DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY OPERATING PERMIT

Permit No. AQ0911TVP02 Issue Date: Public Notice - April 6, 2017

Expiration Date: Month XX, 2022

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Caelus Natural Resources Alaska, LLC, for the operation of the Oooguruk Development Project.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

Citations listed herein are contained within 18 AAC 50 dated December 29, 2016, Register 220. All Federal regulation citations are from those sections adopted by reference in this version of regulation in 18 AAC 50.040 unless otherwise specified.

Upon effective date of this permit, Operating Permit No. AQ0911TVP01 Revision 4 expires.

This Operating Permit becomes effective Month XX, 2017.

John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC.....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS.....Alaska Statutes
ASTM.....American Society for Testing and Materials
BACT.....Best Available Control Technology
C.F.R. .....Code of Federal Regulations
°F.....degree Fahrenheit
The Act.....Clean Air Act
Caelus.....Caelus Natural Resources, LLC
CEMS.....Continuous emissions monitoring system
CI.....Compression Ignition
CO.....Carbon Monoxide
CMS.....Continuous monitoring system
CPMS.....Continuous parametric monitoring system
dscf.....Dry standard cubic foot
EPA.....Environmental Protection Agency
EEMSP.....Excess Emissions Monitoring Systems Performance
EU ID.....Emission Unit Identification Number
FAHS.....Federal Aid Highway System
gr./dscf.....grain per dry standard cubic foot
g/kWh.....grams per kilowatt-hour
H_2S.....Hydrogen sulfide
HAPs.....Hazardous Air Pollutants
HC.....Hydrocarbons
hp.....Horsepower
hr/yr.....hours per year
ICE.....Internal Combustion Engine
kW.....kilowatt
LAER.....Lowest Achievable Emission Rate
lb/hr.....pounds per hour
lb/MMBtu.....pounds per million British thermal unit
lb/MWh.....pounds per megawatt-hour
MACT.....Maximum Achievable Control Technology
MMBtu.....Million British thermal unit
MMBtu/hr.....Million British thermal units per hour
MMSCF.....Million standard cubic feet
MR&R.....Monitoring, Recordkeeping, and Reporting
NAICS.....North American Industrial Classification System
NESHAPs.....National Emission Standards for Hazardous Air Pollutants
ng/J.....nanograms per joule
NMHC.....Non-methane hydrocarbons
NO_2.....Nitrogen dioxide
NOx.....Nitrogen Oxides
NSPS.....New Source Performance Standards
NWS.....National Weather Service
O_2.....Oxygen
%.....Percent
PM.....Particulate Matter
PM-2.5.....PM ≤ nominal 2.5 microns diameter
PM-10.....PM ≤ nominal 10 microns diameter
ppm.....Parts per million
ppmv.....ppm by volume
PSD.....Prevention of Significant Deterioration
PTE.....Potential to Emit
scf.....Standard cubic feet
SIC. .....Standard Industrial Classification
SO_2.....Sulfur dioxide
TPY.....Tons per year
VOC.....volatile organic compound
VOL.....volatile organic liquid
wt%.....weight percent

Section 1. Stationary Source Information

Identification

Permittee:		**Caelus Natural Resources Alaska, LLC** 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503
Stationary Source Name:		**Oooguruk Development Project**
Location:		70º 29´ 44" North; 150º 15´ 13" West
Physical Address:		East Harrison Bay, Alaska
Owner:		**Caelus Natural Resources Alaska, LLC** 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503
Operator:		**Caelus Natural Resources Alaska, LLC** 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503
Permittee's Responsible Official:		Patrick Foley, Senior Vice President 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503
Designated Agent:		Patrick Foley, Senior Vice President 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503
Stationary Source and Building Contact:		John Hellen, HSE Manager 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503 (907) 343-2102; John.Hellen@caelusenergy.com
Fee Contact:		Julie Lina, Senior Regulatory Coordinator 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503 (907) 343-2106; Julie.Lina@caelusenergy.com
Permit Contact:		Julie Lina, Senior Regulatory Coordinator 3700 Centerpoint Drive, Suite 500 Anchorage, AK 99503 (907) 343-2106; Julie.Lina@caelusenergy.com
Process Description:	SIC Code	1311: Crude Oil and Natural Gas Production
	NAICS Code:	211111: Crude Petroleum and Natural Gas Extraction

[18 AAC 50.040(j)(3) & 50.326(a)]
[40 C.F.R. 71.5(c)(1) & (2)]

Section 2. Emission Unit Inventory and Description

1. Emission Unit Authorization. The Permittee is authorized to install and operate the emission units listed in Table A, Table B and Table C in accordance with the terms and conditions of this permit. Some emission units listed in Table A, Table B and Table C have specific monitoring, recordkeeping, or reporting conditions in this permit.

Except as noted elsewhere in the permit, emission unit descriptions and ratings are given for identification purposes only. The specific unit descriptions do not restrict the Permittee from replacing an emission unit identified in Table A, Table B and Table C. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement emission unit, including any applicable minor or construction permit requirements.

Table A - Emission Unit Inventory

EU ID	Emission Unit Name	Emission Unit Description	Rating/Size	Construction / Installation Date
Offshore Pad				
I-1	Diesel Generator	Caterpillar 3516B DITA; s/n PBR00167	3,285 hp	Constructed Jan 2006
I-5	Incinerator	Pennram E-55; s/n 205229	200 lb/hr	2007
NR-9A	Escape Vehicle	Escape Vehicle, serial # unknown	260 hp	NA
NR-9B	Escape Vehicle	Escape Vehicle, serial # unknown	260 hp	NA
I-9	Diesel Generator	Caterpillar 3456 DITA; s/n 7WG04627	764 hp	2007
I-10	Diesel Generator	Caterpillar 3456 DITA; s/n 7WG04626	764 hp	2007
I-11	Diesel Firewater Pump Engine	John Deere JW6H-UF60; s/n RG6081H178379	375 hp	2007
Onshore Pad				
S-1a	Gas-Fired Turbine	Solar Taurus 60-7800S; s/n 1635T	6.83 MW	2007
S-1b	Gas-Fired Turbine	Solar Taurus 60-7800S; s/n 1636T	6.83 MW	2007
S-1c	Gas-Fired Turbine	Solar Taurus 60-7800S; s/n 1637T	6.83 MW	2007
S-1d	Gas-Fired Turbine	Solar Taurus 60-7901S	6.33 MW	Constructed 2014
S-1e	Gas-Fired Turbine	Solar Taurus 60-7901S	6.33 MW	Constructed 2014
S-2	Diesel Generator	Caterpillar C32 DITA; s/n SYC00373	1,500 hp	2007
S-7	Diesel Generator	Caterpillar C27	800 kW	Constructed 2014

Notes:
1. Non-road engines with applicable limits are listed in this table.
2. EU IDs S-1d, S-1e and S-7 have not been installed.
3. The rating of EU ID S-7 is revised from 1,000 kW as permitted in AQ0911MSS05 to 800 kW.

[18 AAC 50.326(a)]
[40 C.F.R. 71.5(c)(3)]

Table B – Construction Equipment

EU ID	Emission Unit Name	Emission Unit Description	Rating/Size	Construction / Installation Date
Offshore Pad				
NR-2	Front End Loader 1	Caterpillar 966GII	260 hp	NA
NR-3	Front End Loader 2	Volvo 180E	300 hp	NA
NR-4	Crane	Caterpillar 966GII	260 hp	NA
NR-5	Forklift	Caterpillar TH330B	120 hp	NA
NR-6	Six Light Plants	Unknown	25 kW, each	NA
I-8	Seven Portable Heaters	Unknown	1.2 MMBtu/hr, each	2007
Onshore Pad				
S-3	Three Portable Heaters	Unknown	1.2 MMBtu/hr, each	2007

Table Notes:

1. All fuel burning emission units listed in the table burn diesel.

Table C – Drilling Rig Emission Units (Nabors 19E)

EU ID	Emission Unit Name	Emission Unit Description	Rating/Size	Construction Date
NR-1a	Diesel Primary Generator	Cummins DFHD	1,111 kW	NA
NR-1b	Diesel Primary Generator	Cummins DFHD	1,111 kW	NA
NR-1c	Diesel Primary Generator	Cummins DFHD	1,111 kW	NA
NR-7	Diesel Mud Module Standby Generator	Unknown	277 bhp	NA
NR-8	Casing Standby Generator	Unknown	74 bhp	NA
I-2a	Rig Steam Boilers	Unknown	5.75 MMBtu/hr	2007
I-2b	Rig Steam Boilers	Unknown	5.75 MMBtu/hr	2007
I-3	Pipe Barn Heater	Unknown	4.38 MMBtu/hr	2007
I-4	Substructure Heater	Unknown	4.38 MMBtu/hr	2007
I-7	Three Rig Support Process Heaters	Unknown	1 MMBtu/hr, each	2007
I-12	Cement Storage & Blending Equipment	Unknown	NA	2007

Table Notes:

1. All fuel burning emission units listed in the table burn diesel.
2. While the Permittee anticipates the use of the Nabors 19E rig, the actual cumulative rated capacity of the Drilling Rig may be similar or smaller than the cumulative rated capacity of Nabors 19E rig shown in the table.

Section 3. State Requirements

Visible Emissions Standards

2. Industrial Process and Fuel-Burning Equipment Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs I-1, I-9, I-10, S-1a, S-1b, S-1c, S-1d, S-1e, S-2, S-7 listed in Table A, and I-2a, I-2b, I-3, and I-4, listed in Table C to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j), 50.055(a)(1), &50.326(j)]
[40 C.F.R. 71.6(a)(1)]

2.1. For EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4, monitor, record and report in accordance with Conditions 4 – 6.

a. For EU ID S-7, within 90 days of initial startup, the Permittee shall demonstrate initial compliance with Condition 2 by conducting visible emissions observations on the exhaust of the emission unit, using Method 9.

2.2. For EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, burn only gas as fuel. Monitoring for these emission units shall consist of a statement in each operating report under Condition 93 that each of these emission units fired only gas during the period covered by the report. Report under Condition 92 if any fuel is burned other than gas.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)]

3. Incinerator Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, through the exhaust of EU ID I-5 to reduce visibility by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j), 50.050(a), & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]

3.1. Observe emissions for 18 consecutive minutes to obtain a minimum of 72 observations in accordance with Method 9 of 40 C.F.R. 60, Appendix A-4, at least once every 12 calendar months. If the incinerator is not operated during this period, observe emissions the next time the incinerator operates.

3.2. Record and report in accordance with Conditions 5.1.a through 6.2.a.

3.3. If any monitoring under Condition 3.1 was not performed, report under Condition 92 within three days of the date the monitoring was required.

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3) & (c)(6)]

Visible Emissions Monitoring, Recordkeeping and Reporting (MR&R)

Liquid Fuel-Fired Emission Units (EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4)

4. **Visible Emissions Monitoring.** The Permittee shall observe the exhaust of EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4 for visible emissions using either the Method 9 Plan under Condition 4.1 or the Smoke/No-Smoke Plan under Condition 4.2. The Permittee may change visible emissions plans for an emission unit at any time unless prohibited from doing so by Condition 4.3. The Permittee may for each unit elect to continue the visible emissions monitoring schedule in effect from the previous permit at the time a renewed permit is issued, if applicable.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

4.1. **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. **First Method 9 Observation**. For EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4 observe exhaust for 18 minutes within six months after the issue date of this permit. For any unit, observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition 4.2.

(i) For any unit replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.

b. **Monthly Method 9 Observations**. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emission unit operates.

c. **Semiannual Method 9 Observations**. After observing emissions for three consecutive operating months under Condition 4.1.b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations:

(i) Within six months after the preceding observation, or

(ii) For an emission unit with intermittent operations, during the next scheduled operation immediately following six months after the preceding observation.

d. **Annual Method 9 Observations**. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, perform 18-minute observations:

(i) Within 12 months after the preceding observation; or

(ii) For an emission unit with intermittent operations, during the next scheduled operation immediately following twelve months after the preceding observation.

e. **Increased Method 9 Frequency**. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emission unit to at least monthly intervals as described in Condition 4.1.b, until the criteria in Condition 4.1.c for semiannual monitoring are met.

4.2. **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

a. **Initial Monitoring Frequency**. Observe the exhaust during each calendar day that an emission unit operates.

b. **Reduced Monitoring Frequency**. After the emission unit has been observed on 30 consecutive operating days, if the emission unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emission unit operates.

c. **Smoke Observed**. If smoke is observed, either begin the Method 9 Plan of Condition 4.1 or perform the corrective action required under Condition 4.3.

4.3. **Corrective Actions Based on Smoke/No Smoke Observations**. If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of Condition 4.2, then the Permittee shall either follow the Method 9 plan of Condition 4.1 or

a. initiate actions to eliminate smoke from the emission unit within 24 hours of the observation;

b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and

c. after completing the actions required under Condition 4.3.a,

(i) take Smoke/No Smoke observations in accordance with Condition 4.2.

(A) at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and

(B) continue as described in Condition 4.2.b; or

(ii) if the actions taken under Condition 4.3.a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of Condition 4.3.c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under Condition 4.2.a.

5. Visible Emissions Recordkeeping. When required by Condition 2.1, or in the event of replacement of any EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4 during the permit term, the Permittee shall keep records as follows:

[18 AAC 50.040(j); 50.326(j) and 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

5.1. When using the Method 9 Plan of Condition 4.1,

a. the observer shall record

(i) the name of the stationary source, emission unit and location, emission unit type, observer's name and affiliation, and the date on the Visible Emissions Observation Form in Section 11;

(ii) the time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating mode (*load or fuel consumption rate or best estimate if unknown*) on the sheet at the time opacity observations are initiated and completed;

(iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

(iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Form in Section 11, and

(v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

b. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet.

c. Calculate and record the highest 6-minute and 18-consecutive-minute averages observed.

5.2. If using the Smoke/No Smoke Plan of Condition 4.2, record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department:

a. the date and time of the observation;

b. from Table A and Table C, the ID of the emission unit observed;

c. whether visible emissions are present or absent in the exhaust;

d. a description of the background to the exhaust during the observation;

e. if the emission unit starts operation on the day of the observation, the startup time of the emission unit;

f. name and title of the person making the observation; and

g. operating mode (load or fuel consumption rate).

6. Visible Emissions Reporting. When required by Condition 2.1, or in the event of replacement of any of EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4 during the permit term, the Permittee shall report visible emissions as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

6.1. Include in each operating report under Condition 93 for the period covered by the report:

a. which visible-emissions plan of Condition 4 was used for each emission unit; if more than one plan was used, give the time periods covered by each plan;

b. for each emission unit under the Method 9 Plan,

(i) copies of the observation results (i.e. opacity observations) for each emission unit that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and

(ii) a summary to include:

(A) number of days observations were made;

(B) highest six-minute average observed; and

(C) dates when one or more observed six-minute averages were greater than 20 percent;

c. for each emission unit under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and

d. a summary of any monitoring or recordkeeping required under Conditions 4 and 5 that was not done.

6.2. Report under Condition 92:

a. the results of Method 9 observations that exceed an average of 20 percent opacity for any six-minute period; and

b. if any monitoring under Condition 4 was not performed when required, report within three days of the date the monitoring was required.

Particulate Matter (PM) Emissions Standards

7. Industrial Process and Fuel-Burning Equipment PM. The Permittee shall not cause or allow PM emitted from EU IDs I-1, I-9, I-10, S-1a, S-1b, S-1c, S-1d, S-1e, S-2, S-7, listed in Table A, I-2a, I-2b, I-3, and I-4, listed in Table C to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.040(j), 50.055(b)(1) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]

7.1. For EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4, monitor, record and report in accordance with Conditions 8 – 13.

a. For EU ID S-7, the Permittee shall demonstrate initial compliance with Condition 7 by complying with Condition 2.1.a.

7.2. For EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, burn only gas as fuel. Monitoring for these emission units shall consist of a statement in each operating report under Condition 93 that each of these emission units fired only gas during the period covered by the report. Report under Condition 92 if any fuel other than gas is burned.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)]

PM MR&R Requirements

Liquid Fuel-Fired Engines (EU IDs I-1, I-9, I-10, S-2, and S-7)

8. PM Monitoring for Diesel Engines. The Permittee shall conduct source tests on diesel engines, EU IDs I-1, I-9, I-10, S-2, and S-7, to determine the concentration of PM in the exhaust of an emission unit as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

8.1. Except as provided in Condition 8.4, within six months of exceeding the criteria of Conditions 8.2.a or 8.2.b, either

a. conduct a PM source test according to requirements set out in Section 6; or

b. make repairs so that emissions no longer exceed the criteria of Condition 8.2; to show that emissions are below those criteria, observe emissions as described in Condition 4.1 under load conditions comparable to those when the criteria were exceeded.

8.2. Conduct the PM source test or make repairs according to Condition 8.1 if

a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

b. for an emission unit with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

8.3. During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

8.4. The automatic PM source test requirement in Conditions 8.1 and 8.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

9. PM Recordkeeping for Diesel Engines. Within 90 calendar days after the initial startup of EU ID S-7, the Permittee shall record the exhaust stack diameter of EU ID S-7. Report the stack diameter in the next operating report under Condition 93.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

10. PM Reporting for Diesel Engines. The Permittee shall report as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

10.1. Report under Condition 92

a. the results of any PM source test that exceed the PM emissions limit; or

b. if one of the criteria of Condition 8.2 was exceeded and the Permittee did not comply with either Condition 8.1.a or 8.1.b, this must be reported by the day following the day compliance with Condition 8.1 was required;

10.2. Report observations in excess of the threshold of Condition 8.2.b within 30 days of the end of the month in which the observations occur;

10.3. In each operating report under Condition 93, include for the period covered by the report:

a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 8.2;

b. a summary of the results of any PM testing under Condition 8; and

c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 8.2, if they were not already submitted.

For Liquid Fuel-Fired Boilers and Heaters (EU IDs I-2a, I-2b, I-3, and I-4)

11. PM Monitoring for Liquid Fuel-Fired Boilers and Heaters. The Permittee shall conduct source tests on EU IDs I-2a, I-2b, I-3, and I-4 to determine the concentration of PM in the exhaust of EU IDs I-2a, I-2b, I-3, and I-4 as follows:

[18 AAC 50.040(j), & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3)(i) & (c)(6)]

11.1. Except as required under Condition 11.3, conduct a PM source test according to the requirements set out in Section 6 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.

11.2. During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

11.3. The PM source test requirement in Condition 11 is waived for an emission unit if:

a. a PM source test on that unit has shown compliance with the PM standard during the permit term; or

b. take corrective action and conduct two 18-minute visible emissions observations in a consecutive six-month period to show that the excess visible emissions described in Condition 11.1 no longer occur.

12. PM Recordkeeping for Liquid Fuel-Fired Boilers and Heaters. The Permittee shall keep records of the results of any PM testing and visible emissions observations conducted under Condition 11.

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3)(ii) & (c)(6)]

13. PM Reporting for Liquid Fuel-Fired Boilers and Heaters. The Permittee shall report as follows:

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

13.1. In each operating report required by Condition 93, include for the period covered by the report:

a. the dates, EU ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 11.1.

b. a summary of the results of any PM testing and visible emissions observations conducted under Condition 11.

13.2. Report as excess emissions, in accordance with Condition 92, any time the results of a source test for PM exceed the PM emission limit stated in Condition 7.

Sulfur Compound Emission Standards Requirements

14. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as sulfur dioxide (SO_2), from EU IDs I-1, I-9, I-10, S-1a, S-1b, S-1c, S-1d, S-1e, S-2, S-7, listed in Table A, I-2a, I-2b, I-3, and I-4 listed in Table C to exceed 500 ppm averaged over three hours.

[18 AAC 50.040(j), 50.055(c), & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]

Sulfur Compounds MR&R Requirements

For Fuel Oil (EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4)

15. Sulfur Compounds MR&Rs for Fuel Oil-Fired Emission Units. The Permittee shall demonstrate compliance with Condition 14 for EU IDs I-1, I-9, I-10, S-2, S-7, I-2a, I-2b, I-3, and I-4 by complying with Conditions 34.3.a and 34.4

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 C.F.R. 71.6(a)(3) & (c)(6)]

For Fuel Gas (EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e)

16. Sulfur Compound Monitoring for Fuel Gas-Fired Emission Units. The Permittee shall demonstrate compliance with Condition 14 for EU IDs S-1a through S-1e by complying with Conditions 34.1, 34.3.b and 34.4.

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3) & (c)(6)]

Minor Permit Requirements

ORLs for Avoidance of PSD Review for the Generators

17. Operating Hour Limits for EU IDs I-1, I-9, and I-10. Limit the operation of each of EU IDs I-1, I-9, and I-10 listed in Table A, to no more than 500 hours per year (hr/yr).

17.1. For each calendar month, monitor and record the total monthly hours of operation for each emission unit.

17.2. For each consecutive 12-month period, calculate and record the hours of operation for each emission unit subject to this condition by the end of the month following that 12-month period. During the initial twelve months of data collection, use the available data to date as a substitute for the 12-month period.

17.3. Report in the operating report required by Condition 93 the total monthly hours of operation for each month and 12-month period covered by the operating report.

[Condition 10, Minor Permit AQ0911MSS05, January 8, 2015]

18. Operating Hour Limits for EU ID S-2. Limit the operating hours of EU ID S-2 listed in Table A to no more than 1,200 hr/yr.

18.1. For each calendar month, monitor and record the total monthly hours of operation for each emission unit.

18.2. For each consecutive 12-month period, calculate and record the hours of operation for each emission unit subject to this condition by the end of the month following that 12-month period.

18.3. Report in the operating report required by Condition 93 the total monthly hours of operation for each month and 12-month period covered by the operating report.

[Condition 9, Minor Permit AQ0911MSS05, January 8, 2015]

19. Operating Hour Limits for EU ID S-7: Limit the operating hours of EU ID S-7 listed in Table A to no more than 2,500 hr/yr.

19.1. Install a non-resettable hour-meter on the emission unit.

19.2. Monitor and record monthly the operating hours of EU ID S-7.

19.3. By the end of each calendar month, calculate and record the rolling 12-month operating hours for S-7 for the previous month.

19.4. Report the rolling 12-month operating hours for EU ID S-7 in Condition 93 for each month in the period covered by the report.

19.5. Report as excess emissions or permit deviation as described Condition 92 if the rolling 12-months operating hours for any month exceeds the limits in Condition 19.

[Condition 8, Minor Permit AQ0911MSS05, January 8, 2015]

Emission Unit Inventory

20. Verification of Equipment Specifications and Maintenance of Equipment. The Permittee shall install and maintain EU IDs S-1d, S-1e, and S-7 listed in Table A according to the manufacturer's or operator's maintenance procedures.

20.1. **Verification of Equipment Specifications and Maintenance of Equipment.** Keep the manufacturer's literature that shows the specifications of the installed equipment onsite and make available to Department personnel on request.

20.2. **Maintenance**: Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make available to Department personnel on request.

[Condition 2, Minor Permit AQ0911MSS05, January 8, 2015]

21. The Permittee is authorized to operate a Drilling Rig shown in Table C on the offshore pad.

21.1. For the purposes of this permit:

a. EU IDs NR-1a, NR-1b, NR-1c, NR-7, NR-8, I-2a, I-2b, I-3, I-4, I-7, and I-12 are collectively referred to as the "Drilling Rig";

b. the Drilling Rig emission units that provide the electrical power for drilling (EU IDs NR-1a, NR-1b, and NR-1c) are referred to as "Primary Generators"; and

c. all other internal combustion Drilling Rig emission units (EU IDs NR-7 and NR-8) are referred to as "Ancillary Engines".

21.2. The actual Drilling Rig operated under this permit may consist of similar or smaller emission units than the Drilling Rig shown in Table C. However, the cumulative boiler/heater rating may not exceed 23.3 MMBtu/hr, the primary generator rating may not exceed 3,333 kW, and the ancillary engine rating may not exceed 351 bhp.

[Condition 2, Minor Permit No. AQ0911MSS04 Revision 1, June 20, 2014]

22. Prior to the start of production well drilling, submit:

22.1. the name of the selected Drilling Rig (e.g., Nabors 19E);

22.2. an emission unit inventory listing each combustion unit in the Drilling Rig, along with the make/model and rating of each combustion unit;

22.3. the cumulative capacity of the Drilling Rig primary generators;

22.4. the cumulative capacity of the Drilling Rig ancillary engines;

22.5. the cumulative capacity of the Drilling Rig boilers/heaters; and

22.6. a statement as to whether the selected Drilling Rig complies with Condition 21.2.

[Condition 6, Minor Permit No. AQ0911MSS04 Revision 1, June 20, 2014]

23. For EU IDs I-1 and S-2, if changes are made to the emission and fuel control settings, provide the revised settings and the reason for the revision in the operating report submitted under Condition 93 for that operating period.

[Condition 5, Minor Permit No. AQ0911MSS04, Revision 1, June 20, 2014]

24. The Permittee may install a single Waste Heat Recovery Unit (WHRU) for use by EU IDs S-1a, S-1b, and S-1c and a single WHRU for use by EU IDs S-1d and S-1e to provide process and space heat.

[Condition 1, Minor Permit No. AQ0911MSS04 Revision 1, June 20, 2014]
[Condition 1, Minor Permit No. AQ0911MSS05, January 8, 2015]

ORLs to Avoid PSD Review for Operation of EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e

25. NOx and CO Limits. For EU IDs S-1a, S-1b, and S-1c:

25.1. Limit combined NOx emissions to less than 190 tons per consecutive 12-month period.

25.2. Limit combined CO emissions to less than 230 tons per consecutive 12-month period.

25.3. Monitor, record, and report as set out by Condition 27.

[Condition 12, Minor Permit No. AQ0911MSS04, Revision 1, June 20, 2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

26. Monitoring Out of Low Emissions Mode of EU IDs S-1a, S-1b, and S-1c.

26.1. Monitor in and out of low emissions mode using continuous tracking through the turbine control panel.

26.2. Record the date and duration for which each of EU IDs S-1a, S-1b, and S-1c is in and out of low emissions mode.

26.3. Report in the operating report required in Condition 93, the total time each unit is operating out of low emissions mode for the period covered by the report. State in the report the amount of time the operation out of low emissions mode was due to startup, shutdown, subzero turbine intake temperature, source testing, or load change.

[Condition 13, Minor Permit No. AQ0911MSS04, Revision 1, June 20, 2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

27. Turbine NOx and CO Emissions for EU IDs S-1a, S-1b, and S-1c.

27.1. Monitor the 60-second average load (in percent of full load) for each unit during all periods of operation and then 60-second average ambient air temperature (in degrees Fahrenheit (°F)).

27.2. Record for each calendar day, the minimum 60-second average load (in percent of full load) and the minimum 60-second average ambient air temperature (in °F). Data capture and recording may be electronic. Round the 60-second average load up to the next highest load and round the 60-second ambient air temperature down to the next lowest ambient temperature presented in Table D and Table E. Data rounding may be electronic.

27.3. Except as noted in Condition 27.4, calculate the pounds of NOx and CO emitted for each block 60-second period from the average load and ambient air temperature monitored in Condition 27.1 and emission rates in Table D and Table E, or the Department-approved source test results. When the load and temperature in Condition 27.1 are missing or suspect, use one of the following alternative approaches, and state the approach.

a. If the 60-second average load is unknown or suspect, use the largest NOx and CO emission rate available in Table D and Table E (or substitute the worst case value) for the given ambient air temperature.

b. If the 60-second average ambient air temperature is unknown or suspect, use the ambient temperatures measured at the National Weather Service Station (NWS) at the Deadhorse Airport for each hour of missing ambient air temperature.

c. If the 60-second average load and the 60-second average ambient air temperature are both unknown or suspect, use CO emission rate of 524.0 lb/hr and NOx emission rate of 37.1 lb/hr (the worst case emission factors in Table D and Table E).

27.4. When the turbines are operating out of low emissions mode, calculate the pounds of NOx and CO emitted, using the maximum emission rates (lb/hr) for the ambient temperatures as specified in Table D and Table E, and the duration recorded in Condition 26.2. Alternatively, use the maximum ppmv concentrations in Table D and Table E, and convert to lb/hr using 40 C.F.R. 60, Appendix A-7, Method 19. Describe all assumptions (including the assumed standard conditions) and provide example calculations.

27.5. Sum the 60-second emissions from Conditions 27.3 and 27.4 to determine the hourly NOx and CO emissions (in pounds). Record the hourly NOx and CO emissions. Data selection may be electronic.

27.6. By the end of each calendar month, calculate and record the monthly NOx and CO emissions (in pounds), for each unit, by summing the CO and NOx emissions calculated in Condition 27.5 during the previous month. Calculation and recording may be electronic.

27.7. By the end of each calendar month, calculate and record the 12-month rolling NOx emissions and the 12-month rolling CO emissions (in tons), for the units combined, by summing the CO and NOx emissions in Condition 27.6. Calculation and recording may be electronic.

27.8. Report using the operating report under Condition 93, the 12-month rolling NOx emissions, and the 12-month rolling CO emissions calculated in Condition 27.7 for each 12-month period covered by the operating report.

27.9. Report under Condition 92, if the 12-month rolling NOx emissions or the 12-month rolling CO emissions calculated in Condition 27.7 for each 12-month period covered by the operating report exceed the limits in Condition 25.1 or Condition 25.2.

[Condition 14, Minor Permit No. AQ0911MSS04, June 20, 2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

Table D – Solar Taurus NO_X Emission Factors

Ambient Air Temperature (°F)	Load (%)[1]														
	<50		50		60		70		80		90		100		MAX
	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	lb/hr
60	70	8.5	25	3.9	25	4.3	25	4.6	25	5.0	25	5.5	25	5.9	8.5
40	70	8.9	25	4.1	25	4.5	25	4.9	25	5.2	25	5.7	25	6.3	8.9
20	70	9.3	25	4.3	25	4.7	25	5.1	25	5.5	25	6.0	25	6.6	9.3
0	70	9.6	25	4.5	25	4.9	25	5.3	25	5.7	25	6.3	25	6.9	9.6
-20	70	10.0	42	7.8	42	8.6	42	9.3	42	10.1	42	11.0	42	12.0	12.0
-40	70	10.4	120	23.1	120	25.5	120	27.7	120	29.9	120	32.7	120	35.7	35.7
-60	70	10.8	120	24.0	120	26.6	120	28.9	120	31.1	120	34.0	120	37.1	37.1
MAX	70	10.8	120	24.0	120	26.6	120	28.9	120	31.1	120	34.0	120	37.1	37.1

Table E – Solar Taurus CO Emission Factors

Ambient Air Temperature (°F)	Load (%)[1]														
	<50		50		60		70		80		90		100		MAX
	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	lb/hr
60	4400	414.0	50	4.7	50	5.2	50	5.6	50	6.0	50	6.6	50	7.2	414.0
40	4400	432.0	50	5.0	50	5.5	50	5.9	50	6.4	50	7.0	50	7.6	432.0
20	4400	450.0	50	5.2	50	5.7	50	6.2	50	6.7	50	7.3	50	8.0	450.0
0	4400	469.0	50	5.4	50	6.0	50	6.5	50	7.0	50	7.6	50	8.3	469.0
-20	4400	487.0	100	11.3	100	12.5	100	13.5	100	14.6	100	15.9	100	17.4	487.0
-40	4400	506.0	150	17.6	150	19.4	150	21.2	150	22.7	150	24.9	150	27.1	506.0
-60	4400	524.0	150	18.3	150	20.2	150	22.0	150	23.7	150	25.9	150	28.2	524.0
MAX	4400	524.0	150	18.3	150	20.2	150	22.0	150	23.7	150	25.9	150	28.2	524.0

28. Operation of EU IDs S-1d and S-1e in Out-of-SoLoNOx Mode. Limit the combined operating hours of EU IDs S-1d and S-1e in out-of-SoLoNOx mode to no more than 500 hours per rolling 12-month period. A turbine is operating in out-of-SoLoNOx mode when the load is less than 50 percent of the maximum load at site conditions[2].

[1] The percent load is based on actual load divided by the maximum load corresponding to that temperature.

[2] Definition provided by Caelus.

28.1. Record the date of initial startup of the emission unit.

28.2. Monitor the turbine load using continuous tracking through the turbine control panel.

28.3. By the end of each calendar month, calculate and record for the previous month the combined hours EU IDs S-1d and S-1e operated in out-of-SoLoNOx mode.

28.4. By the end of each calendar month, calculate and record the combined hours EU IDs S-1d and S-1e operated in out-of-SoLoNOx mode during the previous 12-month rolling period.

28.5. Report the combined rolling 12-month operating hours that the emission units operated out of SoLoNOx mode as described in Condition 93 for each month in the period covered by the report.

28.6. Report as excess emissions or permit deviation as described in Condition 92 if the combined rolling 12-months out-of-SoLoNOx operating hours exceed the limit in Condition 28, for each month in the period covered by the report

[Condition 7, Minor Permit AQ0911MSS05, January 8, 2015]

29. Verification of Turbine Emission Factors for EU IDs S-1a, S-1b, and S-1c. Conduct a performance test on any one of EU IDs S-1a, S-1b, or S-1c to verify the CO and NOx emission factors in Table D and Table E in accordance with Section 6 and Condition 50.2

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

29.1. Conduct CO performance testing as set forth in Condition 29 in conjunction with the NOx performance test required in Condition 50.2 on any of EU IDs S-1a, S-1b, or S-1c to verify that the turbine emission factors do not exceed those values listed in Table E. Provide emission factors in units directly comparable to the emission factors in Table E.

a. The performance test required by Condition 29.1 must be conducted on the three emission units subject to the condition on a rotating basis. Do not repeat this performance test on a particular emission unit until the other two emission units have been subjected to the performance test.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

29.2. Conduct NOx performance tests as required by Condition 50.2 to verify that the turbine emissions factors do not exceed those values listed in Table D. Provide emission factors in units directly comparable to Table D.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

29.3. Except as noted in Condition 29.4 conduct the tests at the following turbine load and inlet temperature conditions:

a. inlet temperature greater than 0°F, and 80 percent to 90 percent load;

b. inlet temperature greater than 0°F, and load less than 50 percent;

c. inlet temperature less than 0°F, and 80 percent to 90 percent load; and

d. inlet temperature less than 0°F, and load less than 50 percent.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

29.4. If the weather conditions do not allow for an inlet temperature of less than 0°F, substitute the following for Conditions 29.3.c and 29.3.d: Inlet temperature of greater than 0°F and 60 to 70 percent load. If the weather conditions do not allow for an inlet temperature of greater than 0°F, substitute the following for Conditions 29.3.a and 29.3.b: Inlet temperature of less than 0°F, and 60 to 70 percent load.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a

29.5. In the source test report submitted under Condition 86, compare the average NOx and CO concentrations (in ppmv) to the ppmv values listed in Table D and Table E, for each load and inlet temperature condition tested under Condition 29.2. Propose for Department approval under Condition 30, revised lb/hr emission factors for the entire table if the ppmv source test results exceed the ppmv values listed in Table D and Table E. All testing and reporting must be consistent with the following requirements.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

a. Use Method 19 of 40 C.F.R. 60 for converting all ppmv values into lb/hr values. Describe all assumptions (including the assumed standard conditions) and provide example calculations.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

b. Express all NOx concentrations as NO_2.

c. For each individual test and test condition average, report the

(i) turbine inlet temperature,

(ii) the concurrent NWS temperature recorded at Deadhorse,

(iii) the produced electrical power and percent load,

(iv) the NOx and CO concentrations in ppmv,

(v) the percent excess oxygen in the exhaust,

(vi) the exhaust volume flow rate and exhaust temperature,

(vii) the gas producer speed,

(viii) the equivalent NOx and CO mass emission rate (in lb/min),

(ix) whether inlet preheating was used, and

(x) whether the turbine was operating in or out of SoLoNO$_X$ mode.

d. Measure and report the heat content from a representative fuel sample.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

30. Procedure for Revised Emission Factors. All requests for revised emission factors must be submitted by the Permittee in writing, and will be considered as a permit modification under AS 46.14.285(a)(3).

30.1. All requests to *increase* emission factors will be treated as a permit amendment. If approved, the Department will issue a written amendment, but will not reopen the permit for public comment.

30.2. All requests to decrease emission factors will be treated as an application to revise or rescind the terms and conditions of a Title I permit under 18 AAC 50.508(6).

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

Ambient Air Quality Protection Requirements

31. General Ambient Air Quality Provisions. Comply with the following provisions to protect the annually averaged NO_2, annually averaged, 24-hour, three-hour, and one-hour SO_2, and 24-hour PM-10 Alaska Ambient Air Quality Standards (AAAQS):

[Condition 11, Minor Permit AQ0911MSS05, January 8, 2015]

31.1. **Air Quality Boundary:** Establish and maintain the ambient boundaries using the procedures described in Condition 32.

[Condition 15.1, Minor Permit No. AQ0911MSS04 Rev 1, June 20, 2014]

31.2. **Stack Configuration:**

a. For all permanent emission units and drilling rig emission units, construct and maintain each exhaust stack with uncapped, vertical outlets – flapper valves, or similar are allowed for these units as long as they do not hinder the vertical momentum of the exhaust plume.

b. For each emission unit listed in Table F, and the WHRUs associated with EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, construct and maintain the exhaust stack to have a release point that equals or exceeds the minimum height listed in Table F.

c. Maintain the exhaust stacks as constructed, and annually certify under Condition 94 that the stacks have not been modified.

Table F – Minimum Stack Height Requirements

Emission Unit	Description of Emission Unit	Stack Height (meters)
S-1a, S-1b, and S-1c	Solar Taurus Turbines – Bypass Stack	15.12
	Solar Taurus Turbines – WHRU Stack	12.19
S-1d and S-1e	Solar Taurus Turbines – Bypass Stack	15.11
	Solar Taurus Turbines – WHRU Stack	15.11
S-2	Onshore Backup Generator	10.67
S-7	Onshore Backup Generator	10.67
I-1	Offshore Backup Generator	8.23
I-5	Incinerator	6.10

[Condition 15.2, Minor Permit No. AQ0911MSS04 Rev 1, June 20, 2014]
[Condition 11.1, Minor Permit No. AQ0911MSS05, January 8, 2015]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

31.3. Restrict the sulfur content of diesel fuel burned in EU IDs S-7, NR-9a, NR-9b, I-9, I-10, I-11, S-2, NR-7, NR-8, I-7, NR-2, NR-3, NR-4, NR-5, NR-6, and S-3 to no more than 15 parts per million by weight (ppmw).

[Condition 11.3, Minor Permit AQ0911MSS05, January 8, 2015]

a. Monitor compliance with Condition 31.3 as described in Condition 34.

31.4. Operate EU IDs I-9 and I-10 only at the Oooguruk Drill Site facility while within the Oooguruk Development Project.

[Condition 11.4, Minor Permit AQ0911MSS05, January 8, 2015]

a. Report as excess emissions or a permit deviation as described in Condition 92 if EU ID I-9 or I-10 is operated at the Oooguruk Development Project outside the Oooguruk Drill Site.

32. Public Access Control Plan. Establish and maintain the ambient air boundaries as follows:

32.1. Comply with the provisions contained in the March 2006 (Revision 1) "Oooguruk Development Project – Access Control Plan", or a subsequent written version approved by the Department that contains at least the following elements:

a. scaled/dimensionalized maps of the onshore pad and the offshore pad that show the location of the pad edge and the location of the ambient air boundary (if different than the pad edge),

b. ambient air boundaries that do not extend beyond the land owner's authorization for precluding public access;

c. defined methods of establishing and maintaining the ambient air boundary, such as surveillance and posting of strategically located warning signs (provide size, wording, and inspection/repair schedule);

d. the date of the Access Control Plan; and

e. the procedure for approaching unauthorized people who have crossed the ambient air boundary.

32.2. Post and maintain all warning signs described in the Access Control Plan as follows:

a. post all signs as stated in the Access Control Plan;

b. use a font, font size, and contrast coloring that makes all lettering easy to read;

c. inspect and repair the signs according to the schedule described in the Access Control Plan; and

d. keep all signs visible and free of nearby obstructions (including wind-blown snow).

[Condition 16, Minor Permit AQ0911MSS04, Revision 1, June 20, 2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

33. NO_2 Ambient Air Quality Protection. Protect the annually averaged NO_2 and annually averaged SO_2 AAAQS as follows:

33.1. Limit the diesel fuel consumption of EU IDs NR-1a, NR-1b, and NR-1c to a combined total of 1,365,903 gallons per calendar year. Monitor, record, and report as follows:

a. Monitor and record the monthly fuel consumption of EU IDs NR-1a NR-1b, and NR-1c using a dedicated continuous fuel monitoring system that is accurate to within two percent.

b. For each calendar year, calculate and record the cumulative fuel consumed by EU IDs NR-1a, NR-1b, and NR-1c by January 31st for the previous calendar year.

c. Report using the operating report under Condition 93, the previous calendar year combined total fuel consumption of EU IDs NR-1a, NR-1b, and NR-1c for each period covered by the operating report.

d. Report as excess emissions or a permit deviation as described in Condition 92 whenever the total fuel consumption during the previous calendar year exceeds the requirements of Condition 33.1.

33.2. Limit the operation of each of EU IDs I-1, I-9, I-10, I-11, NR-7, and NR-8 to no more than 500 hours per calendar year.

33.3. Limit the operation of each of EU IDs S-2 and S-7[3] to no more than 3,500 hours per calendar year.

[3] Note that EU ID S-2 has a more restrictive limit in Condition 18. EU ID S-7 has a more restrictive limit in Condition 19.

33.4. Monitor compliance with Condition 33.2 and Condition 33.3 as follows:

a. For each calendar month, monitor and record the total monthly hours of operation for each emission unit subject to Condition 33.2 and Condition 33.3.

b. For each calendar year, calculate and record the hours of operation for each emission unit subject to Condition 33.2 and Condition 33.3 by January 31st for the previous calendar year.

c. For each emission unit subject to Condition 33.2 or Condition 33.3, report in the operating report under Condition 93, the total monthly hours of operation recorded under Condition 33.4.a, and the previous calendar year cumulative hours of operation calculated under Condition 33.4.b for the period covered by the operating report. The Permittee is not required to provide this information if no Drilling Rig was operational during the entire reporting period.

[Condition 17, Minor Permit AQ0911MSS04, June 20, 2014]
[Condition 12, Minor Permit AQ0911MSS05, January 8, 2015]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

34. SO_2 Ambient Air Quality Protection. Protect the annually averaged, 24-hour, three-hour, and one-hour SO_2 AAAQS as follows:

34.1. For the Solar Taurus Turbines (EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e) listed in Table A, burn only natural gas with a H_2S content that does not exceed 316 ppmv (on an instantaneous basis at standard conditions).

34.2. For EU IDs I-1, NR-1a, NR-1b, NR-1c, I-2a, I-2b, I-3, I-4, and I-8 burn only diesel fuel with a sulfur content that does not exceed 0.10 percent by weight (1,000 parts per million by weight).

[Condition 13, Minor Permit AQ0911MSS05, January 8, 2015]

34.3. **Monitoring**:

a. Monitor compliance with Condition 34.2 by analyzing a representative sample of the fuel for each shipment, to determine the sulfur content, measured in accordance with an appropriate methodology incorporated by reference within fuel specification standards ASTM D 396-92 or D 975-94. Alternatively, the Permittee may supply a statement or receipt from the fuel supplier for each fuel shipment received that documents the fuel sulfur content or that the fuel complies with the requirements of ultra-low sulfur diesel.

b. Monitor compliance with Condition 34.1, monthly using ASTM D4810-88, D 4913-89, or Gas Producers Association 2377-86. Alternatively, supply a vendor statement that documents total sulfur content of the gas received on a quarterly basis.

34.4. **Reporting**:

a. Report the results of the monitoring conducted under Condition 34.3 for the applicable reporting period, in the operating report submitted under Condition 93.

b. Report as a permit deviation under Condition 92 whenever fuel combusted does not meet the requirements of Conditions 31.3, 34.1, or 34.2.

[Condition 18, Minor Permit AQ0911MSS04, June 20, 2014]
[Condition 13, Minor Permit No. AQ0911MSS05, January 8, 2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

Insignificant Emission Units

35. For EU ID I-11 listed in Table A, I-8, S-3 listed in Table B, I-7 and I-12 listed in Table C and for emission units at the stationary source that are insignificant as defined in 18 AAC 50.326(d)-(i) that are not listed in this permit, the following apply:

35.1. **VE Standard**: The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.050(a) & 50.055(a)(1)]

35.2. **PM Standard**: The Permittee shall not cause or allow PM emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1)]

35.3. **Sulfur Standard**: The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c)]

35.4. **General MR&R for Insignificant Emission Units**

a. The Permittee shall submit the certification of compliance of Condition 94 based on reasonable inquiry;

b. The Permittee shall comply with the requirements of Condition 75;

c. The Permittee shall report in the operating report required by Condition 93 if an emission unit is insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and actual emissions become greater than any of those thresholds; and

d. No other monitoring, recordkeeping or reporting is required.

[18 AAC 50.346(b)(4)]

Section 4. Federal Requirements

Emission Units Subject to Federal NSPS Subpart A

36. NSPS Subpart A Notification. For any affected facility[4] or existing facility[5] regulated under NSPS requirements in 40 C.F.R. 60, the owner or operator shall furnish the Department and EPA written or, if acceptable to both the EPA and the Permittee. electronic notification of:

[18 AAC 50.035 & 50.040(a)(1)]
[40 C.F.R. 60.7(a) & 60.15(d)]

36.1. the date that construction or reconstruction of an affected facility commences postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in complete form.

[40 C.F.R. 60.7(a)(1)]

36.2. the actual date of initial startup of an affected facility postmarked within 15 days after such date;

[40 C.F.R. 60.7(a)(3), Subpart A]

36.3. any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies unless that change is specifically exempted under an applicable subpart or in 40 C.F.R. 60.14(e), postmarked 60 days or as soon as practicable before the change is commenced and shall include:

a. information describing the precise nature of the change,

b. present and proposed emission control systems,

c. productive capacity of the facility before and after the change, and

d. the expected completion date of the change;

[40 C.F.R. 60.7(a)(4)]

36.4. any proposed replacement of components of an existing facility, for which 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, postmarked as soon as practicable, but no less than 60 days before commencement of replacement, and including the following information:

[40 C.F.R. 60.15(d)]

a. the name and address of owner or operator,

b. the location of the existing facility,

4 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.

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

c. a brief description of the existing facility and the components that are to be replaced,

d. a description of the existing and proposed air pollution control equipment,

e. an estimate of the fixed capital cost of the replacements, and of constructing a comparable entirely new facility,

f. the estimated life of the existing facility after the replacements, and

g. a discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

37. NSPS Subpart A Startup, Shutdown, & Malfunction Requirements. The owner or operator shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs I-5, S-1a, S-1b, S-1c, S-1d, and S-1e, or any malfunctions of associated air pollution control equipment, or any periods during which a monitoring device for any of EU IDs S-1a, S-1b, S-1c, S-1d, S-1e, is inoperative.

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.7(b)]

38. NSPS Subpart A Performance (Source) Tests. The owner or operator shall conduct performance tests on EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e according to 40 C.F.R. 60.8 and Section 6 at such other times as may be required by EPA, and shall provide the Department and EPA with a written report of the results of the source test.

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.8(a)]

39. NSPS Subpart A Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate EU IDs I-5, S-1a, S-1b, S-1c, S-1d, and S-1e, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Administrator will determine whether acceptable operating and maintenance procedures are being used based on information available, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU IDs I-5, S-1a, S-1b, S-1c, S-1d, and S-1e.

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.11(d)]

40. NSPS Subpart A Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not the owner or operator has violated or is in violation of the standards set forth in Conditions 50.1 or 51, nothing in 40 C.F.R. Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e would have been in compliance with applicable requirements of 40 C.F.R. Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.11(g)]

41. **NSPS Subpart A Concealment of Emissions.** The owner or operator shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in Conditions 45, 50.1, and 51. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.12]

Incinerator Exemption for NSPS Subpart Ec, EU ID I-5

42. The owner or operator shall maintain a record of notification to the Administrator of any exemption under Subpart Ec for the life of the co-fired combustor (incinerator) at the stationary source.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]
[40 C.F.R. 60.50c(c)(1) & 60.50c(c)(2)]

43. Limit the fuel feed stream to 10 percent or less of the weight which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis.

43.1. For each calendar quarter, monitor and record the weight of:

a. hospital waste and medical/infectious waste; and

b. fuels other than hospital waste and medical/infectious waste.

43.2. For each calendar quarter, calculate and record the weight percent of hospital waste and medical/infectious waste burned.

43.3. Report the following to the Department in the stationary source operating report under Condition 93:

a. the amount of hospital waste and medical/infectious waste recorded under Condition 43.1.a;

b. the amount of fuels other than hospital waste and medical infectious waste recorded under Condition 43.1.b; and

c. the weight percent of hospital waste and medical/infectious waste burned for each of the two quarters being reported in the operating report, recorded under Condition 43.2.

43.4. If the weight percent of hospital waste and medical/infectious waste burned exceeds 10 percent on a calendar quarter basis, report to the Department under Condition 92, and comply with the applicable requirements of 40 C.F.R. 60 Subpart Ec.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]
[40 C.F.R. 60.51c & 60.50c(c)(3)]

CI ICE Subject to NSPS Subpart IIII

(EU IDs I-9, I-10, I-11, S-2, and S-7)

44. NSPS Subpart IIII General Requirements. For EU IDs I-9, I-10, I-11, S-2, and S-7, the owner or operator shall comply with all applicable requirements in 40 C.F.R. 60, Subpart IIII for stationary compression ignition (CI) internal combustion engine (ICE) whose construction[6], modification[7], or reconstruction[8] commences after July 11, 2005.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4200(a)

44.1. You must comply with the applicable provisions of Subpart A as specified in Table 8 to Subpart IIII.

[40 C.F.R. 60.4218 & Table 8 to 40 C.F.R. 60, Subpart IIII]

44.2. **Performance Tests**. If the owner or operator conducts performance tests to comply with Condition 45, the owner or operator shall conduct the performance tests in accordance with 40 C.F.R. 60.4212 for stationary CI ICE with a displacement of less than 30 liters per cylinder.

[40 C.F.R. 60.4212]

45. NSPS Subpart IIII Emission Standards. For EU IDs I-9, I-10, I-11, S-2, and S-7, the owner or operator shall comply with the applicable emission standards as follows:

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]

45.1. For non-emergency engines EU IDs I-9, I-10, S-2, and S-7, the owner or operator must comply with the emission standards in Table G.

Table G: Emission Standards for Non-Emergency Engines (g/kWh)

EU ID	Rating	Model Year	NOx	NMHC	HC	CO	PM
I-9	764 hp	Pre-2007, manufactured June, 2006	9.2		1.3	11.4	0.54
I-10	764 hp		9.2		1.3	11.4	0.54
S-2	1,500 hp		9.2		1.3	11.4	0.54
S-7	800 kW	2014	3.5	0.40		3.5	0.10

[40 C.F.R. 60.4204(a) & Table 1, Subpart IIII]
[40 C.F.R. 60.4204(b), 60.4201(f), 40 C.F.R. 1039.102, Table 7]

45.2. For fire pump engine EU ID I-11, the owner or operator must comply with the emission standards in Table H.

[6] For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.
[7] As defined in 18 AAC 50.990(59).
[8] As defined in 18 AAC 50.990(88).

Table H: Emission Standards for Emergency Engines (g/kWh)

EU ID	Rating	Model Year	NOx + NMHC	CO	PM
I-11	375 hp	Pre-2007	10.5	3.5	0.54

[40 C.F.R. 60.4205(c) & Table 4 to 40 C.F.R. 60, Subpart IIII]

45.3. The owner or operator must operate and maintain the stationary CI ICE that achieve the emission standards in Condition 45 over the entire life of the engine.

[40 C.F.R. 60.4206]

46. NSPS Subpart IIII Fuel Requirements. For EU IDs S-2 and S-7, the owner or operator must use diesel fuel that meets the requirements of 40 C.F.R. 80.510(b) for nonroad diesel.

46.1. a maximum sulfur content of 15 parts per million; and

46.2. a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 60.4207(b)
[40 C.F.R. 80.510(b)(1)(i) & (b)(2)]

47. NSPS Subpart IIII Monitoring. For EU IDs I-9, I-10, I-11, S-2, and S-7, the owner or operator must meet the monitoring requirements in 40 C.F.R. 60.4211.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(i & ii)]
[40 C.F.R. 60.4209]

47.1. For EU ID I-11, you must install a non-resettable hour meter prior to the startup of the engine.

[40 C.F.R. 60.4209(a)]

48. NSPS Subpart IIII Compliance Requirements. For EU IDs I-9, I-10, I-11, S-2, and S-7 the owner or operator must comply with the monitoring requirements in Conditions 48.1 through 48.7.

48.1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions.

[40 C.F.R. 60.4211(a)(1)]

48.2. Change only those emission-related settings that are permitted by the manufacturer.

[40 C.F.R. 60.4211(a)(2)]

48.3. Meet the requirements of 40 C.F.R. Parts 89, 94 and/or 1068, as they apply to the owner or operator.

[40 C.F.R. 60.4211(a)(3)]

48.4. For EU IDs I-9, I-10, I-11, and S-2, you must demonstrate compliance with the applicable emission standards in Condition 45 by one of the following methods:

a. Purchasing an engine certified according to 40 C.F.R. 89 for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specification;

[40 C.F.R. 60.4211(b)(1)]

b. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in 40 C.F.R. 60, Subpart IIII and these methods must have been followed correctly;

[40 C.F.R. 60.4211(b)(2)]

c. Keeping records of engine manufacturer data indicating compliance with the standards;

[40 C.F.R. 60.4211(b)(3)]

d. Keeping records of control device vendor data indicating compliance with the standards;

[40 C.F.R. 60.4211(b)(4)]

e. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 C.F.R. 60.4212, as applicable.

[40 C.F.R. 60.4211(b)(5)]

48.5. For EU ID S-7, you must comply with the emission standards in Condition 45.1 by purchasing an engine certified to the emission standards in Table G, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 C.F.R. 60.4211(g).

[40 C.F.R. 60.4211(c)]

48.6. For EU IDs I-9, I-10, I-11, S-2, and S-7:

a. If you not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

[40 C.F.R. 60.4211(g)]

(i) For EU IDs I-11, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must

conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

[40 C.F.R. 60.4211(g)(2)]

(ii) For EU IDs I-9, I-10, S-2 and S-7, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. 60.4211(g)(3)]

b. Owners or operators who conduct performance tests in-use for non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must meet the not-to-exceed (NTE) standards as indicated in 40 C.F.R.60.4212(d).

[40 C.F.R. 60.4204(d); 60.4212(d)]

48.7. For emergency engine EU ID I-11, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for more than 50 hours per year, as described in paragraphs 40 C.F.R. 60.4211(f)(1)-(3), is prohibited. If you do not operate the engine according to the requirements in 40 C.F.R. 60.4211(f)(1)-(3), the engine will not be considered an emergency engine under 40 C.F.R. 60, Subpart IIII and must meet all requirements for non-emergency engines.

a. There is no time limit on the use of the emergency stationary ICE in emergency situations.

[40 C.F.R. 60.4211(f)(1)]

b. You may operate the emergency ICE for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of

these units is limited to 100 hours per calendar year. You may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if you maintain records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

[40 C.F.R. 60.4211(f)(2) & 40 C.F.R. 60.4211(f)(2)(i)]

c. You may operate the emergency ICE up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year provided for maintenance and testing under Condition 48.7.b. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. 60.4211(f)(3)]

49. NSPS Subpart IIII Reporting Requirements. For EU ID S-7, you must include the method used to demonstrate compliance with Condition 48.5 in the first operating report required by Condition 93 after initial startup of EU ID S-7.

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

Turbines Subject to NSPS Subpart KKKK

(EU IDs S-1a through S-1e)

50. NSPS Subpart KKKK NOx Standard. For EU IDs S-1a through S-1e:

50.1. You must meet the NOx emission limits of 150 ppm at 15 percent O_2 or 1,100 nanograms per joule (ng/J) of useful output (8.7 pounds per megawatt-hour (lb/MWh)) for turbines located north of the Arctic Circle.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4320(a) & Table 1, Subpart KKKK]

50.2. **Monitoring**. For EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, you must perform annual performance tests (no more than 14 calendar months following the previous performance test) in accordance with Condition 50.5 to demonstrate continuous compliance, as follows:

[40 C.F.R. 60,4400(a)]

a. If the NOx emission result from the performance test is less than or equal to 75 percent of the NOx emission limit in Condition 50.1, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test).

[40 C.F.R. 60,4340(a)]

b. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit in Condition 50.1, you must resume annual performance tests.

[40 C.F.R. 60,4340(a)]

c. For EU IDs S-1a, S-1b, and S-1c, the performance test required by Condition 50.2 may be conducted on one of EU IDs S-1a, S-1b, and S-1c and must be conducted on these three emission units on a rotating basis. Do not repeat the performance test on a particular emission unit until the other two emission units have been subjected to the performance test.

d. For EU IDs S-1a, S-1b, and S-1c, if the results of any subsequent performance test exceed 50 percent of the NOx standard in Condition 50.1, you must conduct performance tests on the remaining emission units within 60 days of the test. If you can demonstrate that the NOx performance test for EU IDs S-1a, S-1b, and S-1c is less than or equal to 50 percent of the NOx standard in Condition 50.1, you may resume the schedule in Condition 50.2.c.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)]
[Letter from EPA Region X to, Pioneer Natural Resources, Alaska, 4/23/2010]

50.3. **Recordkeeping**. Keep records of all performance tests data in accordance with the recordkeeping requirements in Condition 88.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(ii) & (c)(6)]

50.4. **Reporting**. For EU IDs S-1a through S-1e, you must submit a written report of the results of each performance test required under Condition 50.2 and 50.5 before the close of business on the 60th day following the completion of the performance test and in accordance with Condition 86.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)]
[40 C.F.R. 60.4375(b)]

50.5. **Performance Tests**. You must conduct an initial performance test on EU ID S-1d and S-1e as required in Condition 38, and subsequent NOx performance tests on EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, as provided in Conditions 50.2.a through 50.2.d.

a. You may use either one of the two methodologies described below in Conditions 50.5.a(i) or 50.5.a(ii) to conduct performance test. For each test run:

[40 C.F.R. 60,4400(a)(1)]

(i) Measure the NOx concentration (in ppm), using EPA Method 7E or EPA Method 20 in Appendix A of 40 C.F.R 60. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in Appendix A of 40 C.F.R 60, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NOx emission rate:

$$E = \frac{(1.194 \times 10^{-7}) \times (NO_x)_c \times (Q_{std})}{P}$$

Where:

E	=	NO_X emission rate, in lb/MWh
1.194 X 10^{-7}	=	conversion constant, in lb/(dscf-ppm)
NOx	=	average NOx concentration for the run, in ppm
Q_{std}	=	stack gas volumetric flow rate, in dcf/hr
P	=	gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to 40 C.F.R. 60.4350(f)(2); or

[40 C.F.R. 60,4400(a)(1)(i)]

(ii) Measure the NOx and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in Appendix A of 40 C.F.R. 60. Concurrently measure the heat input to the unit, using a fuel flow meter(s), and measure the electrical and thermal output of the unit. Use EPA Method 19 in Appendix A of 40 C.F.R. 60 to calculate the NO_X emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in 40 C.F.R. 60.4350(f) to calculate the NOx emission rate in lb/MWh.

[40 C.F.R. 60,4400(a)(1)(ii)]

b. Sampling traverse points for NOx and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

[40 C.F.R. 60,4400(a)(2)]

c. Notwithstanding Condition 50.5.b, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in Appendix A 40 C.F.R. 60 if the following conditions are met:

[40 C.F.R. 60,4400(a)(3)]

(i) Perform a stratification test for NOx and diluent pursuant to the procedures specified in Section 6.5.6.1(a) through (e) of Appendix A of 40 C.F.R. 75.

[40 C.F.R. 60,4400(a)(3)(i)(B)]

(ii) Once the stratification sampling is completed, use the following alternative sample point selection criteria for the performance test:

[40 C.F.R. 60,4400(a)(3)(ii)]

(A) If each of the individual traverse point NOx concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5 ppm or ±0.5 percent CO_2 (or O_2) from the mean for all traverse points, then you may use three points (located at either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NOx concentration during the stratification test; or

[40 C.F.R. 60,4400(a)(3)(ii)(A)]

(B) Sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NOx concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3 ppm or ±0.3 percent CO_2 (or O_2) from the mean for all traverse points.

[40 C.F.R. 60,4400(a)(3)(ii)(B)]

d. You must conduct performance test, as follows:

(i) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load.

(ii) You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice; and

(iii) You must conduct three separate test runs for each performance test at a minimum time of 20 minutes per run.

[40 C.F.R. 60,4400(b)]

e. Compliance with the applicable emission limit in Condition 50.1 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NOx emission rate at each tested level meets the applicable emission limit in Condition 50.1.

[40 C.F.R. 60,4400(b)(4)]

f. The ambient temperature must be greater than 0°F during the performance test.

[40 C.F.R. 60.4400(b)(6)]

51. NSPS Subpart KKKK SO_2 Standard. You must not burn in EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4330(a)(2)]

51.1. **Monitoring**. Monitor compliance with the standards listed in Condition 51 as follows:

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(i)]
[40 C.F.R. 60.4360]

a. You may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. You must use one of the following sources of information to make the required demonstration:

[40 C.F.R. 60.4365]

(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

[40 C.F.R. 60.4365(a)]

(ii) Representative fuel sampling data, which show that the sulfur content of the gaseous fuel does not exceed 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. At a minimum, the amount of fuel sampling data specified in 40 C.F.R. 75, Appendix D, Section 2.3.1.4 or 2.3.2.4 is required.

[40 C.F.R. 60.4365(b)]

51.2. **Recordkeeping**. Keep records to document the demonstration required by Condition 51.1 and in accordance with recordkeeping requirements in Condition 88.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(ii)]

52. NSPS Subpart KKKK General Compliance Monitoring. Monitor compliance as follows:

52.1. You must operate and maintain EU IDs S-1a, S-1b, S-1c, S-1d, and S-1e, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 60.4333(a)]

Emission Units Subject to Federal NESHAPS Subpart A

(EU IDs I-1, I-2a, I-2b, I-9, I-10, I-11, S-2, and S-7)

53. National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart A.

53.1. For stationary CI ICE EU IDs I-1, I-9, I-10, I-11, S-2, and S-7, you must comply with the applicable requirements of 40 C.F.R. 63 Subpart A in accordance with the provisions for applicability of Subpart A in NESHAP Subpart ZZZZ, Table 8.

[18 AAC 50.040(c)(1) & 50.326(j)]
[40 C.F.R. 63.6665]

53.2. For diesel-fired boilers EU IDs I-2a and I-2b, you must comply with the applicable requirements of 40 C.F.R 63 Subpart A in accordance with the provisions for applicability of Subpart A in NESHAP Subpart JJJJJJ, Table 8, if the emission unit does not meet the definition of a temporary boiler in 40 C.F.R. 63.11237.

[18 AAC 50.040(c)(1) & 50.326(j)]
[40 C.F.R. 63.11235, 63.11237]

RICE Subject to NESHAP Subpart ZZZZ

(EU IDs I-1, I-9, I-10, I-11, S-2, and S-7)

54. NESHAP Subpart ZZZZ Stationary RICE. For EU IDs I-1, I-9, I-10, I-11, S-2, and S-7, you must be in compliance with the applicable emission limitations, operating limitations, and other applicable requirements at all times.

[18 AAC 50.040(c)(23), (j)(4), and 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 63.6585(c) & 63.6605(a)]

54.1. For CI ICE EU IDs I-9, I-10, I-11, S-2, and S-7, you must comply with the requirements of 40 C.F.R. 63, Subpart ZZZZ by meeting the requirements of 40 C.F.R. 60, Subpart IIII in Conditions 44 through 49, as applicable. No further requirements apply for these CI ICE under 40 C.F.R. 63, Subpart ZZZZ.

[40 C.F.R. 63.6590(c)]

NESHAP Subpart ZZZZ Requirements, EU ID I-1

55. Management Practices for RICEs at an Area Source of HAPs. You must comply with the requirements in Condition 55.1.

[40 C.F.R. 63.6603(a)]

55.1. **Management Practices for Stationary Non-Emergency CI RICE**: You must comply with the following management practices:

a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;

b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary

c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

[40 C.F.R. 63.6603(a) & (b) and Table 2d to NESHAP Subpart ZZZZ, Item 1]

56. General requirements: You must comply with the following:

[18 AAC 50.040(c)(23), (j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1) & (a)(3)(i)]

56.1. **Good Air Pollution Control Practices.** At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 C.F.R. 63.6605(b)]

56.2. **Operation and Maintenance Requirements.**

a. You must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. 63.6625(e)(5)]

b. You must minimize the engine’s time spent at idle and minimize the engine’s startup time at startup to a period need for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 C.F.R. 63.6625(h) & Table 2d, Column 3]

56.3. **Oil Analysis Program for CI Engines**. You have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Condition 55.1. The oil analysis must be performed at the same frequency specified for changing the oil in Condition 55.1. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[40 C.F.R. 63.6625(i)]

NESHAP Subpart ZZZZ Monitoring

57. Continuous Compliance: You must comply with the following:

[18 AAC 50.040(c)(23), (j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1) & (a)(3)(i)]

57.1. You must demonstrate continuous compliance with each operating limitation and other requirements in Condition 55 according to methods specified in Condition 57.1.a or 57.1.b.

a. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or

b. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. 63.6640(a) & Table 6, Item 9, Subpart ZZZZ]

58. Record Keeping. You must comply with the following:

58.1. Keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.

[40 C.F.R. 63.6655(e) & (e)(3)]

58.2. Keep records in a form suitable and readily available for expeditious review according to 40 C.F.R. 63.10(b)(1), keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record and keep records readily accessible in hard copy or electronic form for at least five years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. All records may be maintained offsite.

[40 C.F.R. 63.6660]
[40 C.F.R. 63.10(b)(1)]
[Table 8 to NESHAP, Subpart ZZZZ]

59. **Reporting**. You must include in the operating report required by Condition 93, a report of deviations as defined in 40 C.F.R. 63.6675 for each instance in which an applicable requirement in 40 C.F.R. 63, Subpart A as specified in Table 8 to Subpart ZZZZ was not met.

[40 C.F.R. 63.6640(e) & 63.6650(f)]

Boilers Subject to NESHAP Subpart JJJJJJ (EU IDs I-2a and I-2b)

60. EU IDs I-2a and I-2b are exempt from NESHAPS Subpart JJJJJJ if operated as temporary boilers. To maintain the exemption, you must operate EU IDs I-2a and I-2b as temporary boilers as defined in 40 C.F.R 63.11237. A boiler is not a temporary boiler if it is attached to a foundation, remains at a location within the stationary source and performs the same or similar function for more than 12 consecutive months, or is moved from one location within the stationary source to another location within the stationary source but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

[40 C.F.R. 63.11195(h) and 63.11237]

60.1. **Monitoring and Recordkeeping of Operation.** Monitor and record each month the emission unit operates at the stationary source, the location and function of the emission unit. Calculate the number of months the emission unit operated at the same location at the stationary source performing the same or similar function during the previous 12 consecutive months.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(a)]

60.2. **Reporting of Operation**. Report the number of months the emission unit operated at the same location at the stationary source performing the same or similar function during the previous 12 consecutive months with the operating report required by Condition 93.

[40 C.F.R. 71.6(a)]

60.3. For an emission unit that does not meet the definition of a temporary boiler in Condition 60, the Permittee shall comply with the applicable requirements of NESHAPS Subpart JJJJJJ for oil-fired boilers.

[40 C.F.R. 71.6(a)]

General Federal Requirements

61. **Asbestos NESHAP.** The owner or operator shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152 of Subpart M, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(1) & (2)(F), & 50.326(j)]
[40 C.F.R. 61, Subparts A & M, and Appendix A]

62. **Protection of Stratospheric Ozone, 40 C.F.R. 82**

62.1. **Subpart F - Refrigerant Recycling and Emissions Reduction.** The Permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 50.326(j)]
[40 C.F.R. 82, Subpart F]

62.2. **Subpart G – Significant New Alternatives Policy.** The Permittee shall comply with the applicable prohibitions set out in 40 C.F.R. 82.174 (Protection of Stratospheric Ozone Subpart G – Significant New Alternatives Policy Program).

[18 AAC 50.040(d)]
[40 C.F.R. 82.174(b)-(d), Subpart G]

62.3. **Subpart H – Halon Emission Reduction.** The Permittee shall comply with the applicable prohibitions set out in 40 C.F.R. 82.270 (Protection of Stratospheric Ozone Subpart H – Halon Emission Reduction).

[18 AAC 50.040(d)]
[40 C.F.R. 82.270(b)-(f), Subpart H]

63. **NESHAPs Applicability Determinations.** The owner or operator shall determine rule applicability and designation of affected sources under NESHAPs for Source Categories (40 C.F.R. 63) in accordance with the procedures described in 40 C.F.R. 63.1(b) and 63.10(b)(3). If a source becomes affected by an applicable subpart of 40 C.F.R. 63, the owner or operator shall comply with such standard by the compliance date established by the Administrator in the applicable subpart, in accordance with 40 C.F.R. 63.6(c).

63.1. After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator and the Department of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in 40 C.F.R. 63.9(b).

[18 AAC 50.040(c)(1), 50.040(j), & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(ii)]
[40 C.F.R. 63.1(b), 63.5(b)(4), 63.6(c)(1), & 63.10(b)(3)]

64. **NSPS and NESHAP Reports**. The owner or operator shall:

64.1. **Reports:** Attach to the operating report required by Condition 93 for the period covered by the report, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 unless a copy has already been provided to the Department at the time of submittal to EPA.

[18 AAC 50.326(j)(4) & 50.040(j)]
[40 C.F.R. 63.10(d) & (f)(1), and 40 C.F.R. 71.6(c)(6)]

64.2. **Waivers**: Upon request by the Department, provide a written copy of any EPA-granted alternative monitoring requirement, custom monitoring schedule or waiver of the Federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements. The owner or operator shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit.

[18 AAC 50.326(j)(4) & 50.040(j)]
[40 C.F.R. 71.6(c)(6)]

Section 5. General Conditions

Standard Terms and Conditions

65. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

[18 AAC 50.326(j)(3), 50.345(a) & (e)]

66. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and re-issuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[18 AAC 50.326(j)(3), 50.345(a) & (f)]

67. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.326(j)(3), 50.345(a) & (g)]

68. **Administration Fees.** The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-403.

[18 AAC 50.326(j)(1), 50.400 & 50.403]
[AS 37.10.052(b), 11/04; AS 46.14.240]

69. **Assessable Emissions.** The Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities 10 tons per year or greater. The quantity for which fees will be assessed is the lesser of

69.1. the stationary source's assessable potential to emit of 1,003 tpy; or

69.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon credible evidence of actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by the most representative of one or more of the following methods:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035;

d. other methods and calculations approved by the Department, including appropriate vendor-provided emission factors when sufficient documentation is provided.

[18 AAC 50.040(j)(3), 50.035, 50.326(j)(1), 50.346(b)(1), 50.410, & 50.420]
[40 C.F.R. 71.5(c)(3)(ii)]

70. **Assessable Emission Estimates.** Emission fees will be assessed as follows:

70.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Suite 303, P.O. Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

70.2. if no estimate is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in Condition 69.1.

[18 AAC 50.040(j)(3), 50.326(j)(1), 50.346(b)(1), 50.410, & 50.420]
[40 C.F.R. 71.5(c)(3)(ii)]

71. Good Air Pollution Control Practice. The Permittee shall do the following for EU IDs I-2a, I-2b, I-3, I-4, and I-5:

71.1. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

71.2. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and

71.3. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030, 50.326(j)(3), & 50.346(b)(5)]

72. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification under Condition 94 that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a)]

73. Reasonable Precautions to Prevent Fugitive Dust. A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.045(d), 50.040(e), 50. 326(j)(3), & 50.346(c)]

73.1. The Permittee shall keep records of

a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and

b. any additional precautions that are taken

(i) to address complaints described in Condition 73.1 or to address the results of Department inspections that found potential problems; and

(ii) to prevent future dust problems.

73.2. The Permittee shall report according to Condition 77.

74. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, except as authorized by a construction permit, Title V permit, or air quality control permit issued before October 1, 2004.

[18 AAC 50.055(g)]

75. Air Pollution Prohibited. No person may permit 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.

[18 AAC 50.110, 50.040(e), 50.326(j)(3), and 50.346(a)]
[40 C.F.R. 71.6(a)(3)]

75.1. Monitoring, Recordkeeping, and Reporting for Condition 75:

a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 92.

b. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 75.

75.2. The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 75; or

b. the Department notifies the Permittee that it has found a violation of Condition 75.

75.3. The Permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 75; and

d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

75.4. With each operating report under Condition 93, the Permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

75.5. The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

76. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235(d), causes emissions in excess of a technology-based emission standard[9] listed in Conditions 45, 50.1 51, and 62.1 (refrigerants), the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under Condition 92 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 92.

[18 AAC 50.235(a), 50.326(j)(4), & 50.040(j)(4)]
[40 C.F.R. 71.6(c)(6)]

Open Burning Requirements

77. Open Burning. If the Permittee conducts open burning at this stationary source, the Permittee shall comply with the requirements of 18 AAC 50.065.

77.1. The Permittee shall keep written records to demonstrate that the Permittee complies with the limitations in this condition and the requirements of 18 AAC 50.065. Upon request by the Department, submit copies of the records.

77.2. Compliance with this condition shall be an annual certification conducted under Condition 94.

[18 AAC 50.065, 50.040(j), & 50.326(j)]
[40 C.F.R. 71.6(a)(3)]

[9] *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Section 6. General Source Testing and Monitoring Requirements

78. Requested Source Tests. In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a) & 50.345(a) & (k)]

79. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

[18 AAC 50.220(b)]

79.1. at a point or points that characterize the actual discharge into the ambient air; and

79.2. at the maximum rated burning or operating capacity of the emission unit or another rate determined by the Department to characterize the actual discharge into the ambient air.

80. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

80.1. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(c)(1)(A) & 50.040(a)]
[40 C.F.R. 60]

80.2. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c) & 50.220(c)(1)(C)]
[40 C.F.R. 63]

80.3. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9 and may use the form in Section 11 to record data.

[18 AAC 50.030 & 50.220(c)(1)(D)]

80.4. Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(3) & 50.220(c)(1)(E)]
[40 C.F.R. 60, Appendix A]

80.5. Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

[18 AAC 50.035(b)(2) & 50.220(c)(1)(F)]
[40 C.F.R. 51, Appendix M]

80.6. Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

[18 AAC 50.040(c)(24) & 50.220(c)(2)]
[40 C.F.R. 63, Appendix A, Method 301]

81. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific emission unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3) & 50.990(102)]

82. Test Exemption. The Permittee is not required to comply with Conditions 84, 85 and 86 when the exhaust is observed for visible emissions by Method 9 Plan (Condition 4.1) or Smoke/No Smoke Plan (Condition 4.2).

[18 AAC 50.345(a)]

83. Test Deadline Extension. The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

[18 AAC 50.345(a) & (l)]

84. Test Plans. Except as provided in Condition 82, before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the emission unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 78 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be performed without resubmitting the plan.

[18 AAC 50.345(a) & (m)]

85. Test Notification. Except as provided in Condition 82, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.

[18 AAC 50.345(a) & (n)]

86. Test Reports. Except as provided in Condition 82, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the Source Test Report Outline, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 89. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

[18 AAC 50.345(a) & (o)]

87. PM Calculations. In source testing for compliance with the PM standards in Conditions 7 and 35.2, the three-hour average is determined using the average of three one-hour test runs. The source testing must account for those emissions caused by soot blowing, grate cleaning, or other routine maintenance activities by ensuring that at least one test run includes the emissions caused by the routine maintenance activity and is conducted under conditions that lead to representative emissions from that activity. The emissions must be quantified using the following equation:

$$E = E_M\left[(A+B)\times\frac{S}{R\times A}\right]+E_{NM}\left[\frac{R-S}{R}-B\times\frac{S}{R\times S}\right]$$

Where:

E = the total PM emissions of the emission unit in grains per dry standard cubic foot (gr./dscf)

E_M = the PM emissions in gr./dscf measured during the test that included the routine maintenance activity

E_{NM} = the arithmetic average of PM emissions in gr./dscf measured during the test runs that did not include the maintenance activity

A = the period of routine maintenance activity occurring during the test run that included routine maintenance activity, expressed to the nearest hundredth of an hour

B = the total period of the test run, less A

R = the maximum period of emission unit operation per 24 hours, expressed to the nearest hundredth of an hour

S = the maximum period of routine maintenance activity per 24 hours, expressed to the nearest hundredth of an hour

[18 AAC 50.220(f)]

Section 7. General Recordkeeping and Reporting Requirements

Recordkeeping Requirements

88. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

[18 AAC 50.040(a)(1) and 50.326(j)]
[40 C.F.R 60.7(f), Subpart A, 40 C.F.R 71.6(a)(3)(ii)(B)]

88.1. Copies of all reports and certifications submitted pursuant to this section of the permit; and

88.2. Records of all monitoring required by this permit, and information about the monitoring including:

a. the date, place, and time of sampling or measurements;

b. the date(s) analyses were performed;

c. the company or entity that performed the analyses;

d. the analytical techniques or methods used;

e. the results of such analyses; and,

f. the operating conditions as existing at the time of sampling or measurement.

Reporting Requirements

89. Certification. The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: *"Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete."* Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

89.1. The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if

a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and

b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 91.1.a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

[18 AAC 50.345(a) & (j), 50.205, & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)(A)]

90. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send one certified (original) copy[10] of reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Condition 89.

[18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)(A)]

91. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the Federal Administrator.

[18 AAC 50.345(a) & (i), 50.200, & 50.326(a) & (j)]
[40 C.F.R. 71.5(a)(2) & 71.6(a)(3)]

92. Excess Emissions and Permit Deviation Reports.

92.1. Except as provided in Condition 75, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the excess emissions or deviation occurred, except as provided in Conditions 92.1.c(ii) and 92.1.c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 92.1.c(i); and

[10] The 'one certified copy' requirement does not apply to Operating Reports described in Condition 95.

(iii) for failure to monitor, as required in other applicable conditions of this permit.

92.2. When reporting excess emissions or permit deviations, the Permittee shall report using either the Department's on-line form, which can be found at http://dec.alaska.gov/air/ap/docs/eeform.pdf, or if the Permittee prefers, the form contained in Section 12 of this permit. The Permittee must provide all information called for by the form that is used.

92.3. If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.235(a)(2), 50.240(c), 50.326(j)(3), & 50.346(b)(2) & (3)]

93. Operating Reports. During the life of this permit,[11] the Permittee shall submit to the Department an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.

93.1. The operating report must include all information required to be in operating reports by other conditions of this permit, for the period covered by the report.

93.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 93.1, the Permittee shall identify

a. the date of the deviation;

b. the equipment involved;

c. the permit condition affected;

d. a description of the excess emissions or permit deviation; and

e. any corrective action or preventive measures taken and the date(s) of such actions.

93.3. When excess emissions or permit deviations have already been reported under Condition 92 the Permittee shall cite the date or dates of those reports.

93.4. The operating report must include, for a period covered by the report, a listing of emissions monitored under Conditions 4.1.e and 4.2.c which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report.

a. the date of the emissions;

b. the equipment involved;

c. the permit condition affected; and

[11] *Life of this permit* is defined as the permit effective dates, including any periods of reporting obligations that extend beyond the permit effective dates. For example if a permit expires prior to the end of a calendar year, there is still a reporting obligation to provide operating reports for the periods when the permit was in effect.

d. the monitoring result which triggered the additional monitoring.

93.5. **Transition from expired to renewed permit**. For the first period of this renewed operating permit, also provide the previous permit's operating report elements covering that partial period immediately preceding the effective date of this renewed permit.

[18 AAC 50.346(a) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)(A)]

94. Annual Compliance Certification. Each year by March 31, the Permittee shall compile and submit to the Department one certified (original) document of an annual compliance certification report[12].

94.1. Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:

a. identify each term or condition set forth in Section 3 through Section 9, that is the basis of the certification;

b. briefly describe each method used to determine the compliance status;

c. state whether compliance is intermittent or continuous; and

d. identify each deviation and take it into account in the compliance certification;

94.2. **Transition from expired to renewed permit**. For the first period of this renewed operating permit, also provide the previous permit's annual compliance certification report elements covering that partial period immediately preceding the effective date of this renewed permit.

94.3. In addition, submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.205, 50.345(a) & (j), & 50.326(j)]
[40 C.F.R. 71.6(c)(5)]

95. Emission Inventory Reporting. The Permittee shall submit to the Department reports of actual emissions, by emission unit, of CO, Ammonia, NOx, PM_{10}, $PM_{2.5}$, SO_2, VOCs and Lead (and lead compounds) using the form in Section 13 of this permit, as follows:

95.1. Each year by April 30, if the stationary source's potential to emit for the previous calendar year equals or exceeds:

a. 250 tpy of Ammonia, PM_{10}, $PM_{2.5}$ or VOCs, or

b. 2,500 tpy of CO, NOx or SO_2.

95.2. Every third year by April 30 if the stationary source's potential to emit emissions for the previous calendar year equals or exceeds:

[12] See Condition 96.2 for clarification on the number of reports required.

a. 5 tpy of actual lead, or

b. 1,000 tpy of CO; or

c. 100 tpy of SO_2, Ammonia, PM_{10}, $PM_{2.5}$ NOx or VOCs.

95.3. For reporting under Condition 95, the Permittee shall report in 2015 for the calendar year of 2014, 2018 for calendar year 2017, 2021 for calendar year 2020, etc., in accordance with the Environmental Protection Agency set schedule.

95.4. Include in the report required by this condition, the required data elements contained within the form in Section 13 or those contained in Table 2A of Appendix A to Subpart A of 40 CFR 51 for each stack associated with an emission unit.

[18 AAC 50.346(b)(8) and18 AAC 50.200]
[40 CFR 51.15, 51.30(a)(1) & (b)(1) & 40 CFR 51, Appendix A to Subpart A]

Section 8. Permit Changes and Renewal

96. Permit Applications and Submittals. The Permittee shall comply with the following requirements for submitting application information to the EPA Region 10:

96.1. The Permittee shall provide a copy of each application for modification or renewal of this permit, including any compliance plan, or application addenda, at the time the application or addendum is submitted to the Department[13];

96.2. The information shall be submitted to the same address as in Condition 94.3.

96.3. To the extent practicable, the Permittee shall provide to EPA applications in portable document format (PDF); MS Word format (.doc); or other computer-readable format compatible with EPA's national database management system; and

96.4. The Permittee shall maintain records as necessary to demonstrate compliance with this condition.

[18 AAC 50.040(j)(7) & 50.326(b)]
[40 C.F.R. 71.10(d)(1)]

97. Emissions Trading. No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(8)]

98. Off Permit Changes. The Permittee may make changes that are not addressed or prohibited by this permit other than those subject to the requirements of 40 C.F.R. Part 72 through 78 or those that are modifications under any provision of Title I of the Act to be made without a permit revision, provided that the following requirements are met:

98.1. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;

98.2. Provide contemporaneous written notice to EPA and the Department of each such change, except for changes that qualify as insignificant under 18 AAC 50.326(d) – (i). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change;

98.3. The change shall not qualify for the shield under 40 C.F.R. 71.6(f);

98.4. The Permittee shall keep a record describing changes made at the stationary source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(12)]

[13] The documents required in Condition 98.1 are submitted to the Department's Anchorage office. The current address is: Permit Intake Clerk, ADEC, Air Permit Program, 555 Cordova Street, Anchorage, AK 99501.

99. Operational Flexibility. The Permittee may make changes within the permitted stationary source without requiring a permit revision if the changes are not modifications under any provision of Title I of the Act and the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions):

99.1. The Permittee shall provide EPA and the Department with a notification no less than 7 days in advance of the proposed change.

99.2. For each such change, the written notification required above shall include a brief description of the change within the permitted stationary source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

99.3. The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to Condition 99.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(13)]

100. Permit Renewal. To renew this permit, the Permittee shall submit an application under 18 AAC 50.326 no sooner than July 30, 2020 and no later than July 30, 2021 before January 30, 2022. The renewal application shall be complete before the permit expiration date listed on the cover page of this permit. Permit expiration terminates the stationary source's right to operate unless a timely and complete renewal application has been submitted consistent with 40 C.F.R. 71.7(b) and 71.5(a)(1)(iii).

[18 AAC 50.040(j)(3), 50.326(c)(2) & (j)(2)]
[40 C.F.R. 71.5(a)(1)(iii) & 71.7(b) & (c)(1)(ii)]

Section 9. Compliance Requirements

General Compliance Requirements

101. Compliance with permit terms and conditions is considered to be compliance with those requirements that are

101.1. included and specifically identified in the permit; or

101.2. determined in writing in the permit to be inapplicable.

[18 AAC 50.326(j)(3) & 50.345(a) & (b)]

102. The Permittee must comply with each permit term and condition.

102.1. For applicable requirements with which the stationary source is in compliance, the Permittee shall continue to comply with such requirements.

102.2. Noncompliance with a permit term or condition constitutes a violation of AS 46.14.120(c), 18 AAC 50, and, except for those terms or conditions designated in the permit as not Federally enforceable, the Clean Air Act, and is grounds for

a. an enforcement action;

b. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or

c. denial of an operating permit renewal application.

[18 AAC 50. 326(j)(3) & 50.345(a) & (c)]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(A)]

103. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.326(j)(3) & 50.345(a) & (d)]

104. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

104.1. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

104.2. have access to and copy any records required by the permit;

104.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

104.4. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.326(j)(3) & 50.345(a) & (h)]

Compliance Schedule

105. For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(B)]

Section 10. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the permit application, this section of the permit contains the requirements determined by the Department not to be applicable to the stationary source.

106. Nothing in this permit shall alter or affect the following:

106.1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or

106.2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

[18 AAC 50.326(j)]
[40 C.F.R. 71.6(f)(3)(i)) & (ii)]

107. Table I identifies the emission units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table I becomes applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit and/or an operating permit revision.

[18 AAC 50.326(j)]
[40 C.F.R. 71.6(f)(1)(ii)]

Table I - Permit Shields Granted[14]

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
Stationary Source-Wide	40 C.F.R. 60 Subparts Cc, F, G, Ga, H, I, J, Ja, M, N, Na, O, S, T, U, V, W, X, Y, Z, AA, AAa, BB, BBa, CC, EE, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, VVa, WW, XX, BBB, DDD, FFF, GGG, GGGa, HHH, III, JJJ, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, WWW	Not an affected stationary source, operation, or industry.
	40 C.F.R. 60.7(c) & (d) (EEMSP Reports); 40 C.F.R. 60 Subparts Cd, D, Da, Db, K, Ka, Kb, L, P, Q, R, DD, AAA, KKK, LLL, BBBB, JJJJ, LLLL, MMMM, OOOO QQQQ, TTTT, and UUUU	No currently installed emission unit required to submit the reports. No affected emission units exist within the stationary source.
	40 C.F.R. 61 Subpart A, B, C, D, E, F, H, I, K, L, N, O, P, Q, R, T, W, Y, BB, and FF	No affected facility within the stationary source.
	40 C.F.R. 61 Subpart J	Stationary source does not contain any equipment in benzene service (>10% by weight).
	40 C.F.R. 61, Subpart V	No fugitive emission source subject to 40 C.F.R.60.
	40 C.F.R. 63 Subparts F, G, H, I, J, M, O, R, S, T, U, W, X, Y, AA, BB, CC, DD, EE, GG, II, JJ, KK, LL, MM, TT, UU, CCC, DDD, GGG, HHH, III, JJJ, LLL, MMM, NNN, OOO, PPP, QQQ, RRR, TTT, UUU,	Not an affected source, operation or industry.

[14] Non-applicable requirements due to source not being a major HAP-source excluded from table.

	VVV, XXX, AAAA, CCCC, DDDD, EEEE, FFFF, GGGG, HHHH, IIII, JJJJ, KKKK, MMMM, NNNN, OOOO, PPPP, QQQQ, RRRR, SSSS, TTTT, UUUU, VVVV, WWWW, XXXX, AAAAA, BBBBB, CCCCC, EEEEE, FFFFF, GGGGG, HHHHH, IIIII, JJJJJ, KKKKK, LLLLL, MMMMM, NNNNN, PPPPP, QQQQQ, RRRRR, SSSSS, TTTTT, YYYYY, ZZZZZ, BBBBBB, CCCCCC, DDDDDD, EEEEEE, FFFFFF, GGGGGG, HHHHHH, LLLLLL, MMMMMM, NNNNNN, OOOOOO, PPPPPP, QQQQQQ, RRRRRR, SSSSSS, TTTTTT, VVVVVV, WWWWWW, XXXXXX, YYYYYY, ZZZZZZ, AAAAAAA, BBBBBBB, CCCCCCC, DDDDDDD, EEEEEEE, HHHHHHH	
Stationary Source-wide	40 C.F.R. 63 Subparts L, N, Q, OO, PP, QQ, RR, SS, VV, WW, XX, YY, EEE, UUUUU, WWWWW	No affected facility within the stationary source.
	40 C.F.R. 63 Subpart HH	The stationary source does not include a triethylene glycol dehydration unit.
Non-road Engines	18 AAC 50.055	They are not “industrial processes” or “fuel burning equipment” as defined in 18 AAC 50.990(39), (49).
Stationary Source-wide	18 AAC 50.055(a)(2)	The emission units were not described in cited regulations or in operation before November 1982.
	18 AAC 50.055(a)(3)-(9)	Stationary source has no emission units as described in cited regulations
	18 AAC 50.055(b)(2)-(6)	Stationary source has no emission units as described in cited regulations
	18 AAC 50.055(d)-(f)	The stationary source does not contain sources subject to these sulfur standards
	18 AAC 50.060, 50.070, 50.085, 50.090	Stationary source does not belong to the affected sources regulated by these standards
	18 AAC 50.075, 50.076, 50.077	Stationary source has no emission units as described in cited regulations
	40 C.F.R .82 Subpart B	Stationary source do not perform service on motor vehicle air conditioners
I-1	40 C.F.R. 60, Subpart IIII	Constructed before July 11, 2005 and not modified
	40 C.F.R. 63.6612, 6615, 6620, 6630, 6635, 6640(b)-(d), 6645(g)-(h), 6650, 6655(a), (d)	Not subject to performance tests, emission limits, or operating limits.
	40 C.F.R. 63.6604, 6625(g), 6645(a) & (f)	Not accessible by the Federal Aid Highway System
	40 C.F.R. 63.6625(a) & (b), 6655(b)	Not required to use CEMS, CPMS, CMS
	40 CFR 63.6625(f), 6640(f), & 6655(f)	Not an emergency unit
	40 CFR 63.6625(c) & 6655(c)	Does not fire landfill or digester gas
I-5	40 C.F.R.60, Subpart CCCC	Constructed before June 4, 2010 (per §60.2015)
	40 C.F.R.60, Subparts Cb and Ce	Constructed after November 30, 1999
	40 C.F.R. 62, Subparts III & JJJ	Constructed after November 30, 1999
	40 C.F.R. 60, Subparts E, Ea, Eb & AAAA	Rated less than 35 metric tons per day
	40 C.F.R. 60 Subpart Ec, except for 40 C.F.R. 60.50c(c) and 60.51c	Only required to maintain records and report to avoid applicability under other parts of Subpart Ec.
	40 C.F.R.60, Subpart EEEE	In an isolated area of Alaska (per §60.2887(g))
	18 AAC 50.050(b)	Incinerator rated less than 1,000 lb/hr
I-9	40 C.F.R. 60.4204(b) & (c), 4214(a)	

I-10	40 C.F.R. 60.4211(c) - (e)	Certified pre-2007 engine with displacement less than 10 liters per cylinder and less than 3,000 hp
	40 CFR 60.4204(e) & 4211(e)	Engine has not been modified or reconstructed.
	40 CFR 60.4205, 4211(c)	Not an emergency engine
	40 C.F.R. 60.4209(b), 4214(c)	Not equipped with diesel particulate filter
	40 C.F.R. 60.4207	Not accessible by the Federal Aid Highway System
	40 C.F.R. 60.4217	No special fuel used
S-2	40 C.F.R. 60.4204(b) & (c), 4205, 4214(a)	Pre-2007 non-emergency engine > 175 hp with a displacement < 30 liters per cylinder
	40 C.F.R. 60.4211(c) - (e)	
	40 C.F.R. 60.4209(b), 4214(c)	Not equipped with diesel particulate filter
	40 C.F.R. 60.4217	No special fuel used
I-11	40 C.F.R. 60.4204	Not a non-emergency engine
	40 C.F.R. 60.4205(a), (b), & (d), 40 C.F.R. 60.4211(c) & (d); & 4214(a)	Certified fire water pump engine with displacement less than 10 liters per cylinder and less than 3,000 hp
	40 C.F.R. 60.4209(b), 4214(c)	Not equipped with diesel particulate filter
	40 C.F.R. 60.4207	Not accessible by Federal Aid Highway System
	40 C.F.R. 60.4217	No special fuel
S-1a, S-1b, S-1c, S1-d, S-1e	40 C.F.R 60, Subpart GG	Subject to 40 C.F.R. 60, Subpart KKKK
	40 C.F.R. 60.4325	Burns gas only
	40 C.F.R. 60.4335, 4355	Does not use water or steam injection
	40 C.F.R. 60.4340(b); 4345; 4350, 4405, 4410	Does not use CEMS or continuous parameter monitoring
	40 C.F.R. 60.4390	Not emergency, research, or development turbine
S-7	40 C.F.R. 60.4204(a), 4211(b) - (d), (f), 4214(a)	Certified 2014 non-emergency engine with displacement < 10 liters per cylinder and < 3,000 hp
	40 CFR 60.4205	Not an emergency engine
	40 C.F.R. 60.4214(a)	Certified 2014 non-emergency engine with displacement < 30 liters / cylinder and < 2,237 kW
	40 C.F.R. 60.4209(b), 4214(c)	Not equipped with diesel particulates filter
	40 C.F.R. 60.4217	No special fuel
I-3, I-4, I-7, I-8, S-3	40 C.F.R 60, Subpart Dc	Heat input less than 10 MMBtu/hr
	40 C.F.R 63, Subpart JJJJJJ	Emission units are process heaters, not subject to Subpart JJJJJJ.(63.11237)
I-2a, I-2b	40 C.F.R 60, Subpart Dc	Heat input less than 10 MMBtu/hr
	40 C.F.R 63, Subpart JJJJJJ	Temporary boiler, exempted per 63.11237

Section 11. Visible Emissions Forms

VISIBLE EMISSION OBSERVATION FORM

This form is designed to be used in conjunction with EPA Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources." Temporal changes in emission color, plume water droplet content, background color, sky conditions, observer position, etc. should be noted in the comments section adjacent to each minute of readings. Any information not dealt with elsewhere on the form should be noted under additional information. Following are brief descriptions of the type of information that needs to be entered on the form: for a more detailed discussion of each part of the form, refer to "Instructions for Use of Visible Emission Observation Form."

- Source Name: full company name, parent company or division or subsidiary information, if necessary.
- Address: street (not mailing or home office) address of facility where VE observation is being made.
- Phone (Key Contact): number for appropriate contact.
- Stationary Source ID Number: number from NEDS, agency file, etc.
- Process Equipment, Operating Mode: brief description of process equipment (include type of facility) and operating rate, % capacity, and/or mode (e.g. charging, tapping, shutdown).
- Control Equipment, Operating Mode: specify type of control device(s) and % utilization, control efficiency.
- Describe Emission Point: for identification purposes, stack or emission point appearance, location, and geometry; and whether emissions are confined (have a specifically designed outlet) or unconfined (fugitive).
- Height Above Ground Level: stack or emission point height relative to ground level; can use engineering drawings, Abney level, or clinometer.
- Height Relative to Observer: indicate height of emission point relative to the observation point.
- Distance from Observer: distance to emission point; can use rangefinder or map.
- Direction from Observer: direction plume is traveling from observer.
- Describe Emissions and Color: include physical characteristics, plume behavior (e.g., looping, lacy, condensing, fumigating, secondary particle formation, distance plume visible, etc.), and color of emissions (gray, brown, white, red, black, etc.). Note color changes in comments section.
- Visible Water Vapor Present?: check "yes" if visible water vapor is present.
- If Present, is Plume…: check "attached" if water droplet plume forms prior to exiting stack, and "detached" if water droplet plume forms after exiting stack.
- Point in Plume at Which Opacity was Determined: describe physical location in plume where readings were made (e.g., 1 ft above stack exit or 10 ft. after dissipation of water plume).
- Describe Plume Background: object plume is read against, include texture and atmospheric conditions (e.g., hazy).
- Background Color: sky blue, gray-white, new leaf green, etc.
- Sky Conditions: indicate cloud cover by percentage or by description (clear, scattered, broken, overcast).
- Wind Speed: record wind speed; can use Beaufort wind scale or hand-held anemometer to estimate.
- Wind Direction From: direction from which wind is blowing; can use compass to estimate to eight points.
- Ambient Temperature: in degrees Fahrenheit or Celsius.
- Wet Bulb Temperature: can be measured using a sling psychrometer
- RH Percent: relative humidity measured using a sling psychrometer; use local US Weather Bureau measurements only if nearby.
- Source Layout Sketch: include wind direction, sun position, associated stacks, roads, and other landmarks to fully identify location of emission point and observer position.
- Draw North Arrow: to determine, point line of sight in direction of emission point, place compass beside circle, and draw in arrow parallel to compass needle
- Sun's Location: point line of sight in direction of emission point, move pen upright along sun location line, mark location of sun when pen's shadow crosses the observer's position.
- Observation Date: date observations conducted.
- Start Time, End Time: beginning and end times of observation period (e.g., 1635 or 4:35 p.m.).
- Data Set: percent opacity to nearest 5%; enter from left to right starting in left column. Use a second (third, etc.) form, if readings continue beyond 30 minutes. Use dash (-) for readings not made; explain in adjacent comments section.
- Comments: note changing observation conditions, plume characteristics, and/or reasons for missed readings
- Range of Opacity: note highest and lowest opacity number
- Observer's Name: print in full.
- Observer's Signature, Date: sign and date after performing VE observation.
- Organization: observer's employer.
- Certified By, Date: name of "smoke school" certifying observer and date of most recent certification.

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AIR PERMITS PROGRAM - VISIBLE EMISSIONS OBSERVATION FORM

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Stationary Source Name		Type of Emission Unit			Observation Date		Start Time		End Time
					Sec / Min	0	15	30	45	Comments
Emission Unit Location					1					
City	State	Zip			2					
Phone # (Key Contact)		Stationary Source ID Number			3					
Process Equipment		Operating Mode			4					
Control Equipment		Operating Mode			5					
Describe Emission Point/Location					6					
Height above ground level	Height relative to observer	Clinometer Reading			7					
Distance From Observer Start / End		Direction From Observer Start / End			8					
Describe Emissions & Color Start / End					9					
Visible Water Vapor Present? If yes, determine approximate distance from the No / Yes	stack exit to where the plume was read				10					
Point in Plume at Which Opacity Was Determined					11					
Describe Plume Background		Background Color Start / End			12					
					13					
Sky Conditions: Start / End					14					
Wind Speed Start / End		Wind Direction From Start / End			15					
Ambient Temperature		Wet Bulb Temp	RH percent		16					
SOURCE LAYOUT SKETCH:	1 Stack or Point Being Read	2 Wind Direction From			17					
3 Observer Location	4 Sun Location	5 North Arrow	6 Other Stacks		18					
					19					
					20					
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					Range of Opacity					
					Minimum			Maximum		
I have received a copy of these opacity observations					Print Observer's Name					
Print Name:					Observer's Signature					Date
Signature:										Observer's Affiliation:
Title		Date			Certifying Organization					
					Certified By:			Date		

Data Reduction:

Duration of Observation Period (minutes):	Duration Required by Permit (minutes):
Number of Observations:	Highest Six–Minute Average Opacity (%):
Number of Observations exceeding 20%:	
In compliance with six-minute opacity limit? (Yes or No)	Highest 18-Consecutive –Minute Average Opacity (%)(engines and turbines only)

Average Opacity Summary:

Set Number	Time			Opacity		Comments
	Start	End		Sum	Average	

Section 12. ADEC Notification Form[15]

Oooguruk Development Project	AQ0911TVP02
Stationary Source Name	**Air Quality Permit No.**
Caelus Natural Resources Alaska, LLC	
Company Name	**Date**

When did you discover the Excess Emissions/Permit Deviation?

Date: _____ / _____ / _____ Time: _____ :/ _____

When did the event/deviation occur?

Begin Date: _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)

End Date _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)

What was the duration of the event/deviation? ____ : ____ (hrs:min) or _____ days

(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for Notification: (please check only 1 box and go to the corresponding section)

☐ Excess Emissions – Complete Section 1 and Certify

☐ Deviation from Permit Condition – Complete Section 2 and Certify

☐ Deviations from COBC, CO, or Settlement Agreement – Complete Section 2 and Certify

Section 1. Excess Emissions

(a) Was the exceedance: ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):

☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)

☐ Control Equipment Failure ☐ Schedule Maintenance/Equipment Adjustment

☐ Bad Fuel/Coal/Gas ☐ Upset Condition ☐ Other _____

(c) Description
Describe briefly, what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emissions Units Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

EU ID	EU Name	Permit Condition Exceeded/Limit/Potential

[15] Revised as of September 27, 2010.

(e) Type of Incident (please check only one):

☐ Opacity _____ % ☐ Venting _____ gas/scf ☐ Control Equipment Down

☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Other _____

☐ Marine Vessel Opacity ☐ Flaring _____

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ Yes ☐ No

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ Yes ☐ No

Certify Report (Go to end of form.)

Section 2. Permit Deviations

(a) Permit Deviation Type (check only one box, corresponding with the section in the permit):

☐ Emission Unit-Specific

☐ Failure to Monitor/Report

☐ General Source Test/Monitoring Requirements

☐ Recording/Reporting/Compliance Certification

☐ Standard Conditions Not Included in the Permit

☐ Other Section: _____ (Title of section and section number of your permit).

☐ Generally Applicable Requirements

☐ Reporting/Monitoring for Diesel Engines

☐ Recordkeeping Failure

☐ Insignificant Emission Unit

☐ Stationary Source Wide

(b) Emission Unit Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit conditions and the deviation.

EU ID	EU Name	Permit Condition/ Potential Deviation

(c) Description of Potential Deviation:
Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:
Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j)*

To Submit this Report:

1. Fax this form to: 907-451-2187

Or

2. Email this form to: DEC.AQ.Airreports@alaska.gov

If faxed or emailed, the report must be certified within the Operating Report required for the same reporting period per Condition 93.

Or

3. Mail to: ADEC
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643

Or

Phone Notification: 907-451-5173

Phone notifications require a written follow-up report.

An online version of this notification form is found at
http://dec.alaska.gov/air/ap/docs/eeform.pdf.

[18 AAC 50.346(b)(3)]

Section 13. Emission Inventory Form

ADEC Reporting Form **Emission Inventory Reporting** **State of Alaska Department of Environmental Conservation** **Division of Air Quality**	**Emission Inventory Year- [ ]**
Mandatory information is highlighted in bright yellow. Make additional copies as needed.	

Stationary Source Detail		
Inventory start date		
Inventory end date		
ADEC ID or Permit Number		
EPA ID:		
Census Area/ Community		
Facility Name		
Facility Physical Location	**Address:**	
	City, State, Zip Code:	
	Latitude:	**Longitude:**
	Legal Description:	
Owner Name & Address & contact number	**Owner Name:**	
	Owner Address:	
	Phone Number:	
Mailing Contact Information	**Mailing Address:**	
Line of Business (NAICS)		
Line of Business (SIC)		
Facility Status:		

Emission Unit Data			
Specifications			
ID		**Design Capacity**	
Description			
Emission Unit Status			
Manufacturer		**Manufactured Year**	
Model Number		**Serial Number**	
Regulations			
Regulation/Description:			
Control Equipment (List All if applicable):			
ID			
System Description	-		
Equipment Type(s)			
Manufacturer			
Model			
Control Efficiency (%)			
Capture Efficiency (%)			
Pollutants Controlled		**Reduction Efficiency (%):**	
		Reduction Efficiency (%):	

Processes	
Process	**Primary Process**
SCC Code	(ex. 20100201)
	>
	>
Material Processed	
Period Start	
Period End	
Throughput (units)	
Summer %	
Fall %	
Winter %	
Spring %	

Operational Schedule	
Days/Week	
Hours/Day	
Weeks/Year	
Hours/Year	

Fuel Characteristics			
Heat Content	**Elem. Sulfur Content (%)**	**H2S Sulfur Content**	**Ash Content (if applicable)**

Heating		
Heat Input	**Heat Output**	**Heat Values Convention**

Emissions Operating Type:					
Pollutant	**Emission Factor (EF)**	**EF Numerator**	**EF Denominator**	**EF Source**	**Tons**
Carbon Monoxide (CO)					
Nitrogen Oxides NOx					
PM10 Primary (PM_{10}-PRI)					
PM2.5 Primary ($PM_{2.5}$-PRI)					
Sulfur Dioxide (SO_2)					
Ammonia (NH_3)					
Lead and lead compounds					
Volatile Organic Compounds (VOC)					
Emissions' Release Point					
Release Point ID					
Apportion%					

Process	**Secondary Process**
SCC Code	(ex. 20100201)
	>
	>
	>
	>

Material Processed	
Period Start	
Period End	
Throughput (units)	
Summer %	
Fall %	
Winter %	
Spring %	

Operational Schedule

Days/Week	
Hours/Day	
Weeks/Year	
Hours/Year	

Fuel Characteristics

Heat Content	Elem. Sulfur Content (%)	H2S Sulfur Content	Ash Content (if applicable)

Heating

Heat Input	Heat Output	Heat Values Convention

Emissions Operating Type:

Pollutant	Emission Factor (EF)	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide (CO)					
Nitrogen Oxides NOx					
PM10 Primary (PM_{10}-PRI)					
PM2.5 Primary ($PM_{2.5}$-PRI)					
Sulfur Dioxide (SO_2)					
Ammonia (NH_3)					
Lead and lead compounds					
Volatile Organic Compounds (VOC)					

Emissions' Release Point

Release Point ID					

Apportion%					

Stack Detail (Release Point)	
> Specifications	
ID	
Type	
Description	
Stack Status	
> Stack Parameters	
Stack Height (ft)	
Stack Diameter (ft)	
Exit Gas Temp (F)	
Exit Gas Velocity (fps)	
Exit Gas Flow Rate (acfm)	
> Geographic Coordinate	
Latitude	
Longitude	
Datum	
Accuracy (meters)	
Base Elevation (meters)	

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:_____Title_____Date _____

Signature:_____ Phone number_____

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j)*

To Submit this report:

1. Fax this form to: 907-465-5129; or
2. E-mail to: DEC.AQ.airreports@alaska.gov; or
3. Mail to: ADEC
   Air Permits Program
   410 Willoughby Ave., Suite 303
   PO Box 111800
   Juneau, AK 99801-1800

Or

4. Direct data entry for emission inventory can be done through the Air Online System (AOS). A myAlaska account is needed to gain access and a profile needs to be set up in Permittee Portal. http://dec.alaska.gov/Applications/Air/airtoolsweb/.