

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

**PN Draft - September 29, 2009  
Marathon Oil Company  
Kenai Gas Field Pad 34-31**

**STATEMENT OF BASIS  
of the terms and conditions for  
Permit No. AQ0087TVP02**

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## INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0087TVP02.

The Kenai Gas Field Pad 34-31 is a crude oil and gas production source that provides natural gas for industrial and domestic use. The stationary source is owned and operated by Marathon Oil Company. Marathon Oil Company is the Permittee for the stationary source's operating permit.

## STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0087TVP02 contains information on the stationary source as provided in the Title V permit application.

The stationary source is owned and operated by Marathon Oil Company, and Marathon Oil Company is the Permittee for the stationary source's operating permit. The SIC code for this stationary source is 1311 Crude Petroleum & Natural Gas.

The stationary source Kenai Gas Field Pad 34-31 contains two turbines, one emergency generator, a portable rig boiler, a portable rig heater, two glycol dehydrator vents and a temporary well test flare.

## 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 CFR 71.5(c)(3).

The emission units at the Kenai Gas Field Pad 34-31 that are classified and have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0087TVP02.

Table A of Operating Permit No. AQ0087TVP02 contains information on the emission units regulated by this permit as provided in the application. The table is provided for informational and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit.

## EMISSIONS

A summary of the potential to emit (PTE)<sup>1</sup> and assessable PTE as indicated in the application from the Kenai Gas Field Pad 34-31 is shown in the table below.

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<sup>1</sup> *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.*

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

Pollutant	NO <sub>x</sub>	CO	PM-10	SO <sub>2</sub>	VOC	HAPs	Total
PTE*	737	352	38	97	58	10.4	1282
Drill Rig**	510	112	30	63	34		749
Assessable PTE	226	240	8	34	24	Included with VOCs	532

Notes:

HAPs are not included in the total to avoid double counting

\* Total emissions including Drill Rig

\*\*NRE emissions associated with the Glacier Drill Rig.

The assessable PTE listed under Condition 26.1 is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit quantities greater than 10 TPY. The emissions listed in Table D are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit to the stationary source.

The potential emissions listed in Table D were submitted and certified by the Marathon Oil Company in the letter from John A. Barnes on June 12, 2007 and are based on AP-42 emission factors for criteria pollutants and GRI-GLYCalc model output for HAPs. The emissions from the NREs associated with the Glacier Drill Rig have been included in the stationary source's PTE. The NRE emissions are not included in the assessable PTE because there are no applicable requirements contained in Operating Permit No. AQ0087TVP02.

The assessable potential to emit is simply those regulated air contaminants for which the source has the potential to emit quantities greater than 10 tons per year, excluding HAPs, which is included with VOCs. The PTE for the Kenai Gas Field Pad 34-31 includes the Owner Requested Limits on the fuel gas burned in EU ID 16 and operating hour limits for EU IDs 1 & 2 to avoid PSD classification as a major source.

**BASIS FOR REQUIRING AN OPERATING PERMIT**

In accordance with AS 46.14.130(b), an owner or operator of a Title V source<sup>2</sup> must obtain a Title V permit consistent with 40 C.F.R. Part 71, as adopted by reference in 18 AAC 50.040.

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

- (1) A major source;
- (2) A stationary source including an area source subject to federal new source performance standards under Section 111 of the Clean Air Act or or national emission standards under Section 112 of the Clean Air Act;
- (3) Another stationary source designated by the federal administrator by regulation.

This stationary source requires an operating permit because it is classified under 18 AAC 50.326(a) and 40 C.F.R. 71.3(a) as

<sup>2</sup> "Title V source" means a stationary source classified as needing a permit under AS 14.130(b) [ref. 18 AAC 50.990(111)].

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

## **AIR QUALITY PERMITS**

### **Previous Air Quality Permit to Operate**

No previous air quality control permit-to-operate exists for this facility. All stationary source-specific requirements established in this permit are included in the new operating permit as described in Table E - Comparison of Previous AQ0087TVP01 Conditions to Operating Permit No. AQ0087TVP02 Conditions Table E.

### **Title I (Construction and Minor) Permits**

The Department issued no construction permit for this stationary source after January 17, 1997 (the effective date of the new divided operating and construction-permitting program). The Department issued no minor permit for this stationary source after September 30, 2004.

### **Title V Operating Permit Application, Revisions and Renewal History**

The Marathon Oil Company submitted the original Title V application on October 14, 1997 and application amendments on October 12, 2000 and July 3, 2002.

The Marathon Oil Company submitted a timely permit renewal application on December 13, 2006.

Additional information (PTE Calculations) was received on June 12, 2007.

## **COMPLIANCE HISTORY**

Review of the permit files for this source, which includes the past inspection reports, indicate a source which is generally in compliance with its operating permit. Marathon made changes in 2000 and 2002 none of which triggered preconstruction review under ADEC's construction permit program.

### **APPLICABLE REQUIREMENTS FROM PRE-CONSTRUCTION PERMITS**

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

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

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

Marathon did not have a Permit to Operate. The initial operating permit was issued in 2003. There were not any construction permits or a Title I permit that would be incorporated into 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.

### OPERATING PERMIT REQUIREMENTS

Table E below lists the requirements carried over from Title V permit No. AQ0087TVP01 into Operating Permit No. AQ0087TVP02 to ensure compliance with the applicable requirements.

**Table E - Comparison of Previous AQ0087TVP01 Conditions to Operating Permit No. AQ0087TVP02 Conditions<sup>3</sup>**

Permit No. AQ0087TVP01 Condition number	Description of Requirement	Permit No. AQ0087TVP02 Condition Number	How condition was revised
Table 1 Conditions 3-7	Emergency Generator EU ID 6 listed as significant source	Table A No Conditions	Deleted from Table A, EU ID 6 is an insignificant emitting unit based upon EPA's guidance regarding calculating PTE from emergency generators.
12	Corrected exhaust gas concentration of NO <sub>x</sub> in ppm from EU IDs 1 and 2 not to exceed 150 ppmvd when firing natural gas.	19	Changed the corrected exhaust gas concentration of NO <sub>x</sub> in ppm to 162 ppmvd, to reflect the turbine specific heat rate of 9,435 Btu/hp-hr per the equation under 40 CFR 60.332(a)(2).
14-17	40 C.F.R. 60 Subpart GG sulfur content and monitoring requirements	20	Revisions to 40 C.F.R. 60.334(h)(3) removes the sulfur monitoring requirement if natural gas meeting the definition under 40 C.F.R. 60.331(u) is fired in EU IDs 1 and 2
18 Table 2	Combined annual ORL of 16,220 hours of operation for EU IDs 1 and 2	11 Table B	Changed ORL to 15,500 hours combined.
18 Table 2	EU ID 6, ORL of 200 hours per year.	Deleted	Deleted ORL from Table B, EU ID 6 is an insignificant emitting unit based upon EPA's guidance regarding calculating PTE from emergency generators.
18.1	Monitor fuel use.	Deleted	EU IDs 1 and 2 are subject to an ORL limiting annual hours of operation, not a fuel use limitation.
18.6	Reporting of gas consumption of EU ID 16.	11.5	Changed wording of Condition to reflect fuel consumption rate limit not fuel volume limit.

<sup>3</sup> This table does not include all standard and general conditions.

Permit No. AQ0087TVP01 Condition number	Description of Requirement	Permit No. AQ0087TVP02 Condition Number	How condition was revised
NA	Beginning January 5, 2009, record per-unit actual natural gas flow rate for EU IDs 18 and 19. The actual annual average natural gas flow rates are not to exceed 3.0 MMdscf per unit.	21	New Condition, revised 40 CFR 63.760(f)(5)(ii), 63.764(e)(1)(ii), 63.772(b)(2)(i), and 63.774(d)(1)(i)
59 Table 3	40 C.F.R. 60.334	69 Table C	<p>Changed to the following:</p> <p>60.334(a) and (b) apply only to stationary combustion turbines that use water injection for NOx control.</p> <p>60.334(c)-(g) are optional monitoring methods that Marathon does not conduct.</p> <p>60.334(h)(1) The natural gas fired by Source ID's 1 and 2 meets the definition of natural gas as defined by 40 CFR 60.331(u), therefore sulfur monitoring is not required.</p> <p>60.334(h)(2) Marathon does not claim an allowance for bound nitrogen, therefore nitrogen monitoring is not required.</p>
NA	<p>40 C.F.R. 63 Subpart HH</p> <p>63.762 Startups, shutdowns, and malfunctions</p> <p>63.764 General Standards [(all except 63.764(e)(1)(i))]</p> <p>63.765 Glycol dehydration unit process vent standards</p> <p>63.766 Storage vessel standards</p> <p>63.769 Equipment leak standards</p> <p>63.771 Control equipment requirements</p> <p>63.772 Test methods and compliance demonstrations [all except 63.772(b)(1)(ii)]</p> <p>63.773 Inspections and monitoring requirements</p> <p>63.774 Recordkeeping requirements [all except 63.774(d)(1)(i)]</p> <p>63.775 Reporting requirements</p>	69 Table C	<p>Added the following:</p> <p>Source is not a major source of HAPs as defined under any Subpart of 40 CFR 63. Source is not subject to the Subpart HH area source control requirements or ongoing MR&amp;R because source is not located within an urban area as defined in Subpart HH and per-dehydrator actual annual average natural gas flow rates are less than 3.0 MMscfd.</p> <p>Section III.C of the rule preamble indicates the non-applicability of 63.762. The non-applicability of 63.764 is indicated under 63.764(e)(1). The non-applicability of 63.765 is indicated under 63.765(a). 63.766 and 63.773 are not applicable because no control of emissions is required by Subpart HH. The non-applicability of 63.774 is indicated under 63.774(b) and 63.774(d)(1). 63.775(b) only applies to major sources. The non-applicability of 63.775(c) and 63.775(d) are indicated under 63.775(c)(8). 63.775(e) applies only to major sources or area sources within urban areas as defined under subpart HH.</p>

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<b>Permit No. AQ0087TVP01 Condition number</b>	<b>Description of Requirement</b>	<b>Permit No. AQ0087TVP02 Condition Number</b>	<b>How condition was revised</b>
67-69	Particulate matter monitoring for diesel engines	Deleted	Not required with the removal of EU ID 6 as a significant EU.

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## STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

**The state and federal regulations for each condition are cited in Operating Permit No. AQ0087TVP02. The Statement of Basis provides the legal and factual basis for each term and condition as set forth in 40 C.F.R. 71.6(a)(1)(i).**

### Conditions 1 - 5, Visible Emissions Standard and MR&R

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

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 1, 2 and 14-16 are fuel burning equipment or industrial processes.

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

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

Visible emission monitoring, record-keeping and reporting is the same for both applicable requirements. The Permittee must monitor, record-keep and report emissions in accordance with Conditions 2 - 5 of the permit.

Currently the permittee's renewal application lists EU IDs 18 & 19 as "not in service" so additional MR&R was not warranted. Should the EUs be returned to operation, a permit revision to add sufficient MR&R would be required.

Conditions 2 - 4 MR&R conditions are standard conditions adopted into regulation pursuant to AS 46.14.010(e). One of these conditions has been modified in this permit. For liquid fuels (Standard Condition IX), the Department removed an error that inadvertently specified three sets of 18 minute observations when conducting annual observations. The Department also added a provision that clarifies the option to continue an established monitoring frequency for renewal permits. The Department adopted these changes into a revised standard condition on November 9, 2008.

Beyond as noted above, the Department has previously determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No emission unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions meet the requirements of 40 C.F.R. 71.6(a)(3). A modification was added to clarify for the permittee that intermittently operated equipment did not need to be started solely for the purposes of taking VE observations and that such equipment could be observed the next time it operated. Tracking was added for the hours of operation of such intermittently operated equipment.

The Department developed Condition 5 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 opacity standard for flares.

A Department analysis of industry flaring operations indicates that 49 percent of the gas flared (by volume) is for pilot/purge, 25 percent is for flaring less than one hour, and 26 percent is for flaring that lasts more than one hour. Pilot/purge flaring constitutes half of all flaring by volume and is continuous in nature and can be observed at any time. This type of flaring has not caused violations of the opacity standard in the past and can be checked at any time by agency inspectors. The remaining half of the flaring volume is split evenly between less than and greater than one-hour duration. Therefore, the monitoring scheme in this condition addresses the half of the non-continuous flaring operations that are scheduled and for which a certified observer can reasonably be located onsite.

Since it is impractical to require a stationary source to have a certified Method-9 opacity reader on site for unpredictable emergency flaring, the monitoring protocol requires Method-9 readings only during scheduled flare events. Scheduled events such as those generated by maintenance activities and well testing of greater than one-hour in duration will be observed. These one-hour events are currently quantified and reported to the Alaska Oil and Gas Conservation Commission for other reasons and thus provides a confirming information record of the occurrence of these events. Only those events as defined in the condition need to be monitored. If no events meeting this definition occur during the life of the permit then no monitoring is required. The Department requires a flare event each 12-months to be monitored in order to monitor flare performance during the life of the permit, not to have all flare events grouped within a short time frame which does not indicate sustained performance of the control device.

Since only flaring that is scheduled and exceeds one hour is required to be observed, operators will have time to provide certified Method-9 readers onsite. Most oil and gas production plants in Alaska are located at remote sites, so it is not reasonable to self-monitor all or even a large sample of the flaring that occurs. Data collected from planned events will help the Department refine this monitoring scheme during future permit cycles. Process upsets and emergency events that may or may not exceed one hour occur randomly and do not lend themselves easily to periodic monitoring. At this time, the Department will rely on stationary source excess emission reports, citizen complaints, and agency inspections for information concerning these short term and emergency events.

#### **Gas-Fired Fuel Burning equipment:**

Monitoring – The monitoring of gas-fired sources for visible emissions 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 – As provided for in Condition 1, the Permittee must annually certify that only gaseous fuels are used in the equipment.

#### **Liquid Fired Fuel Burning Equipment:**

Monitoring – The visible emissions may be observed by either Method-9 or the Smoke/No Smoke plans as detailed in Condition 2. 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 and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report: 1) emissions in excess of the federal and the state visible emissions standard and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the stationary source operating report.

**Flares:**

Monitoring for flares (EU ID 16) requires Method-9 observations of scheduled flaring events lasting more than one hour. The Permittee must report the results of these observations to the Department.

The Department developed Condition 5 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 opacity standard for flares.

A Department analysis of industry flaring operations indicates that 49 percent of the gas flared (by volume) is for pilot/purge, 25 percent is for flaring less than one hour, and 26 percent is for flaring that lasts more than one hour. Pilot/purge flaring constitutes half of all flaring by volume and is continuous in nature and can be observed at any time. This type of flaring has not caused violations of the opacity standard in the past and can be checked at any time by agency inspectors. The remaining half of the flaring volume is split evenly between less than and greater than one-hour duration. Therefore, the monitoring scheme in this condition addresses the half of the non-continuous flaring operations that are scheduled and for which a certified observer can reasonably be located onsite.

Since it is impractical to require a stationary source to have a certified Method-9 opacity reader on site for unpredictable emergency flaring, the monitoring protocol requires Method-9 readings only during scheduled flare events. Scheduled events such as those generated by maintenance activities and well testing of greater than one-hour in duration will be observed. These one-hour events are currently quantified and reported to the Alaska Oil and Gas Conservation Commission for other reasons and thus provides a confirming information record of the occurrence of these events. Only those events as defined in the condition need to be monitored. The Department requires a flare event each 12-months to be monitored in order to monitor flare performance during the life of the permit, not to have all flare events grouped within a short time-frame which does not indicate sustained performance of the control device.

Since only flaring that is scheduled and exceeds one hour is required to be observed, operators will have time to provide certified Method-9 readers onsite. Most oil and gas production plants in Alaska are located at remote sites, so it is not reasonable to self-monitor all or even a large sample of the flaring that occurs. Data collected from planned events will

help the Department refine this monitoring scheme during future permit cycles. Process upsets and emergency events that may or may not exceed one hour occur randomly and do not lend themselves easily to periodic monitoring. At this time, the Department will rely on stationary source excess emission reports, citizen complaints, and agency inspections for information concerning these short term and emergency events. The Permittee must report the results of these observations to the Department.

### **Conditions 6 and 7 - 9, Particulate Matter (PM) Standard**

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

- EU IDs 1, 2, and 14-16 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 - 9 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:**

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

Although periodic PM monitoring of gas-fired units is waived, the Department has the discretion to request a source test for PM emissions from any fuel burning equipment under 18 AAC 50.220(a) and 345(l).

#### **Liquid Fired:**

For liquid fuel units the MR&R conditions are Standard Condition IX adopted into regulation pursuant to AS 46.14.010(d). The Department determined that these standard conditions adequately meet the requirements of 40 CFR 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 conditions meet the requirements of 40 CFR 71.6(a)(3).

#### **Flares:**

PM 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 Air Quality Control Plan as adopted in November 1984. This plan was approved as part of the September 13, 2007 State Implementation Plan approval but not incorporated by reference. No recordkeeping or reporting is required.

### Condition 10, Sulfur Compound Emissions

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

- EU IDs 1, 2 and 14-16 are fuel-burning equipment and industrial processes.

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

**Factual basis:** The condition requires the Permittee to comply with the sulfur compound emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow the affected equipment to violate this standard.

Sulfur dioxide comes from the oxidation of sulfur in the fuel (e.g. coal, natural gas, fuel oils).

**Liquid Fuels:** For oil fired fuel burning equipment the MR&R conditions are standard condition XI and XII adopted into regulation pursuant to AS 46.14.010(d). These conditions have been modified in this permit as follows. The Department corrected Condition 10.2 to replace the text “...method listed in 18 AAC 50.035 or an alternative method approved by the Department” with “...method listed in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1)”. The text “...or an alternative method approved by the Department” was discarded during the Revised Action Plan submitted to EPA on July 15, 2007, as a result of the EPA Audit of the September 2006 Title V Program Review. This text is not to be used in subsequent permits since it allows a Permittee to bypass the public process for changing monitoring requirements by submitting off-record requests to change monitoring methods.

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

**Gaseous fuels:** Fuel sulfur testing will verify compliance with SO<sub>2</sub> emission standard. Mercaptans are a concentrated thiol molecule (e.g. ethanethiol) composed of hydrogen and sulfur used to detect the presence of natural gas by its strong odor as in t-butyl-mercaptan. Basically, it is the mercaptan that allows the presence of gas to be detected by its odor, so it is naturally used as a leak detectant. However, by that same token it significantly raises the sulfur content of the natural gas and should be accounted for in determining compliance with the State sulfur compound emissions standard. The Department has therefore revised the basic MR&R requirements to monitor the total sulfur quantity, instead of H<sub>2</sub>S concentration,

in the natural gas fuel due to the presence of mercaptans in the gas supply which raise the sulfur concentration.

Condition 10.5b requires the Permittee to conduct a semiannual analysis for the fuel gas sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or a listed method approved in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

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

### **Condition 11, PSD Avoidance Limits**

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

**Factual Basis:** The Permittee requested the limits in Condition 11 in order to avoid classification as a Prevention of Significant Deterioration Major Source by limiting the source emissions of carbon monoxide and nitrogen oxides to no more than 249 tons in any consecutive twelve-month. The permittee has a limit on the combined annual hours of operations for EU IDs 1 and 2 to 15,500, and a limit on EU ID 16 of 100 MMscf of gas combusted per year.

### **Conditions 12, Insignificant Emission Units**

**Legal Basis:** The Permittee is required to meet state emission standards set out in 18 AAC 50.050 and 50.055 for all industrial processes fuel-burning equipment, and incinerators regardless of size.

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

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

Condition 12.4a requires certification that the units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution.

### **Conditions 13 - 18, NSPS Subpart A Requirements**

**Legal Basis** The Permittee must comply with those New Source Performance Standard (NSPS) provisions incorporated by reference the NSPS effective July 1, 2007, for specific industrial activities, as listed in 18 AAC 50.040<sup>4</sup>.

Most (with the exception of some storage tanks) affected facilities subject to an NSPS are subject to Subpart A. At this stationary source, EU IDs 1 and 2 are subject to NSPS Subpart GG and therefore subject to Subpart A.

Condition 13.1 through 13.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU IDs 1 and 2. However, the Permittee is still subject to these requirements in the event of a new NSPS affected source or in the event of a modification or reconstruction of an existing source into an affected source.

Condition 13.4 through 13.6 - The requirements to notify the EPA and the Department of any proposed replacement of an affected source (40 C.F.R. 60.15) applies to EU IDs 1 and 2 in the event of a proposed replacement of these affected facilities.

Condition 13.7- The requirements to notify the EPA and the Department of any proposed replacement of components of an existing facility (40 C.F.R. 60.15) apply in the event that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

Condition 14 - 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.

Condition 15 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU IDs 1 and 2. However additional performance test requirements may be applicable to the affected facilities if the Permittee is required to conduct performance tests under the periodic monitoring requirements in Condition 19.2.

Condition 16 - Good air pollution control practices in 40 C.F.R. 60.11 are applicable to all NSPS affected facilities subject to Subpart A (EU IDs 1 and 2).

Condition 17 - states that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS Standards for EU IDs 1 and 2.

Condition 18 - Concealment of emissions prohibitions in 40 C.F. R. 60.12 are applicable to EU IDs 1 and 2.

The Flare is not subject to 40 C.F. R. 60.18 because it is a safety device and not a control device. It does not receive any tank vapors from any NSPS regulated emission units.

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

### **Conditions 19 - 20, NSPS Subpart GG Requirements**

**Legal Basis:** This condition prohibits the Permittee from exceeding emission standards set out in Subpart GG. NSPS Subpart GG applies to stationary gas turbines with a heat input at peak load (maximum load at 60 percent relative humidity, 59 degrees F, and 14.7 psi)

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<sup>4</sup> EPA has not delegated to the Department the authority to administer the NSPS program as of the issue date of this permit.

equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuel fired and constructed, modified, or reconstructed after October 3, 1977.

**Factual Basis:** These conditions incorporate NSPS Subpart GG NO<sub>x</sub> emission and sulfur compound limits. The Permittee may not allow equipment to violate these standards. Per Condition 20.2b and pursuant to 40 C.F.R. 60.334(h)(3), the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such monitoring. 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.

NO<sub>x</sub> Standard: For a turbine subject to 40 C.F.R. 60.332, the NO<sub>x</sub> standard is determined by the following equation:

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

where,

$STD_{NOX}$  = allowable NO<sub>x</sub> emissions (percent by volume at 15 percent oxygen and on a dry basis)

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

$F$  = NO<sub>x</sub> emissions allowance for fuel bound nitrogen, percent by volume, **assumed to be zero for distillate fuel oil and gaseous fuels.**

Based on the manufacturer's heat rating at manufacturer's rated peak load, and assuming fuel bound nitrogen of zero, the NO<sub>x</sub> standard is 162 ppmv for EU IDs 1 and 2.

SO<sub>2</sub> Standard: The Permittee is required to comply with one of the following sulfur requirements for EU IDs 1 through 13 (turbines):

- (1) do not cause or allow SO<sub>2</sub> emission in excess of 0.015 percent by volume, at 15 percent O<sub>2</sub> and on a dry basis (150 ppmv), or
- (2) do not cause or allow the sulfur content for the fuel burned in EU IDs 1 and 2 to exceed 0.8 percent by weight.

### **Condition 19, NO<sub>x</sub> Monitoring, Recordkeeping, and Reporting**

**Legal Basis:** Periodic monitoring is included in Condition 19.2 for all turbines that normally operate for greater than 400 hours in a 12 month period. This additional monitoring is necessary to ensure that turbine emissions comply with the NSPS NO<sub>x</sub> standard and is required under 40 CFR 71.6(a)(3) as the subpart does not contain MR&R sufficient for an operating permit.

**Factual basis:** The Department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NO<sub>x</sub> emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body

of NO<sub>x</sub> data is gathered under monitoring conditions for compliance with 40 C.F.R. 60, Subpart GG, the Department may find that it has enough information to make such categorical determinations. In that event, the Department would revise the NO<sub>x</sub> monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

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

The intent of these conditions is that turbines or groups of turbines be routinely tested on no less than a 5-year cycle. If the most recent performance test on a turbine showed NO<sub>x</sub> emissions at less than or equal to 90% of the limit shown in Condition 19, then periodic monitoring is required at the first applicable of three criteria: either within 5 years of the last performance test, or within a year of the issue date of the permit, or within a year of exceeding 400 hours of operation within a 12-month period. For clarification, the Department added a 6 month cut-off date for triggering source testing within 1 year after permit issue date in accordance with Condition 19.2a(i)(B). The 6-month trigger identifies when Condition 19.2a(i)(C) would be enacted to require source testing within 1 year of triggering 400 hours. This ensures that a unit would not appear to be out of compliance with Condition 19.2a(i)(B) once it finally triggered Condition 19.2a(i)(C).

If the most recent performance test showed operations at greater than 90% of the emissions listed in Condition 19, then periodic monitoring source testing is required every year until two consecutive tests show emissions at less than or equal to 90% of the limit.

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

Subpart GG defines “emergency gas turbine<sup>5</sup>” and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the Department has added a Method 20 monitoring threshold of 400 hours per 12-month period. For turbines expected to operate less than 400 hours the Department has also added recordkeeping for hours of operation. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

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

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<sup>5</sup> *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 source has been rendered inoperable by an emergency situation, as defined in 40 C.F.R. 60.331(e), effective 7/1/03.

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 19, 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<sub>x</sub> 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 20, SO<sub>2</sub> Monitoring, Recordkeeping, and Reporting**

**Legal Basis:** This condition requires the Permittee to comply with NSPS Subpart GG SO<sub>2</sub> or fuel quality monitoring, record keeping and reporting.

**Factual Basis:** Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and have been referenced here. No additional monitoring outside of the Subpart GG requirements is necessary to ensure compliance with the NSPS SO<sub>2</sub> standard.

*Monitoring:* Condition 20.2 incorporates NSPS Subpart GG fuel sulfur monitoring requirements. Per 40 C.F.R. 60.334(h)(3), the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such monitoring

*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 18 AAC 50.350(h)(5). This requirement is stated in Condition 48.

*Reporting:* NSPS Subpart GG SO<sub>2</sub> standard reporting requirements are incorporated in the permit in Condition 20.5. For the purpose of the EEMSP reports and summary report required under 40 C.F.R. 60.7(c), report daily periods during which the sulfur content of the fuel being fired in the turbine exceeds 0.8 percent, or emissions exceed 150 ppmvd as excess emissions. In Condition 20.5 the Department requests that a summary report of the results from the monitoring requirements in Condition 20.2 be included in the Operating Report required under Condition 53.

### **Condition 21, NESHAP Requirements**

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**Legal Basis:** This condition requires the Permittee to comply with NESHAPS Subpart HH area source provisions 40 CFR 63.760(f)(5)(ii), 63.764(e)(1)(ii), 63.772(b)(2)(i), and 63.774(d)(1)(i).

**Factual basis:** The Stationary Source is not subject to Subpart HH area source control requirements or compliance with MR&R because source is not located within an urban area as defined in Subpart HH and the actual annual average natural gas flow rates per-dehydrator (EU IDs 18 and 19) are less than 3.0 MMscfd. Permittee shall maintain a record of per-unit actual natural gas flow rate of EU IDs 18 and 19 to provide documentation that the per-unit actual natural gas flow rate is less than 3.0 MMscfd. Currently the permittee's renewal application lists these EUs as "not in service" so additional MR&R was not warranted. Should the EUs be returned to operation, a permit revision to add sufficient MR&R would be required.

### Conditions 22 - 24, 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.

**Factual Basis:** These standard conditions apply to all permits.

### Conditions 25, Administration Fees

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

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

### Conditions 26 - 27, 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 Condition I under 18 AAC 50.346(b) adopted pursuant to AS 46.14.010(d). The Department determined that these standard conditions adequately meet the requirements of AS 46.14.250. No emission unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source specific conditions would better meet these requirements. Therefore, the Department concluded that the standard conditions meet the requirements of AS 46.14.250.

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

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

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

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emission based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emission are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match.

The Department modified the standard condition to correct condition 27.2 such that it referenced "submitted" (i.e., postmarked) rather than "received" in accordance with the timeframe of condition 27.1.

### **Condition 28, 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 and 2.

**Factual basis:** The condition requires the Permittee to comply with good air pollution control practices for all sources.

The Department adopted this condition under 18 AAC 50.346(b) as Standard operating Permit Condition VI pursuant to AS 46.14.010(d). The Department determined that this standard condition adequately meets the requirements of 40 CFR 71.6(a)(3). No emission unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source specific conditions would better meet these requirements. Therefore, the Department concluded that the standard condition meets the requirements of 40 CFR 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 29, 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 30, Reasonable Precautions to Prevent Fugitive Dust**

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

**Factual Basis:** The condition requires the Permittee to comply with 18 AAC 50.045(d), and take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air.

The Department adopted this standard condition as Standard Operating Permit Condition X under 18 AAC 50.346(c) pursuant to AS 46.14.010(d). The Department determined that this standard condition adequately meets the requirements of 40 CFR 71.6(a)(3). No emission unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source specific conditions would better meet these requirements. Therefore, the Department concluded that the standard condition meet the requirements of 40 CFR 71.6(a)(3).

### **Condition 31, 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 the stationary source because the stationary source contains a stack or 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 source or stack would need to be modified to accommodate stack injection.

### **Condition 32, Air Pollution Prohibited**

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

**Factual Basis:** While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

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

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

### **Condition 33, 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 52. Excess emission reporting under Condition 52 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 52.

### **Condition 34, Asbestos NESHAP**

**Legal Basis:** The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. This condition ensures compliance with the applicable requirement in 18 AAC 50.040(b)(1) and (2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

**Factual Basis:** Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

### **Condition 35, Refrigerant Recycling and Disposal**

**Legal Basis:** This condition 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.

**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 this federal regulation.

### **Condition 36, NESHAPS Applicability Determinations**

**Legal Basis:** This condition requires the Permittee to keep and make available to the Department copies of the major stationary source determination and applicability of specific federal regulations that may apply to its stationary sources.

**Factual basis:** The Permittee has conducted an analysis of the stationary source and determined that it is not a major HAPs stationary source based on emissions. This condition requires the Permittee to keep and make available to the Department copies of the major stationary source determination.

### **Condition 37, 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 37.1 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. Additional monitoring is achieved through Condition 32, which requires a record of complaints.

### **Condition 38, Requested Source Tests**

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

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

### **Conditions 39 - 41, Operating Conditions, Reference Test Methods, Excess Air Requirements**

**Legal Basis:** This condition ensures compliance with the applicable requirement in 18 AAC 50.220(b) and applies because the Permittee is required to conduct source tests by this permit. The Permittee is required to conduct source test as set out in Conditions 39 through 41.

**Factual Basis:** These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with Conditions 39 through 41 consist of the test reports required by Condition 46.

### **Condition 42, Test Exemption**

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

**Factual Basis:** As provided in 18 AAC 50.345(a), amended November 9, 2008, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

#### **Conditions 43 - 46, Test Deadline Extension, Test Plans, Notifications and Reports**

**Legal Basis:** This condition ensures compliance with the applicable requirement in 18 AAC 50.345(l)-(o) and applies because the Permittee is required to conduct source test by this permit.

**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 this condition.

#### **Condition 47, Particulate Matter (PM) Calculations**

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

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

#### **Condition 48, 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 49, Certification**

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

**Factual Basis:** This standard condition is required in all operating permits under 18 AAC 50.345(j). 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 stationary source report, even though it must still be submitted more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit.

#### **Condition 50, 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. 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 51, Information Requests**

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

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

### **Condition 52, 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 made a correction to the Standard Operating Permit Condition III to allow identical reporting methodology for both Excess Emissions and Permit Deviations reports which use identical forms and should have identical submissions methods. Beyond as noted above, the Department has previously determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions as modified meets the requirements of 40 C.F.R. 71.6(a)(3).

#### *Section 13, Notification Form*

The Department modified the notification form contained in Standard Permit Condition IV in a revised rulemaking dated August 20, 2008 to more adequately meet the requirements of Chapter 50, Air Quality Control. The rulemaking for these changes took effect November 9, 2008. The modification consisted of correcting typos and moving "Failure to Monitor/Report" and "Recordkeeping Failure" to Section 2 - permit deviations.

### **Condition 53, Operating Reports**

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

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

The Department used the Standard Permit Condition VII as adopted into regulation on August 20, 2008 pursuant to AS 46.14.010(e). The Department has made a correction to the

Standard Permit Condition VII by changing the number of copies of documents to be submitted from “an original and two copies” to “an original and one copy”. Beyond as noted above, the Department has previously determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emission unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions as modified meets the requirements of 40 C.F.R. 71.6(a)(3).

#### **Condition 54, 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 54.2 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 and the effective permit at that time, 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 may submit one of the required copies electronically at their discretion. This change more adequately meets the requirements of 18 AAC 50 and agency needs, as the Department can more efficiently distribute the electronic copy to staff in other locations.

#### **Condition 55, NSPS and NESHAP Reports**

**Legal Basis:** The Permittee is required to provide the federal administrator and Department a copy of each emission unit report for units subject to NSPS or NESHAP federal regulations under 18 AAC 50.326(j)(4). 40 CFR 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 56, Permit Applications and Submittals**

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

**Factual Basis:** Standard 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.

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### Conditions 57 - 59, Permit changes and revisions requirements

**Legal Basis:** The Permittee is obligated to notify the Department of certain off-permit source changes and operational changes under 18 AAC 50.326(j)(4). 40 CFR 71.6(a)(10), (12), and (13) incorporated by reference under 18 AAC 50.040(j) require these provisions within this permit. 40 CFR 70 Appendix A documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

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

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

### Condition 60, 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 accord 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 CFR 71.5 incorporated by reference in 18 AAC 50.040(j)(3). 40 CFR 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 Kenai Gas Field Pad 34-31 as listed in this condition. As stated in 40 CFR 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 CFR 71.5(c) and must remit payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 CFR 71.7(b) states that if a source submits a timely and complete application for permit issuance (including renewal), the source's failure to have a permit is not a violation until the permitting authority takes final action on the permit application.

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

### Condition 61 - 62, Permit Applications

**Legal Basis:** These conditions set out the protocol the Permittee must follow to submit amendment, modification and renewal applications to the Department under 18 AAC 50.326(j)(3) and to the Federal Administrator under 40 CFR 71.5, 71.7 and 71.10.

**Factual Basis:** These conditions direct the Permittee to submit application materials to the Department’s Anchorage office. The current address at time of permit issuance is provided in a footnote because it may change during the life of this permit. The current address can be obtained by contacting the Department, checking the website, or by other reasonable means. The Permittee may submit copies of application materials in electronic formats compatible with ADEC software as the Department can more efficiently distribute the electronic copy to staff in other locations. Condition 62 directs the applicant to send copies of all application materials directly to the EPA, in electronic format if practicable.

**Conditions 63 -67, General Compliance Requirements and Schedule**

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

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

**Conditions 68 - 69, Permit Shield**

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

**Factual Basis:** Table C of Operating Permit No. AQ0087TVP02 shows the permit shield that the Department granted to the Permittee. The following table shows the requests that were denied and the reasons that they were denied. The Department based the determinations on the permit application, past operating permit, likelihood for the source to become subject during the life of the permit, Title I permits and inspection reports.

**Table F - Permit Shields Denied**

Shield requested for:	Reason for shield request:	Reason for request denial:
EU IDs 1 and 2		
40. C. F. R. 60 Subparts 60.7(a)(1), (a)(2), (a)(3), (a)(5), (a)(7) and 60.8	One-time only and startup notifications	These subparts are part of the General Provisions and therefore the source would be subject to them in the event of a modification to EU IDs 1 and 2 or the addition of an affected EU.
40 CFR 60 Subpart KKKK	Unit IDs 1 and 2 were constructed before February 18, 2005, and have not been modified or reconstructed after this date.	It is reasonable to expect that these turbines may require reconstruction or modification in the future.

<b>Shield requested for:</b>	<b>Reason for shield request:</b>	<b>Reason for request denial:</b>
<p>40 C.F.R. 60 Subpart GG                      60.334(a)-(g), (h)(1), and (h)(2)</p>	<p>60.334(a) and (b) apply only to stationary combustion turbines that use water injection for NOx control.</p> <p>60.334(c)-(g) are optional monitoring methods that Marathon does not conduct.</p> <p>60.334(h)(1) The natural gas fired by EU IDs 1 and 2 meet the definition of natural gas as defined by 40 CFR 60.331(u), therefore sulfur monitoring is not required.</p> <p>60.334(h)(2) Marathon does not claim an allowance for bound nitrogen, therefore nitrogen monitoring is not required.</p>	<p>This shield request was for “stationary source” and duplicates a shield granted for EU IDs 1 &amp; 2. Shield request is redundant.</p>

**Attachment A**

Pollutant (Circle One—SO<sub>2</sub>/NO<sub>x</sub>/fuel sulfur)

Reporting period dates:

From \_\_\_\_\_ to \_\_\_\_\_

Company: \_\_\_\_\_

Emission Limitation \_\_\_\_\_

Address: \_\_\_\_\_

Monitor Manufacturer and Model No \_\_\_\_\_

Date of Latest CMS (CEMS and PEMS) Certification or Audit \_\_\_\_\_

Process Unit(s) Description: \_\_\_\_\_

Total source operating time in reporting period<sup>1</sup> \_\_\_\_\_

**Figure 1 -- Summary Report -- Excess Emission and Monitoring System Performance**

Emission data summary <sup>1</sup>	CMS (CEMS and PEMS) performance summary <sup>1</sup>
<p>1. Duration of excess emissions in reporting period due to:</p> <p>a. Startup/shutdown _____</p> <p>b. Control equipment problems _____</p> <p>c. Process problems _____</p> <p>d. Other known causes _____</p> <p>e. Unknown causes _____</p> <p>2. Total duration of excess emission _____</p> <p>3. Total duration of excess emissions X (100)/[Total source operating time] _____ %<sup>2</sup></p>	<p>1. CMS (CEMS and PEMS) downtime in reporting period reporting period due to:</p> <p>a. Monitor equipment malfunctions _____</p> <p>b. Non-Monitor equipment malfunctions _____</p> <p>c. Quality assurance calibration _____</p> <p>d. Other known causes _____</p> <p>e. Unknown causes _____</p> <p>2. Total CMS (CEMS and PEMS) Downtime _____</p> <p>3. [Total CMS (CEMS and PEMS) Downtime] X (100)/[Total source operating time] _____ %<sup>2</sup></p>

<sup>1</sup>For opacity, record all times in minutes. For gases, record all times in hours.

<sup>2</sup>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 (CEMS or PEMS) downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in this condition shall be submitted.

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 \_\_\_\_\_