National Emissions Inventory, Title V stationary sources classified as Type A in Table 1 of Appendix A to Subpart A of 40 CFR 51 are required to submit with each annual report all the data elements required for the Type B source triennial reports (see also Table 2A of Appendix A to Subpart A of 40 CFR Part 51). All Type A sources are also classified as Type B sources. However the Department has streamlined the reporting requirements so Type A sources only need to submit a single type of report every year instead of both an annual report and a separate triennial report every third year.

Condition 102, Permit Applications and Submittals

Legal Basis: The Permittee may need to submit permit applications and related correspondence.

Factual Basis: Standard Permit Condition XIV directs the applicant to send copies of all application materials required to be submitted to the Department directly to the EPA, in electronic format if practicable. This condition shifts the burden of compliance from the Department to ensure that copies of application materials are submitted to EPA by transferring that responsibility to the Permittee.

Conditions 102 through 105, Permit Changes and Revision 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)(10), (12), and (13) incorporated by reference under 18 AAC 50.040(j) require these provisions within this permit. 40 C.F.R. 70 Appendix A documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

Factual Basis: These are conditions required in 40 C.F.R. 71.6 for all operating permits to allow changes within a permitted stationary source without requiring a permit revision.

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

Condition 106, 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 under18 AAC 50.326(j)(3). The obligations for a timely and complete operating permit application are set out in 40 C.F.R. 71.5 incorporated by reference in 18 AAC 50.040(j)(3). 40 C.F.R. 70 Appendix A documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

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 Kuparuk Central Production Facility #1 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 <u>timely</u> 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 <u>complete</u> renewal application is one that provides all information required pursuant to 40 C.F.R. 71.5(c) and must remit 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, for as long as an application has been submitted within the timeframe allowed 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. Monitoring, recordkeeping, and reporting for this condition consist of the application submittal.

Conditions 107 through 110, General Compliance Requirements and Schedule

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.326(j)(3). The Permittee is required to comply with these standard conditions set out in 18 AAC 50.345 included in all operating permits. 40 C.F.R. 70 Appendix A documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

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

Conditions 112 through 113, Permit Shield

Legal Basis These conditions ensure compliance with the applicable requirement in 18 AAC 50.326(j) and apply because the Permittee has requested that the Department shield the source from the non-applicable requirements listed under this condition under the Federally approved State operating program effective November 30, 2001.

Factual Basis: Table G of Operating Permit No. AQ0267TVP02 shows the permit shield that the Department granted to the Permittee. The following table shows the requests that were denied and the reasons that they were denied. The Department based the determinations on the permit application, past operating permit, likelihood for the source to become subject during the life of the permit, Title I permits and inspection reports.

Table Q - Permit Shields Denied

Shield requested for:	Reason for shield request:	Reason for request denial:
All Flares		
18 AAC 50.055(b)(1) and (c) - Particulate matter and Sulfur compounds emitted from an industrial process or fuel-burning equipment	Alaska SIP – "Due to the extreme difficulty and questionable validity of performing source tests on the exhaust plume of fuel-burning flares for particulate and sulfur dioxide emissions, the emissions limitations identified in 18 AAC 50.050(b) and 50.050(c) [now 50.055(b) and 50.055(c) in the current regulations] do not apply to fuel-burning flares" (Page IV, G, 2-4)	The exemption (rev. 11/84) cited is not part of the Federally approved state air quality control plan. The last time the cited section was approved by the EPA was in 1983. Therefore, the emission standards apply Federally but are exempted by state regulation.
Gas-fired Heaters (E-CL06-A & B, H-P101-A & B); Drill Site Heaters (H-1L01 & 1M01); Diesel-Fired Equipment (P-205); and Storage Tank (T-179)		
All Requirements	They have been taken out of service.	The emission units are not in the emission unit inventory list and have no requirements under this permit.

Shield requested for:	Reason for shield request:	Reason for request denial:
Storage Tanks: T-176, T-1009, and T-CL03		
40 C.F.R. 60, Subpart Kb	Subpart Kb does not apply to vessels with a capacity ≥ 75 $_m$3 but <151 m^3 storing a liquid with a maximum true vapor pressure <15 kPA (2.18 psia).	Tanks may become subject to this requirement during permit if used to store liquid with a maximum true vapor pressure <15 kPA (2.18 psia).
Storage Tanks: T-1A01, T-1E01, T-1L01, T-1F1901, T-1G01, T-1Q01, T-1R01, and T-1Y01		
40 C.F.R. 60, Subpart Ka	Vessels do not store a *petroleum liquid*, as defined in subpart.	Tanks may become subject to this requirement during permit if used to store material subject to the standard.
Engines EU IDs 19 and 20		
40 C.F.R. 63, Subpart ZZZZ	Engines are emergency use only.	Subpart ZZZZ hours flexibility between emergency and stationary RICE applicability based on hours of operation. Since these engines may be used more than 100 hours, the requested shield was denied.
Storage Tanks: T-201, G1-19501, G1-19502, G1-19503, and G1-19504		
40 C.F.R. 60, Subpart Ka	Maximum TVP of petroleum liquid stored below 40 C.F.R. 60.112a thresholds for equipment standards (1.5 psia) and 40 C.F.R. 60.115a thresholds for monitoring of operations (1.0 psia).	Tanks may become subject to this requirement during permit if used to store liquid with a maximum true vapor pressure greater than the 1.5 psia thresholds for equipment standards or the 1.0 psia thresholds for monitoring of operations.
Stationary Source-Wide		
18 AAC 50.045(b) – Prohibitions	The permit implements all applicable air quality requirements for the stationary source. Since compliance with the permit will constitute compliance with applicable local, state, or Federal air quality laws, this requirement is not applicable to the stationary source.	The conditions in the permit are derived from the state regulations. If the regulation is negated then the condition that derives from the regulation is likewise negated. The applicant attempts a circular argument.
18 AAC 50.045(c) – Prohibitions	These requirements will be implemented - 18 AAC 50.201, which is otherwise addressed in the permit. This requirement is not applicable because the Department will impose any special requirements to protect ambient air quality - permit conditions adopted under 50.201.	The conditions in the permit are derived from the state regulations. If the regulation is negated then the condition that derives from the regulation is likewise negated.

Attachment A

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

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

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

Reporting period dates: From _____ to _____

Company:
Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

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

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

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

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

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

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

Name: _____

Signature: _____ *Date*: _____

Title: _____