

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

Public Comment - September 13, 2013

BP Exploration (Alaska), Inc.

Central Compressor Plant

**STATEMENT OF BASIS
of the terms and conditions for
Permit No. AQ0166TVP02**

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0166TVP02.

STATIONARY SOURCE IDENTIFICATION

ADEC has determined the Central Gas Facility (CGF) and the Central Compressor Plant (CCP) to be a single stationary source (the Gas Plant) for purpose of Title I and Title V permitting for the following reasons:

- 1) Physical proximity - the two facilities are located ¼ of a mile from each other.
- 2) Common sense notion of a plant - these two facilities constitute the gas handling plant. The raw material (low pressure high molecular weight gas) is delivered to CGF from the hubs for removal of miscible injectant/natural gas liquids and pressurization (to intermediate pressure) for distribution, the vast majority of which is delivered to the Central Compressor Plant for additional pressurization. This final product (high pressure low molecular weight gas) is then distributed to injection wells nearby CCP for ultimate disposal/storage underground.
- 3) These two facilities were originally permitted as a single stationary source but ADEC disaggregated the two sites for air permitting purposes during the late 1980s.

The stationary source is owned by BP Exploration (Alaska) Inc., ConocoPhillips Alaska, Inc., Chevron USA, Inc. and ExxonMobil Alaska Production, Inc., and operated by BP Exploration (Alaska) Inc., and BP Exploration (Alaska) Inc. is the Permittee for the stationary source's operating permit. The SIC code for this stationary source is 1311 - Crude Petroleum and Natural Gas Production. The NAICS code for this stationary source is 211111.

In consultation with the applicant, ADEC issues separate Air Quality operating permits to CGF and to CCP.

Section 1 of Operating Permit No. AQ0166TVP02 contains information on CCP as provided in the renewal operating permit application.

The Central Compressor Plant (CCP) receives part of the raw gas separated from crude oil in the BPXA Prudhoe Bay flow stations and gathering centers. This raw gas flows through the two CCP inlet separators and then to the Central Gas Facility (CGF), where low temperature separation produces a lean residue gas after flowing through two low temperature separation/refrigeration trains. This lean residue gas then flows back to the CCP where 17 compressors driven by 15 turbines compress the gas in two steps to approximately 4,250 psig for injection into the gas cap of the Prudhoe Bay reservoir. The CCP can compress and inject 7.5 billion standard cubic feet of gas per day.

The fuel gas used in all fuel gas-fired equipment at CCP is lean natural gas after processing at the CGF. No alternate fuel gas is used at this stationary source.

An emergency air-assist flare system safely disposes of hydrocarbon gases vented from compression equipment during upsets (unavoidable emergencies or malfunctions), process equipment startups or shutdowns, or de-pressurization for non-routine repair purposes. The flares are operated and maintained consistent with good engineering practice.

Enclosed modules, which house process equipment operated at CCP, are equipped with fire suppression systems. In the event of a fire, Halon 1301 fire suppressant is automatically released to inhibit the chemical reaction of combustion and extinguish the flames.

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 Central Compressor Plant that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0166TVP02.

Table A of Operating Permit No. AQ0166TVP02 contains information on the emission units regulated by this permit as provided in the permit renewal application. The table is provided for informational and identification purposes only. Specifically, the emission unit rating/size provided in the table does not create an enforceable limit.

BP Exploration (Alaska), Inc. indicated in the Title V renewal application that they also operate eight (8) natural gas space heaters each rated at 0.4 MMBtu/hr heat input capacity, which are considered insignificant emission units as per 18 AAC 50.326(g).

EMISSIONS

A summary of the potential to emit (PTE)¹ and assessable PTE, as indicated in the permit renewal application submitted by BP Exploration (Alaska) Inc. for the Central Compressor Plant and verified by the Department, is shown in the table below.

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

Pollutant	NO _x	CO	PM ₁₀	SO ₂	CO ₂ e ^(d)	VOC	HAPs ^(e)	Total (excluding CO ₂ e and HAPs)
Total PTE ^(a)	14,238	1,631	208	502	3,154,851 ^(e)	85	53.8 ^(b)	16,663
Assessable PTE	14,238	1,631	208	502	--	85	--	16,663

Notes:

- (a) Non-road engine emissions are not included since emissions from non-road engines are not used when determining the classification (major or minor) of a stationary source under AS 46.14.130 and are not included for emission fees.
- (b) The PTE of the largest single HAP (formaldehyde) is 17.4 tons per year.
- (c) HAP emissions are almost all VOC, therefore, to avoid double counting HAP emissions are not included in the "Total" column.

¹ *Potential to Emit or PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is Federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source, as defined in AS 46.14.990(23), effective 12/3/05.

- (d) Greenhouse gas (GHG) means the air pollutant defined in 40 C.F.R. 86.1818-12(a) as the aggregate group of six greenhouse gases: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The stationary source emits or has the potential to emit only CO₂, N₂O and CH₄.
- (e) CO₂e or carbon dioxide equivalent emissions are defined as the sum of the mass emissions of each individual GHG adjusted for its global warming potential (GWP). Total GHG CO₂e calculations submitted by the Permittee via email on March 11, 2011 (and confirmed on November 12, 2012).

The assessable PTE listed under Condition 43.1 is the sum of the emissions of each individual air pollutant other than CO₂e and HAPs for which the stationary source has the potential to emit quantities greater than 10 TPY. The emissions listed in Table F are estimates to be used for informational and assessable emission fee purposes only. The listing of the emissions does not create an enforceable limit to the stationary source.

Gas-fired turbine PTE values for NO_x and CO are set by BACT and Owner Requested Limits stated in Condition 10 of the permit; and EU ID 13 has PM emissions set by a BACT limit as stated in Condition 10 of the permit. Turbine PTE values for remaining criteria pollutants, except SO₂, are estimated based on AP-42 Tables 3.1-1 and 3.1-2a (4/00).

For Glycol heaters and reboilers, except for EU ID 16 which has NO_x and CO values set by BACT limits stated in Condition 12 of the permit, stationary source heater PTE values for all criteria pollutants except SO₂ are estimated based on AP-42 Tables 1.4-1 and 1.4-2 (7/98).

For the internal combustion engines, PTE values for all criteria pollutants except SO₂ are based on operating time limits, and estimated using AP-42 Table 3.4-1 (10/96) and AP-42 Table 3.3-1 (10/96).

Flare PTE values for all criteria pollutants except SO₂ are based on AP-42 Tables 13.5-1 and 13.5-2 (9/91).

SO₂ PTE values for all emission units are based on sulfur mass balance and a liquid fuel sulfur content of 0.11% by weight and 105 ppmv H₂S in the fuel gas, which are limits found in Conditions 16 and 17 of the permit.

For Greenhouse Gas (GHG) emissions, calculations were submitted by the Permittee on April 5, 2011. PTE for CO₂e was estimated based on emission factors found in 40 C.F.R. 98, Subpart C, Tables C-1 and C-2.

The potential HAP emissions for the Central Compressor Plant as provided by the Permittee exceed the Clean Air Act Amendment (1990) Sections 112a and 112(n)(4)(A) and 40 C.F.R. 63.2 major source thresholds of 10 TPY (single HAP) and 25 TPY (combined HAPs); therefore, CCP is a major HAP emissions source. For the permit renewal application, AP-42 emission factors were used to estimate HAP emissions for the turbines and internal combustion engines, and a combination of AP-42 and field data from GRI-HAPCalc Version 3.0 were used to estimate HAP emissions for the heaters. Flare HAP emissions were estimated using emission factors provided by the Ventura County Air Pollution Control District (VCAPCD).

Total aggregate HAP emissions are estimated at 53.8 TPY with a maximum single HAP (formaldehyde) emission rate of 17.4 TPY.

BASIS FOR REQUIRING AN OPERATING PERMIT

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

Except for stationary 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:

- A major source;
- A stationary source including an area source subject to Federal New Source Performance Standards under Section 111 of the Clean Air Act or National Emission Standards for Hazardous Air Pollutants under Section 112 of the Clean Air Act; and
- 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), 40 C.F.R. 71.3(a), and EPA's March 2011 *PSD and Title V Permitting Guidance for Greenhouse Gases* as:

- Belonging to a single major industrial grouping that, as defined in Section 112 of the Act, emits or has the potential to emit, in the aggregate, 10 TPY or more of any hazardous air pollutant (HAP), 25 TPY or more of any combination of such HAPs, or such lesser quantity as the Administrator may establish by rule;
- A major stationary source of air pollutants 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; and
- An existing source that emits or has 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 and Title I (Construction) Permit History through Issuance of Operating/Construction Permit No. 166TVP01

A concise permitting history for the Central Compressor Plant through Operating/Construction Permit No. 166TVP01 issuance (August 4, 2003) follows³:

The Central Compressor Plant was originally permitted prior to implementation of the PSD permitting program in 1977. Subsequent modifications to the Central Compressor Plant were permitted by EPA prior to the Department obtaining the authority for the PSD permit program. EPA issued four Prudhoe Bay field-wide PSD permits (referenced in order as PSD I, PSD II, PSD III, and PSD IV) between May 1979 and September 1981 for new equipment operated at that time by Atlantic Richfield Company (ARCO) and Sohio Petroleum Company at the Prudhoe Bay Unit (PBU)⁴. EPA permitted modifications to Central Compressor Plant under the PSD I permit on May 17, 1979, the PSD II permit on June 13, 1980 and the PSD North Slope Swap Project on February 5, 1981. Each of the four EPA PSD permits for Prudhoe Bay was amended

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

³ Permitting history taken from Section 1.2 of the Technical Analysis Report (TAR) to AQ0166CPT04, Rev.1, issued July 24, 2011, with corrections as provided by the Permittee. Additional permitting history discussion is contained in Section 4.0 of that TAR.

⁴ The permitted sources at PBU are now operated by BPXA.

by EPA and reissued with clarifications and revised emission limits on August 29, 1997. The only EPA PSD BACT limits that currently apply at Central Compressor Plant are identified in the August 29, 1997 amendment to the PSD II permit. These limits, which apply to one Central Compressor Plant turbine only (unit tag no. NGT-18-1813 (EU ID 13)), affect emissions of particulate matter (PM), as well as opacity. No EPA PSD limits apply at Central Compressor Plant for any other pollutants.

On September 17, 1990, the Department issued a PSD permit for the Gas Handling Expansion (GHX I) Project (Permit No. 8936-AA006).⁵

A brief description of Central Compressor Plant construction permits in which the Department or EPA established source specific limits is presented below, in order of issue date.

PSD-X80-09 revised August 29, 1997. EPA issued this permit on June 13, 1980 and amended this permit on August 29, 1997. The amended permit contains BACT limits for EU ID 13 for Particulate Matter (PM of 0.014 lb/MMBtu and 22 tpy, and opacity of 10 percent (as surrogate for PM).

Permit 8936-AA006 (GHX I Project) issued September 17, 1990. This permit allowed the installation and operation of three new gas-fired turbines (only two of these three turbines, EU IDs 14 and 15 were installed), one new process heater (EU ID 16), and thirteen upgraded turbines (EU IDs 1 through 13) at the Central Compressor Plant. In this permit, the Department established NO_x and CO BACT limits for these units. This permit action did not trigger PSD for SO₂. However, the permit did include a fuel gas H₂S limit of 30 ppmv, which was later replaced by the Department in 2003 (in Operating/Construction (O/C) Permit 166TVP01). The Department confirmed that BACT was not triggered for SO₂ by the GHX I project in the January 19, 1996 cover letter to Permit No. 9573-AA014. The Department reaffirmed that BACT was not triggered for SO₂ during the construction permit hygiene project issued concurrently with the original CCP Operating Permit. That decision affirmed that the 30 ppmv limit is not necessary for protection of the ambient air quality SO₂ standards and increments, but instead capped GHX I Project emission increases to less than the 40 ton per year PSD significant threshold for SO₂. Later, the Permittee applied for the currently applicable owner requested limit of 105 ppmv fuel gas H₂S for ambient air quality and increment protection.

Permit 9573-AA014 issued January 19, 1996 and amended March 27, 1996. The Department Permit to Operate No. 8936-AA006. The Department carried over the BACT limits from Permit to Operate No. 8936-AC006 to Permit to Operate No. 9573-AA014. The January 19, 1996 permit cover letter acknowledged that the 30 ppmv H₂S limit was not the result of a BACT determination.

Construction Permit No. 0073-AC006 issued in May 2000 and revised in July 2000. The Department issued this permit to upgrade turbine EU ID 2 with Lean Head End (LHE) technology and to install a new emergency generator, EU ID 23. This project avoided PSD review for NO_x and CO through Owner Requested Limits (ORLs).

Operating/Construction Permit No. 166TVP01 issued August 4, 2003. This O/C Permit contains the Title I provisions of Permits PSD-X80-09, 9573-AA014 and 0073-AC006. In the permit, the Department:

⁵ Permit to Operate No. 8936-AA006 was renewed as Permit to Operate No. 9573-AA014 on January 19, 1996.

- (1) revised the CO limit for EU ID 16 (originally established in Permit 8936-AA006 to 0.061 lb/MMBtu to reflect the 1996 version of AP-42 emissions factor for low-NO_x burner technology;
- (2) removed the 150 ppmv BACT limit for EU ID 2;
- (3) removed the 30 ppmv fuel gas H₂S limit for all units (at BPXA's request - see letter dated November 19, 1997); and
- (4) included the EPA annual limits of 958 tpy of NO_x and 90 tpy of CO from EPA Permit PSD-X80-09 for EU ID 13. (This was part of EPA approval to transfer the EPA short-term BACT limits of 150 (14.4/Y) ppmv NO_x and 109.6 lb/MMscf CO for EU ID 13. Under Permit PSD-X80-09, EPA originally established BACT limits for NO_x, CO, PM, and opacity for EU ID 13, but subsequent permitting by the Department set more stringent limits on this emission unit for NO_x and CO. Because ADEC established more stringent limits that apply to EU ID 13 for NO_x and CO, EPA did not include limits for NO_x and CO in the August 29, 1997 amendment to permit PSD-X80-09. However, EPA decided that ton per year emission limits established by EPA for this turbine are still applicable, so the Permittee requested that the Department include the EPA annual BACT limits in O/C permit 166TVP01. The annual limits are now Title I limits for Unit 13 in a Department issued permit. As a result of this, there are no BACT limits for NO_x and CO for Unit 13 in the EPA permit.

All stationary source-specific requirements established in these previous permits are included in the renewed Title V operating permit as described in Table G.

Title I (Construction and Minor) Permits Issued After Operating/Construction Permit No. 166TVP01

Construction Permit No. AQ0166CPT04, originally issued on October 13, 2009, rescinded permit 0073-AC006 and incorporated all Title I emission limits previously found in multiple State Title I permits (i.e., the historical Title I permits described above) into a single permit. As such, permit AQ0166CPT04 is now the basis for all State Title I emissions and operating time limits that apply to the Central Compressor Plant as of the issue date for this renewed Title V permit. This permit also established owner-requested limits for fuel gas H₂S of 105 ppmv (instantaneous) and fuel oil sulfur of 0.11 percent (by weight) to protect the SO₂ AAAQS and increments. Revision 1 of Construction Permit No. AQ0166CPT04 was issued to the Central Compressor Plant on July 24, 2011 to correct errors in the original Title I permit. The stationary source-specific requirements established in this construction permit are included in the renewed operating permit.

Title V Operating Permit Application, Revisions and Renewal History

The Permittee submitted an application for the initial Central Compressor Plant Title V Operating Permit on November 19, 1997. The Department issued Operating/Construction Permit No. AQ0166TVP01 effective September 4, 2003. The Permittee requested an operating permit administrative amendment application with the Minor Permit No. AQ0166MSS01 on June 12, 2006. As the Permittee did not provide the supplemental information in support of the application by May 15, 2007 as set out in the Department's April 12, 2007 letter, the Department withdrew the minor permit application. The linked administrative operating permit amendment application was not processed.

The Permittee submitted an operating permit renewal application on March 3, 2008.

The Department received additional information on

- May 30, 2008 (electronic PTE calculations),
- March 30, 2009 (comments on the pre-public notice draft permit),
- October 13, 2009 (comments on the pre-public notice draft permit),
- March 1, 2010 (application amendment to include the Caterpillar 3208 black start engine (tag no. 2897TSTARTINGTURB) as the Permittee claimed that it was inadvertently omitted from the permit renewal application),
- March 11, 2011 (application amendment to include NESHAP Subpart ZZZZ requirements and revised relevant permit shields, and GHG calculations and revised criteria pollutant PTEs),
- August 6, 2012 (small engine reclassification for EU ID 25 from an emergency RICE to a non-emergency RICE, and
- November 14, 2012 (application amendment to withdraw EU ID 25 reclassification request; and to provide updated applicability determinations for 40 C.F.R. 63, Subparts ZZZZ, DDDDD, JJJJJ, and HH, 40 C.F.R. 60, Subpart OOOO, and 40 C.F.R. 68 (Risk Management)).

COMPLIANCE HISTORY

CCP has operated at its current location since 1974. Review of the permit files for this stationary source, which includes the past inspection reports, indicates activities generally operating in compliance with the operating permit.

The most recent completed Full Compliance Evaluation of November 3, 2011 noted **Non-Compliance**: The Department's evaluation discovered non-compliance with Operating Permit AQ0166TVP01, Condition 3 due to a smoking emergency backup low pressure flare system (EU ID 29 March 31-April 1 2010). The Permittee updated their operating procedures to ensure that the primary flare is in service during normal operations to prevent recurrence. The Department also noted an on-going violation of EU ID 2 short-term CO BACT emission limit. Upon closer review, the inspector and Permittee discovered to a material mistake in Construction Permit AQ0166CPT04, Condition 8.1(a) through which the short-term CO BACT limit was imposed in error on EU ID 2. As a result of corrective action, the stationary source has returned to **Compliance** with the permit conditions.

APPLICABLE REQUIREMENTS CARRIED FORWARD 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 (SIP) and any pre-construction permits issued by the EPA.

Alaska's SIP includes 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 effective January 18, 1997 or later; and
- Minor permits issued effective October 1, 2004 or later.

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 emission unit- or 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.

Title V Operating/Construction Permit No. AQ0166TVP01 included all construction authorizations issued through August 4, 2003, and was issued after January 18, 1997 (the effective date of the divided Title I/Title V permitting program). Permit No. AQ0166TVP01 revised and rescinded specific terms and conditions of Permit-to-Operate No. 9573-AA014 and carried forward applicable stationary source-specific terms and conditions.

Table G and Table H below list the emission unit and source-specific requirements carried forward from respective Permit-to-Operate No. 9573-AA014 and Operating/Construction Permit No. AQ0166TVP01 into Operating Permit No. AQ0166TVP02. The Tables document how and if the condition(s) carried forward was revised compared to the previous permit. Table G reflects only revisions to conditions carried forward from Permit-to-Operate No. 9573-AA014 into renewal permit AQ0166TVP02. The Statement of Basis to AQ0166TVP01, Table E, documents all other condition revisions between Permit-to-Operate No. 9573-AA014 and AQ0166TVP01. Other preconstruction permits that currently apply to the stationary source include EPA Permit No. PSD-X80-09 as amended August 29, 1997, and Air Quality Construction Permit No. AQ0166CPT04, Revision 1, issued July 24, 2011.

Table I below lists the requirements carried forward from permit AQ0166CPT04, Revision 1, into Operating Permit no. AQ0166TVP02 and documents if and how the conditions were carried forward and revised compared to the previously issued permit.

Table I does not include standard and general conditions.

Table G - Comparison of Previous Permit-to-Operate No. 9573-AA014 Conditions to Operating Permit No. AQ0166TVP02 Conditions⁶

Permit No. 9573-AA014 Condition Number	Description of Requirement	Permit No. AQ0166TVP02 Condition Number	How condition was revised
Exhibits C and D	Operating Time and Fuel Consumption Monitoring	13, 14	EU ID 31 was added to Conditions 13 and 14.

⁶ Except as provided, this table does not include revisions to standard and general conditions.

Table H - Comparison of Previous Operating/Construction Permit No. AQ0166TVP01 Conditions to Operating Permit No. AQ0166TVP02 Conditions⁷

Permit No. AQ0166TVP01 Condition Number	Description of Requirement	Permit No. AQ0166TVP02 Condition Number	How condition was revised
3.a	Visible emissions ... “more than three minutes in any one hour”	None	EPA approved changes to the SIP limits, effective 9/17/07
3a, 3c and 3d	Visible Emissions Standards	1, 1.1	In the new permit, the “6-minute” 20% visible emissions limit was consolidated into one condition statement, with a separate sub-condition of BACT 10% opacity limit carried forward from EPA permit PSD-X80-09 is unchanged.
6 through 11	Oxides of Nitrogen, Sulfur Dioxide, Carbon Monoxide, and Operating Time Limits Operating Time and Fuel Consumption Monitoring	10, 11, 12, 13, 14, and 15	No substantive changes were made, except EU ID 31 was added to the operating time and fuel consumption monitoring provisions of TVP02 permit Conditions 13 and 14.
13	NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report	21	Revised to make reporting consistent with the custom fuel monitoring schedule and specific to NSPS Subpart GG monitoring requirements.
21.1a	NSPS Subpart GG Fuel Gas Sulfur Monitoring and Reporting	30	Revised 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 ₂ S sampling method and the July 13, 1993 custom fuel monitoring schedule (with additional clarifications given in correspondence dated 8/20/93, 10/18/93, and 8/19/96).
21.1b, 21.3	NSPS Subpart GG Liquid Fuel Sulfur Monitoring and Reporting	30	Revised to include the NSPS Subpart GG Fuel Sulfur Monitoring and Reporting Requirements (as of July 8, 2004 revision) and to add a provision to allow use of an approved custom fuel monitoring schedule and plan.
20.1b and 20.1c	NSPS Subpart GG Initial Periodic Testing	30	Revised to remove the requirement to conduct initial periodic testing.

⁷ Except as provided, this table does not include revisions to standard and general conditions.

Permit No. AQ0166TVP01 Condition Number	Description of Requirement	Permit No. AQ0166TVP02 Condition Number	How condition was revised
None	NESHAP Subparts A and ZZZZ	31 - 35	Added the applicable requirements of 40 C.F.R. 63 Subpart ZZZZ and associated 40 C.F.R. 63 Subpart A requirements, which apply to EU IDs 24, 25 and 31.

Table I - Comparison of Construction Permit No. AQ0166CPT04, Rev. 1 Conditions to Operating Permit No. AQ0166TVP02 Conditions⁸

Permit No. AQ0166CPT04, Rev.1 Condition Number	Description of Requirement	Permit No. AQ0166TVP02 Condition Number	How condition was revised
7, 8, 9, 10, 13	Oxides of Nitrogen, Sulfur Dioxide, Carbon Monoxide, and Operating Time Limits	10, 11, 12, and 15	No substantive changes.
11 and 12	Owner-Requested Liquid Fuel Sulfur and Fuel Gas H ₂ S Limits	16 and 17	No substantive changes.

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 selected conditions that are not included in the permit for specific reasons.

- **Compliance Assurance Monitoring (40 C.F.R. 64):** The stationary source does not use a control device to achieve compliance with any emission limitation or standard and is, therefore, not subject to Compliance Assurance Monitoring as it does not satisfy the criteria of 40 C.F.R. 64.2(a)(2).
- **Risk Management Plan (40 C.F.R. 68):** The stationary source is not subject to the general duty clause under the Clean Air Act Section 112(r)(1) (40 C.F.R. 68.10) because CCP, a crude petroleum and natural gas production facility (per NAICS code 211111 which is relevant to 40 C.F.R. 68) does not process or store regulated flammable or toxic substances in excess of threshold quantities in a process as determined in 40 C.F.R. 68.115.

⁸ Except as provided, this table does not include revisions to standard and general conditions.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The State and Federal regulations for each condition are cited in Operating Permit No. AQ0166TVP02. This 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 5, Visible Emissions Standard and MR&R

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

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 1 through 29 and 31 are fuel-burning equipment.

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

Factual Basis: For EU IDs 1 through 29 and 31, Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1). For EU ID 13, the Permittee is additionally required to comply with a more restrictive visible emissions limit (as a surrogate for PM) established in PSD Permit No. PSD-X80-09, included herein as Condition 1.1. The Permittee shall not cause or allow the equipment to violate these standards/limits.

MR&R requirements are listed in Conditions 2 through 5 of the permit.

These conditions have been adopted into regulation as Standard Permit Condition IX (SPC IX). However, these conditions have been modified for this permit as follows:

- The Department added Condition 1.1 to include the federal BACT visible emission limits.
- The Department added a footnote in Condition 2.1, which states “Emergency operations are exempt from the visible emissions observations deadlines associated with emission unit “operation” under this condition”.
- In addition, the Permittee has opted not to use the Smoke/No Smoke plan, and requested that this option not be included in the permit, so the Department did not include this provision in the condition.
- 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 the footnote to Condition 5 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 assist gas rates for a minimum of 18 consecutive minutes. It does not include non-scheduled release operations, i.e., process upsets, emergency flaring, or de minimis venting of gas incidental to normal operations.”

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 that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department

concludes that the standard conditions as modified meet the requirements of 40 C.F.R. 71.6(a)(3).

The Permittee must establish by actual visual observations, which 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 standard 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.

Condition 5 was developed to provide a standardized version of flare monitoring that is not dependent upon the type or design of upstream equipment. It has been claimed that gas-fired flares normally burn without emitting visible emissions, but actual field data demonstrating this assumption is not available. However, gas-fired flares have been shown to smoke when a control device, i.e., a knockout drum, flare scrubber, gas or steam assist, or vapor recovery system malfunctions. Thus, the condition sets out a protocol to collect actual field data to determine compliance with the 20 percent visible emissions standard for flares.

Gas-Fired Fuel Burning Equipment:

Monitoring – The monitoring of gas-fired emission units for visible emissions compliance with the 20% standard is waived, i.e., no source testing will be required. The Department has found that natural gas-fired equipment inherently has low e visible emissions. Therefore, certification that an emission unit burns only natural gas ensures that the State visible emissions standard is met. However, the Department can request a source test for visible 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 Equipment:

Monitoring – The visible emissions shall be observed using Method 9 as detailed in Condition 2. The Permittee has opted not to use the Smoke/No Smoke plan, so this option was not included in the permit. For EU IDs 23 through 25 and 31, (if required, per Condition 1.3) the visible emissions shall be observed using the Method 9 Plan as detailed in Conditions 2 through 4. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping – The Permittee is required to record the results of all visible emission observations.

Reporting - The Permittee is required to report: 1) the results of visible emissions observations, 2) incidents when emissions in excess of the State visible emissions standard or the BACT opacity limit have been observed, and 3) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Flares:

Monitoring for flares (EU IDs 26 through 29) requires annual Method 9 observations of scheduled flaring events lasting at least 18 consecutive minutes. The Permittee must report the results of these observations to the Department, however, no observation or report is required if no event occurs during the reporting period.

Conditions 6 through 8, Particulate Matter (PM) Standard and MR&R

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

- EU IDs 1 through 29 and 31 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 6 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 7 and 8 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 that the emission unit is in continuous compliance with the State's emission standards for particulate matter.

Gas-Fired Fuel Burning Equipment:

For gas fired emission units, MR&R conditions are Standard Condition VIII adopted into regulation pursuant to AS 46.14.010(e). The Department determined that these standard conditions 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 permit conditions meet the requirements of 40 C.F.R. 71.6(a)(3).

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 Equipment:

For EU IDs 23 through 25, and 31 as long as the emission units do not operate more than the operating time threshold set in Condition 6.2 (100 hours (EU ID 23), 45 hours (EU ID 24), 295 hours (EU ID 25, per Condition 15) or 575 hours (EU ID 31)), monitoring shall consist of an annual compliance certification. Except for the 295 hour operating time limit in Condition 15 that applies to EU ID 25, the other operating time values that trigger monitoring are the thresholds at which actual emissions exceed the IEU emission rates based on AP-42 emissions factors.

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 any required PM source tests as set forth in Section 6.

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

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. This plan was approved as part of the September 13, 2007 SIP approval but not incorporated by reference. No recordkeeping or reporting is required.

Condition 9, Sulfur Compound Emissions and MR&R

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 through 29 and 31 are fuel-burning equipment.

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). Fuel sulfur testing will verify compliance with the SO₂ emission standard.

Liquid Fuels:

For oil fired fuel burning equipment (EU IDs 23 through 25 and 31), the MR&R conditions (Conditions 9.3 through 9.6) are Standard Permit Conditions (SPC) XI and XII adopted into regulation pursuant to AS 46.14.010(e), except SPC reference to a 0.5 percent sulfur content. That reference has been replaced with the source-specific liquid fuel sulfur content limit of 0.11 percent (Condition 16).

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

Gaseous Fuels:

Fuel gas sulfur is measured as hydrogen sulfide (H₂S) concentration in ppm by volume (ppmv). Fuel gas containing no more than 4000 ppmv H₂S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. Fuel gas with an H₂S concentration of even 10 percent of 4000 ppmv is currently not available at the North Slope of Alaska and is not projected to be available during the life of this permit.

For EU IDs 1 through 22 and 26 through 29, the Permittee must comply with the fuel gas sulfur restriction in Condition 17, as established in Permit AQ0166CPT04, Rev. 1; and the related monitoring and record keeping of Condition 17.1. For purposes of permit streamlining, the Department has required the same monitoring and record keeping requirements for purposes of demonstrating compliance with Conditions 9 and 17.

Condition 17.1 requires the Permittee to conduct a monthly analysis for the fuel gas H₂S content of the fuel using ASTM D 4810-88, ASTM D 4913-89, Gas Producer's Association method 2377-86, or an alternative analytical method approved by the Administrator. A federal audit of the Department's Operating Program found that an alternative method approval requires a permit modification or amendment. The Department has added a footnote stating that Department approval of an alternative method would require a permit modification or amendment. The fuel gas H₂S analysis required under this condition may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

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 the sulfur content analysis with the operating report.

Conditions 1.1 and 10 through 17, Pre-Construction Permit Requirements

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/construction 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. EPA approved the latest SIP effective September 13, 2007.

These conditions apply because these are BACT, operating permit, and construction permit limits that were carried forward from previous PSD permits for the GHX I project (Permit No. 8936-AA006), followed by the Turbine Control System Upgrade Project (Permit No. 0073-AC006), and Construction Permit No AQ0166CPT04 for fuel gas sulfur souring.

Factual Basis: BACT Conditions 1.1 and 10 apply because they were developed during PSD permitting of stationary source modifications by the EPA and the Department. These conditions require the Permittee to comply with the emission limits derived from prior BACT analyses. Condition 10 also carries forward PSD avoidance limits found in prior Department construction permits. The Permittee may not cause or allow the affected equipment to violate these limits.

Between 1979 and 1981, EPA Region 10 issued four PSD permits for Prudhoe Bay stationary sources. On August 29, 1997 EPA issued revisions to the four PSD permits. The primary revisions include identification of specific equipment and tag numbers, apportionment of either field-wide or stationary source-wide ton per year limits to unit specific limits, and updating emission limits based solely on AP-42 factors to values in the edition of AP-42 that were current in 1997.

As part of the EPA process the previous owner and operator demonstrated to Region 10 that on a ton per year basis an overall decrease in allowable emissions would occur under the permit revision.

The EPA revisions (including an owner-requested revision to incorporate annual NO_x and CO emission limits as required by EPA) have been incorporated into this Title V Operating Permit. For EU ID 13 monitoring, record keeping and reporting, the Permittee is required to calculate and report emission levels for NO_x, CO, and PM. Opacity monitoring for EU ID 13 is detailed in Condition 10.6.

ADEC established, during review of the GHX-I PSD project, short-term NO_x BACT emission limits in permit No. 9573-AA014 for EU IDs 1 through 16. The short-term NO_x limit for EU ID 2 has since been replaced by a more stringent subsequent PSD avoidance limit. Monitoring for short-term turbine NO_x compliance is cross referenced to that for Subpart GG turbines. The trigger for more frequent monitoring is triggered based upon a percentage of the BACT limit, not NSPS NO_x limit.

ADEC also established short-term CO BACT emission limit of 50 lb/MMSCF in Permit No. 8936-AA006 for EU IDs 1 through 16. Monitoring for turbine compliance is performing a source test on a representative turbine no less than once every five years. For EU IDs 1, and 3 through 13, the Department reviewed the 2006 emission source test on EU ID 4 which shows the unit complies with the emission standard, and EU ID 2 performance test showed CO emissions were 317 lb/MMSCF. Since EU ID 2 was retrofitted with lean head end liners, its emission characteristics are not representative of the other units, as the low NO_x performance comes with a CO emission penalty. Monitoring for heater compliance with the short-term NO_x and CO limits is maintenance and operation of EU ID 16 following good air pollution control practice and conducting a source test on EU ID 16 no less than once every five years.

Conditions 10 through 12 include MR&R to ensure compliance with BACT and PSD avoidance emission limitations including NO_x, CO, PM and opacity. Recurring testing was instituted to ensure compliance with the short term BACT limits during the relevant period

that represents the stationary source's compliance with the permit limits. Opacity monitoring was added for the BACT opacity limit, based on language found in the BPXA LPC Title V permit (AQ0272TVP02).

ADEC established short-term NO_x and annual CO PSD avoidance limits in construction permit No. 0073-AC006 upon EU ID 2 for low NO_x emission configuration. Condition 11 contains the periodic monitoring. Monitoring for compliance is identical to that for Subpart GG turbines for short-term NO_x and calculated from fuel usage using a load-specific emission factor for annual CO emissions.

Recordkeeping – Maintain records of monthly emission levels.

Reporting – Report compliance with annual emission limits for EU ID 2. Notify the Department when annual emission limits are exceeded.

For EU 13 annual emission limits contained in Table B the Permittee will use fuel consumption and/or hours of operation along with the emission factors contained in Section 15 to calculate monthly emissions and then use the monthly values to determine the 12-month period summation of emissions. The Department included requirements to conduct source testing to verify emission factors and visible emissions monitoring for units subject to the 10% opacity limit.

Conditions 13 through 15 are carried forward from Title V Operating Permit AQ0166TVP01 which in turn captures those requirements from the latest CCP Permit to Operate 9573-AA014. These conditions contain requirements to measure fuel consumption so that emission levels may be calculated (Condition 14), and to monitor operating hours for fuel-fired equipment, except flares (Conditions 13 and 15). Condition 15 also carries forward the operating hour limits for liquid fuel fired emergency equipment. An exceedance of the hours of operation limit is not a violation if the Department determines that the exceedance is due to an emergency. EU ID 31 was added to permit Conditions 13 (Hours of Operating Monitoring) and 14 (Fuel Consumption Monitoring).

Construction Permit No. AQ0166CPT04, Rev 1 (Conditions 11 and 12 therein) contained new fuel sulfur Owner Requested Limits carried forward to Title V Operating Permit No. AQ0166TVP02 in Conditions 16 and 17 (note: other unit specific emission limits in Construction Permit No. AQ0166CPT04, Rev 1 were noted in the permit as being carried-forward from prior permits and not new to the source). These conditions contain SO₂ and H₂S limits for air quality protection purposes such that CCP is compliant with the established sulfur dioxide ambient air quality standards and increments.

The conditions require periodic fuel gas and liquid fuel monitoring, record keeping and reporting. The Department has cross-referenced monitoring, record keeping and reporting provisions with the State sulfur compound provisions in Condition 9.

Condition 18 , 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 and fuel-burning equipment, regardless of size.

Factual Basis: The condition re-iterates the emission standards and requires compliance for insignificant emission units not otherwise listed in the permit. The Permittee may not cause or allow their equipment to violate these standards. The Permittee identified insignificant emission units in the permit application which need not appear in the permit. 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 these conditions.

Condition 18.4.a requires annual certification based on reasonable inquiry that the emission units did not exceed State emission standards during the previous year and did not emit any prohibited air pollution.

Conditions 19 through 26, NSPS Subpart A Requirements

Legal Basis: The Permittee must comply with the applicable New Source Performance Standard (NSPS) provisions incorporated by reference for specific industrial activities, as listed in 18 AAC 50.040⁹.

Most affected facilities subject to an NSPS are subject to Subpart A. At this stationary source, EU IDs 1 through 15 and 23 are subject to NSPS Subpart GG, and EU IDs 16 and 17 are subject to NSPS Subpart Dc and are, therefore, subject to Subpart A. EU ID 30 is subject to NSPS Subpart K, but it is not subject to any applicable requirements, as it stores a petroleum liquid with a Reid vapor pressure less than 1.0 psia. However, certain Subpart A general provisions apply to EU ID 30.

Conditions 19.1 through 19.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7(a)(1) and (3). However, the Permittee is subject to 40 C.F.R. 60.7(a)(1), (a)(3), and/or (a)(4) in the event of a new NSPS affected facility¹⁰ or in the event of a modification or reconstruction of an existing facility¹¹ into an affected facility. For example, a combustion turbine regulated as an affected facility under NSPS Subpart GG, is an existing facility under NSPS Subpart KKKK. As such, any of the existing turbines could be subject to the notification requirements if modified or reconstructed.

Condition 19.4 - The requirement to notify the EPA and the Department of any proposed replacement of components of an existing facility (40 C.F.R. 60.15) applies 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 20 - 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.

⁹ EPA has not delegated to the Department the authority to administer the NSPS program as of the issue date of this permit

¹⁰ *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 C.F.R. 60.2.

¹¹ *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a New Source Performance Standard (NSPS) is promulgated, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 C.F.R. 60.2.

Conditions 21 and 22 - NSPS excess emission reporting requirements and summary report form in 40 C.F.R. 60.7(c) & (d) are applicable to EU IDs 1 through 15 and 23. The Department has included in Attachment A of the Statement of Basis a copy of the Federal EEMSP summary report form for use by the Permittee. The Permittee obtained EPA approval for annual instead of semi-annual fuel gas sulfur reporting in a letter from Jim McCormick (EPA Region 10) to Arco Alaska, Inc. dated Oct. 18, 1993. Therefore, the EEMSP reports that address fuel gas H₂S monitoring for Subpart GG-affected turbines are required to be submitted at least annually for these units instead of semi-annually.

Condition 23 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU IDs 1 through 15. Therefore, the Permittee is not required to comply with 40 C.F.R. 60.8(b) through (e) for EU IDs 1 through 15. 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 the EPA.

Condition 24 - Good air pollution control practices in 40 C.F.R. 60.11(d) are applicable to all NSPS-affected facilities subject to Subpart A (EU IDs 1 through 17, 23, and 30).

Condition 25 - States that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS standards for EU IDs 1 through 15, and 23. Although this condition imposes no currently applicable requirement or emission limit, it is included in the permit to ensure that the stationary source is not inadvertently shielded from this requirement and is aware of the requirement.

Condition 26 - Concealment of emissions prohibitions in 40 C.F. R. 60.12 are applicable to EU IDs 1 through 15, and 23.

The flares (EU IDs 26 through 29) are not subject to 40 C.F. R. 60.18 because they are safety devices and not control devices. The flares do not receive any tank vapors from any NSPS regulated emission units.

Recordkeeping requirements in 40 C.F.R. 60.7(f) are applicable to all NSPS affected facilities. (Satisfied by Condition 62).

Factual Basis: General provisions of 40 C.F.R. 60, Subpart A apply to owners or operators who are subject to a relevant subpart under Part 60, except when otherwise specified in an applicable subpart or relevant standard. The intent of Subpart A is to eliminate the repetition of requirements applicable to all owners or operators affected by NSPS.

Condition 27, NSPS Subpart Dc Requirements

Legal Basis: NSPS Subpart Dc applies to steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989 and have maximum design heat input capacities of 29 MW (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). EU ID 16 was installed in 1990 and has a maximum design heat input capacity of 28.5 MMBtu/hr and is, therefore, subject to Subpart Dc. EU ID 17 was reconstructed beginning in July 2013 and has a maximum design heat input capacity of 37.5 MMBtu/hr and is, therefore, subject to Subpart Dc.

EU IDs 16 and 17 burn fuel gas. Therefore, the only requirements of this subpart that apply to EU IDs 16 and 17 are notification and fuel consumption monitoring and recordkeeping. The Permittee has already complied with the initial notification requirement.

Factual Basis: EU IDs 16 and 17 burn only fuel gas so they are not subject to the SO₂ standard in 40 C.F.R. 60.42c or the PM standard in 40 C.F.R. 60.43c. In accordance with 40 C.F.R. 60.48c(g)(1), the Permittee shall record the amounts of each fuel combusted during each operating day in EU IDs 16 and 17; or monitor according to an EPA approved custom fuel-monitoring schedule.

A 2006 amendment to Subpart Dc provides an alternative for keeping monthly instead of daily records of fuel combustion by affected units under certain circumstances. EU IDs 16 and 17 qualify for this alternative because, as stated in 40 C.F.R. 60.48c(g)(2), the units combust a fuel not subject to an emissions standard in Subpart Dc.

Condition 28, NSPS Subpart K Requirements

Legal Basis: NSPS Subpart K applies to storage vessels for petroleum liquids with storage capacity greater than 10,000 gallons that were built or modified after June 11, 1973 and prior to May 19, 1978. EU ID 30 was constructed during this time frame (1974), has a storage capacity of greater than 10,000 gallons, and stores a petroleum liquid.

Factual Basis: If the petroleum liquid stored in the tank has a true vapor pressure below 1.5 psia, then there are no equipment standards applicable to the tank. If the petroleum liquid stored in the tank has a true vapor pressure less than 1.0 psia, then there are no operational monitoring requirements.

Monitoring consists of an annual certification of compliance. If Condition 28 is met, then there are no applicable requirements other than those found in 40 C.F.R. 60, Subpart A.

Conditions 29 through 30, 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 °F, and 14.7 psi) equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), but less than or equal to 107.2 gigajoules per hour based on the lower heating value of the fuel fired and constructed, modified, or reconstructed on or after October 3, 1982. EU IDs 1 through 15 and 23 are subject to NSPS Subpart GG. EU ID 23 is exempt from the NSPS Subpart GG NO_x standard (see below).

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:

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

Where:

STD_{NO_x} = allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis)

- Y = manufacturer's maximum rated heat input (kJ/W-hr), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the affected stationary source. The value of Y shall not exceed 14.4 kJ/W-hr; and
- F = NO_x emissions allowance for fuel bound nitrogen, percent by volume, assumed to be zero for distillate fuel oil and North Slope gaseous fuels.

Based on the manufacturer's heat rating at manufacturer's rated peak load (8,750 Btu/Hp-hr for EU IDs 1 through 13, and 8,700 Btu/Hp-hr for EU IDs 14 and 15), and assuming fuel bound nitrogen of zero, the NO_x standard is 174 ppmvd corrected to 15 percent O₂ at ISO conditions for EU IDs 1 through 13 and 175 ppmvd corrected to 15 percent O₂ at ISO conditions for EU IDs 14 and 15.

Although the NO_x standard for EU IDs 1 and 3 through 13 is 174 ppmvd under Condition 29.1 and the NO_x standard for EU IDs 14 and 15 is 175 ppmvd under Condition 29.2, the Permittee is required to comply with the NO_x BACT limit of 150 ppmvd under Condition 10 for these units.

The fuel gas nitrogen monitoring requirement of 40 C.F.R. 60.334(b) has been waived for these affected facilities per correspondence from EPA dated August 19, 1996. Therefore, fuel gas nitrogen monitoring is not required by this permit condition for NSPS Subpart GG.

SO₂ Standard: The Permittee is required to comply with the following sulfur requirements for EU IDs 1 through 15 and 23 (turbines):

- (1) do not cause or allow SO₂ emission in excess of 0.015 percent by volume, at 15 percent O₂ 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.

The Permittee has elected to comply with the SO₂ standard by not exceeding the 0.8 percent by weight sulfur content in the fuel burned by the affected emission units.

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

Emergency gas turbine EU ID 23 is exempt from the NSPS Subpart GG NO_x standard, pursuant to 40 C.F.R. 60.332(g).

Conditions 29.3 through 29.5, NO_x Monitoring, Recordkeeping, and Reporting

Legal Basis: Periodic monitoring, recordkeeping, and reporting (MR&R) are included in Conditions 29.3 through 29.5 for all turbines that normally operate for greater than 400 hours in a 12 month period, including turbines not subject to NSPS Subpart GG emission standards. This additional monitoring is necessary to demonstrate whether the turbine emissions comply with the applicable BACT, ORL, and NSPS NO_x standards and is required under 40 C.F.R. 71.6(a)(3) as this 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 BACT, ORL, or Subpart GG NO_x emission limit will inherently comply with the BACT, ORL, and Subpart GG limits at all times and will never need additional testing. After a sufficient body of NO_x data is gathered under monitoring conditions for compliance with BACT, ORL, and 40 C.F.R. 60, Subpart GG limits, the Department may find that it has enough information to make such categorical determinations. In that event, the Department would revise the NO_x monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency. Fuel-bound nitrogen monitoring is clarified in the latest version of NSPS Subpart GG to be required only when the fuel-bound nitrogen content has been used as a basis for relaxing the NO_x emission standard of the subpart per 40 C.F.R. 60.332(a)(3) & (4) and §60.334(h)(2). Therefore, fuel-bound nitrogen monitoring is not required even without an EPA waiver.

These conditions do not include the initial NSPS performance test requirements as the Subpart A conditions cover these requirements. A turbine classified under this subpart as an affected facility is still subject to the initial performance test requirement of 40 C.F.R. 60.8, covered under the Subpart A related conditions.

The intent of this condition is to routinely demonstrate that turbines or groups of turbines comply with the emission standards on no less than a 5-year cycle. If the most recent performance test on a turbine showed NO_x emissions at less than or equal to 90 percent of each of the limits shown in Conditions 10 and/or 29, then periodic monitoring is required within a year of the effective date of the permit if a turbine normally operates more than 400 hours within a 12 month period, or within a year of exceeding 400 hours of operation within a 12-month period (testing trigger event) any time it has been more than 4 years since the latest performance test was completed.

For clarification, the Department added a 6 month cut-off date for triggering source testing within 1 year after the permit effective date in accordance with Condition 29.4.a(i)(A).

The condition identifies a six month evaluation period immediately prior to the permit effective date when Condition 29.3.a(ii) would require source testing within 1 year of the effective date. This ensures that a unit would not appear to be out of compliance with Condition 29.3.a(i) if it were to trigger Condition 29.3.a(i)(B).

If the most recent performance test showed operations at greater than 90 percent of any of the emissions listed in Conditions 10 and/or 29, then periodic monitoring source testing is required every year until two consecutive tests show emissions at less than or equal to 90 percent of the limit.

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

Subpart GG defines “emergency gas turbine¹²” 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, or Method 7E and either Method 3 or 3A, monitoring threshold of 400 hours per 12-month period. For turbines expected to operate less than 400 hours the Department has also added recordkeeping for hours of operation. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

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

In Condition 29.3.b(ii)(C)(4), the Department considers “fuel type” to mean, for liquid fuels, a type of fuel as described in an ASTM or similar fuel specification.

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

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

Conditions 30.1 through 30.4, SO₂ Monitoring, Recordkeeping, and Reporting

Legal Basis: These conditions require the Permittee to comply with NSPS Subpart GG SO₂ or fuel quality monitoring, recordkeeping, and reporting.

Factual Basis: Monitoring, recordkeeping, and reporting requirements for these conditions 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 SO₂ standard.

¹² *Emergency Gas Turbine* means any stationary gas turbine that operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation, as defined in 40 C.F.R. 60.331(e).

Monitoring: Condition 30.1 incorporates NSPS Subpart GG fuel sulfur monitoring requirements and the fuel gas monitoring requirements of the EPA approved alternative monitoring plan and schedule granted to the Permittee in accordance with 40 C.F.R. 60.334(i)(3). EPA approved the alternative fuel gas monitoring plan and schedule in correspondence dated July 13, 1993, August 20, 1993, October 18, 1993, August 19, 1996, and October 2, 1997. The approved alternative plans and schedules apply to EU IDs 1 through 15 since they commenced construction, reconstruction, or modification after October 3, 1977, but before July 8, 2004, per 40 C.F.R. 60.334(h)(4).

Per Condition 30.1.c, an affected facility for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule. The Permittee was granted an EPA-approved Custom Fuel Monitoring Schedule (7/13/93 with additional correspondence on 8/20/93, 10/18/93, and 8/19/96) and Alternate H₂S Sampling Method (10/2/97) allowing the Permittee to determine the sulfur content of the fuel gas at least monthly using ASTM D 4810-88, ASTM D 4913-89, Gas Producer's Association (GPA) Method 2377-86. The custom schedule also allows the Permittee to reduce the required frequency for reporting the fuel gas sulfur content to once per year, instead of the standard semi-annual requirement. Per 40 C.F.R. 60.334(i)(3)(i), a custom sulfur monitoring schedule under 60.334(i)(3)(ii)(A) is acceptable without prior Administrative approval

Per Conditions 30.1.b and 30.4.a(iii) and pursuant to 40 C.F.R. 60.334(h)(3) and §60.334(i), the Permittee may elect not to monitor or report the total sulfur content of the gaseous fuel combusted by affected emission units if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such monitoring and reporting.

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. 71.6(a)(3)(ii)(B). This requirement is stated in Condition 62.

Reporting: NSPS Subpart GG fuel sulfur standard reporting requirements are incorporated in the permit in Condition 30.4. Central Compressor Plant has an annual schedule for reporting fuel gas sulfur as per a custom fuel monitoring schedule (EPA Letter: 10/18/93).

For the purpose of the EEMSP reports and summary report required under 40 C.F.R. 60.7(c) and (d) and stated in Conditions 21 and 22, the Permittee is required to report as excess emissions any periods during which the sulfur content of the fuel being fired in the turbine exceeds 0.8 percent.

Subpart GG[40 C.F.R. 60.334(j)(5)] requires EEMSP reporting 30 days after the end of each 6-month period, but the alternative monitoring schedule approved for the stationary source reduced the required frequency of these reports to at least annually. As stated in Conditions 21 and 22, reports are to be submitted to the Department and EPA, and summarized in the operating report required under Condition 67. However, per Conditions 30.1.b and 30.4.a(iii), and pursuant to 40 C.F.R. 60.334(h)(3) and §60.334(i), the Permittee may elect not to monitor or report the total sulfur content of a gaseous fuel combusted by affected emission units for the purposes of demonstrating compliance with Subpart GG if the gaseous fuel is demonstrated to meet the definition of natural gas under 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such monitoring and reporting. However, for purposes of demonstrating compliance with the owner-requested ambient air quality protection limit pertaining to the gaseous fuel H₂S content found in Condition 17, monthly monitoring of the gaseous fuel H₂S content must be maintained regardless of any demonstration that the fuel meets the definition of natural gas under Subpart GG.

In Condition 30.4.b, the Department requires that a copy of the results from the monitoring requirements in Condition 30.1 be included in the operating report required under Condition 67. State excess emissions and permit deviation reports are to be submitted in accordance with Condition 30.4.c.

Condition 31, NESHAP Subpart A Requirements

Legal Basis: The Department has incorporated by reference the NESHAP requirements, for specific industrial activities, as listed in 18 AAC 50.040(c). EU IDs 24, 25 and 31 are subject to NESHAP Part 63, Subpart ZZZZ and, therefore, are subject to the provisions of Subpart A listed in Table 8 of Subpart ZZZZ.

Most affected facilities subject to a NESHAP requirement are subject to Subpart A. The Permittee shall comply with the applicable requirements of 40 C.F.R. 63, Subpart A as specified in the provisions for applicability of Subpart A in 40 C.F.R. 63, Subpart ZZZZ Table 8.

Factual Basis: This condition incorporates applicable 40 C.F.R. 63 requirements. The Permittee may not cause or allow violations of these requirements.

Conditions 32 through 35, NESHAP Subpart ZZZZ Requirements

Legal Basis: The provisions of 40 C.F.R. 63, Subpart ZZZZ apply to owners or operators of a stationary Reciprocating Internal Combustion Engine (RICE) at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. This stationary source is a major source of HAP emissions accessible by the Federal Aid Highway System (FAHS) subject to the provisions of NESHAP Subpart ZZZZ under 40 C.F.R. 63.6590(a)(1)(ii) for existing RICE (EU IDs 25 and 31) rated at less than or equal to 500 hp whose construction commenced before June 12, 2006 and under 40 C.F.R. 6590(a)(1)(i) for existing RICE (EU ID 24) rated at more than 500 hp whose construction commenced before December 19, 2003.

Factual Basis: Pursuant to 40 C.F.R. 63.6585, diesel-fired emergency generators EU IDs 24 and 25¹³ and Black Start Engine EU ID 31 are affected stationary RICEs subject to NESHAP Subpart ZZZZ. EU ID 24 is an emergency RICE with a rating greater than 500 Hp; EU ID 25 is an emergency RICE with a rating less than 300 Hp; and EU ID 31 is a Black Start Engine located at a major source of HAPs, so these engines are not subject to any numerical emission limitations under Subpart ZZZZ.

Per 40 C.F.R. 63.6590(b)(3)(iii), and §63.6600(c), Subpart ZZZZ does not apply to existing emergency stationary RICE with a site rating greater than 500 Hp located at a major source of HAP emissions. In addition, 40 C.F.R. 63.6640(e) and §63.6665 state that Table 8 of Subpart ZZZZ (i.e., 40 C.F.R. 63 Subpart A) does not apply to such engines. Therefore EU ID 24 at Central Compressor Plant is not subject to the requirements of Subpart ZZZZ or the requirements of Subpart A, except for 40 C.F.R. 63.6640(f)(2). For EU ID 24, the Permittee must comply with 40 C.F.R. 63.6640(f)(2) no later than May 3, 2013.

For EU IDs 25 and 31, the Permittee must comply with 40 C.F.R. 63, Subpart ZZZZ no later than May 3, 2013.

Per 40 C.F.R. 63.6645(a)(5), initial notification is not required for existing stationary emergency CI RICEs or existing stationary CI RICEs that are not subject to any numerical emission standards.

In accordance with 40 C.F.R. 63.6602, EU ID 25 and 31, must comply with the management practices in Table 2c of 40 C.F.R. 63. The Permittee must comply with the good air control practices of 40 C.F.R. 63.6625(e).

The Permittee must comply with the operational limitations for emergency generators for EU ID 25 under 40 C.F.R. 63.6640(f).

For EU ID 25, the Permittee must comply with the installation and maintenance requirements of 40 C.F.R. 63.6625(e) and (f), including the requirement to install a non-resettable hour meter, if one is not already installed. For EU IDs 25 and 31, the Permittee must comply with the maintenance requirements of 40 C.F.R. 63.6602(e) and Table 2c, Item 1. For EU ID 25, the Permittee must comply with the recordkeeping requirements of 40 C.F.R. 63.660(e) and (f) and 40 C.F.R. 63.6660.

The Permittee must report any deviations from the requirements in Conditions 32 through 35.

Condition 36, 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 (b)(2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

¹³ Permittee requested that EU ID 25 be classified as an emergency RICE (November 12, 2012 letter from BPXA to the Department).

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

Legal Basis: Condition 37.1 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 and engages in the recycling or disposal of certain refrigerants.

Conditions 37.2 and 37.3 prohibitions also apply to all stationary sources that use halon for extinguishing fires and as an inert gas to reduce explosion risk. The condition prohibits the Permittee from causing or allowing violations of these prohibitions. The Central Compressor Plant uses halon and is, therefore, subject to the Federal regulations contained in 40 C.F.R. 82.

Factual Basis: The regulations found in 40 C.F.R. 82 Subpart F regarding refrigerant recycling and disposal include adequate monitoring and reporting requirements. Since the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this Federal regulation. This condition also incorporates the applicable halon prohibitions from 40 C.F.R. 82, Subparts G and H. The Permittee may not cause or allow violations of these prohibitions.

Condition 38, NESHAPs Applicability Determinations

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

Factual Basis: The Permittee has conducted an analysis of the stationary source and determined that it is a major HAPs stationary source based on emissions. This condition requires the Permittee to keep and make available to the Department copies of the major stationary source determination.

Conditions 39 through 41, 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 42, 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. As CCP is part of a greater Title V Stationary source consisting of both CCP and the Central Gas Facility, the permit language is changed slightly from that of the standard permit condition.

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 43 through 44, 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). The Department determined that these standard conditions adequately meet the requirements of AS 46.14.250. As CCP is part of a greater Title V Stationary source consisting of both CCP and the Central Gas Facility (CGF), and the Department is issuing a separate permit to CGF and to CCP, therefore, the Department changed the permit language slightly from that of the standard permit condition so that referenced fees under each permit represent permitted emissions from each of CGF and from CCP. No other 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 permit conditions as edited 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 assessable emissions are potential or projected emissions of each air pollutant authorized by the permit (AS 46.14.250(h)(1)).

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 emissions based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emissions are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match.

Condition 45, 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 1 through 17, 23, and 30 as well as EU IDs 24, 25 and 31 after the compliance date in Condition 32.

Factual Basis: The Department adopted this condition under 18 AAC 50.346(b) as Standard 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 IDs 25 and 31 are subject to this condition only until the applicable compliance date as set forth in Condition 32” because on the compliance date in Condition 32, EU IDs 25 and 31 which are subject to NESHAPs Subpart ZZZZ will no longer be subject to this condition (as these units are subject to Federal emission standards) and will instead be required to comply with Condition 32. Records kept in accordance with Condition 45.2 for units previously subject to GAPCP need to be maintained for 5 years in accordance with Condition 62 even if a unit is no longer subject to this condition.

Beyond as noted above, the Department determined that this standard permit 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 permit 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 46, 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 47, 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 may engage in bulk material handling, transporting, or storing; or may 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.

Condition 48, Stack Injection

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

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

Condition 49, 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 emission limitations should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Department adopted this standard permit condition into 18 AAC 50.346(a) pursuant to AS 46.14.010(e). The Department determined that this condition adequately meets 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.

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 a summary of the investigation and corrective actions undertaken for these complaints. The Permittee is also required to submit copies of these records upon request of the Department.

Condition 50, 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 66. Excess emission reporting under Condition 66 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 66.

Condition 51, Open Burning

Legal Basis: The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the stationary source. This condition ensures compliance with the applicable requirement in 18 AAC 50.065. 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: No specific monitoring is required for this condition. Condition 51.1 requires the Permittee to keep "sufficient records" to demonstrate compliance with the standards for conducting open burning, but does not specify what these records should contain.

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 68.

Condition 52, 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 effective November 30, 2001, as updated effective November 9, 2008.

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 53 through 55, 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 by this permit to conduct source tests. The Permittee is required to conduct source tests in the manner set out in Conditions 53 through 55.

Factual Basis: These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with Conditions 53 through 55 consists of the test reports required by Condition 60.

Condition 56, 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), 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 57 through 60, 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 by this permit to conduct source tests.

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

Condition 61, 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 50.055.

Factual Basis: This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 62, 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 63, 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 the federally approved State operating permit program effective November 30, 2001, as updated effective November 9, 2008.

Factual Basis: This standard condition is required in all operating permits under 18 AAC 50.345(j). 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, although excess emission reports must be submitted more frequently than the operating report. This condition supplements the reporting requirements of this permit.

Condition 64, 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 65, 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) under the Federally-approved State operating permit program effective November 30, 2001, as updated effective November 9, 2008.

Factual Basis: Monitoring consists of receipt of the requested information.

Condition 66, 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 permit 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 that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard permit condition meets the requirements of 40 C.F.R. 71.6(a)(3).

Section 13, Notification Form

The notification form contained in Standard Permit Condition IV meets the requirements of Chapter 50, Air Quality Control.

There have 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 also 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 67, 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 Standard Permit Condition VII as revised on September 27, 2010. For reporting, MR&R conditions are Standard Permit Condition VII adopted into regulation pursuant to AS 46.14.010(e). The Department has made a modification to Standard Permit Condition VII as incorporated into this permit by allowing quarterly reporting as requested by the Permittee instead of the standard semi-annual operating reports and a change on the due date for submittal from 30 days to 45 days following the last day of the reporting period. These changes satisfy the requirement for a “stationary source specific” change to the Standard Permit Condition. The Department has determined that the condition included in this permit meets the requirements of 40 C.F.R. 71.6(a)(3).

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 for each of the effective permits during the reporting period. 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 68, 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 68.2 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. Electronic submission meets the requirements of 18 AAC 50 and allows for more efficient distribution of the certification report to staff in other locations.

Condition 69, NSPS and NESHAP Reports

Legal Basis: The Permittee is required to provide the Department with a copy of each report submitted to EPA 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 70, Emission Inventory Reporting

Legal Basis: This condition requires the Permittee to submit emissions data to the State to satisfy the Federal requirement that applies to the State to submit emission inventory data from point sources as required under 40 C.F.R. 51.321 (6/10/02). The requirement applies to sources defined as point sources in 40 C.F.R. 51.50. The State must report all data elements in Table 2A of Appendix A to Subpart A of 40 C.F.R. 51 to EPA (73 FR 76556).

Factual Basis: The Department has incorporated Standard Permit Conditions XV and XVI as adopted by regulation on September 27, 2010. The Department adopted these conditions under 18 AAC 50.346(b) pursuant to AS 46.14.010(e). The emission inventory data is due to EPA 12 months after the end of the reporting year (40 C.F.R. 51.30(a)(1) and (b)(1), 12/17/08). A due date of March 31 follows shortly after sources report 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 C.F.R. 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.

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 C.F.R. 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 C.F.R. 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.

The condition requires reporting of all emissions from point sources as defined in 40 C.F.R. 51.20(b) which means large, stationary (nonmobile), identifiable sources of emissions that release pollutants into the atmosphere. Pursuant to the definition, non-mobile sources (defined as: mobile source means a motor vehicle, nonroad engine or nonroad vehicle) excludes emissions from non-road engines and EU categories comprised of temporary sources that may be part of mobile equipment (defined as: A nonroad vehicle is a vehicle that is run by a nonroad engine and that is not a motor vehicle or a vehicle used solely for competition) such as drilling rigs and their associated non-road engines, temporary heaters and boilers

Condition 71, 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 as allowed under 40 C.F.R. 71.10(d)(1).

Conditions 72 through 74, Permit Changes and Revisions Requirements

Legal Basis: The Permittee is obligated to notify the Department and EPA of certain off-permit source changes and operational changes under 18 AAC 50.326(j)(4). 40 C.F.R. 71.6(a)(8), (12), and (13) incorporated by reference under 18 AAC 50.040(j) require 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 conditions are 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 40 C.F.R. 71.6(a)(13)(iii); therefore, language addressing these provisions has not been included in this permit as part of Condition 72.

Condition 75, 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 under 18 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 the stationary source as listed in this condition. As stated in 40 C.F.R. 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 40 C.F.R. 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 C.F.R. 71.5(c) and 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 76 through 80, General Compliance Requirements and Schedule

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.326(j)(3) and 40 C.F.R. 71.6(c). The Permittee is required to comply with these standard permit conditions set out in 18 AAC 50.345 and 40 C.F.R. 71.6(c) 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 general compliance conditions are required for all operating permits.

Conditions 81 through 82, Permit Shield

Legal Basis: These conditions ensure compliance with the applicable requirements 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 these conditions under the Federally approved State operating permit program effective November 30, 2001, as updated effective November 9, 2008.

Factual Basis: Table D of Operating Permit No. AQ0166TVP02 shows the permit shields that the Department granted to the Permittee. The Department based the determinations on the permit application, past operating permit, Title I permits and inspection reports. Should any of the shielded requirements become applicable during the permit term, the Permittee is required to take necessary steps to comply with all applicable requirements in a timely manner.

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*): SO₂ NO_x TRS H₂S 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 emission unit operating time in reporting period ¹: _____

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