# DEPARTMENT OF ENVIRONMENTAL CONSERVATION
# AIR QUALITY OPERATING PERMIT

Permit No. AQ0075TVP04 Public Comment Date: September 14, 2021
Expiration Date: Five Years

The Alaska Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Alyeska Pipeline Service Company**, for the operation of the **Pump Station 4 (PS-4)**.

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 the effective version of 18 AAC 50 at permit issuance. All federal regulation citations are from those sections adopted by reference in this version of regulation in 18 AAC 50.040 unless otherwise specified.

All stationary source-specific terms and conditions of Air Quality Control Permit-to-Operate No. 9572-AA009; Construction Permit Nos. 9872-AC024, 075CP01, AQ0075CPT02, and AQ0075CPT03; and Minor Permit Nos. AQ0075MSS02 and AQ0075MSS03 have been incorporated into this operating permit.

Upon effective date of this permit, Operating Permit No. AQ0075TVP03 expires.

This Operating Permit becomes effective <insert date—30 days after issue date>.

James R. Plosay, Manager
Air Permits Program

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## Abbreviations and Acronyms

AAC.....Alaska Administrative Code
ADEC .....Alaska Department of Environmental Conservation
Administrator.....EPA and the Department.
APSC .....Alyeska Pipeline Service Company
AS .....Alaska Statutes
ASTM .....American Society for Testing and Materials
BACT .....best available control technology
bHp .....brake horsepower
Btu/scf .....British thermal units per standard cubic feet
CAM .....Compliance Assurance Monitoring
CDX.....Central Data Exchange
CEDRI .....Compliance and Emissions Data Reporting Interface
C.F.R. .....Code of Federal Regulations
CAA or The Act .Clean Air Act
CO .....carbon monoxide
$CO_2e$ .....$CO_2$-equivalent
Department .....Alaska Department of Environmental Conservation
dscf .....dry standard cubic foot
EPA .....US Environmental Protection Agency
EU.....emissions unit
°F .....Degree Fahrenheit
GHG .....Greenhouse Gas
gr/dscf.....grain per dry standard cubic foot (1 pound = 7000 grains)
GPA .....Gas Producers Association
gph or gal/hr .....gallons per hour
$H_2S$.....Hydrogen Sulfide
HAPs .....hazardous air pollutants [as defined in AS 46.14.990]
Hp .....horsepower
ID.....emissions unit identification number
ISO.....International Standard Organization
kJ/kW-hr.....Kilojoules per kilowatt-hour
kPa .....kiloPascals
kW .....kilowatts
LAER.....lowest achievable emission rate
LHV.....Lower Heating Value
lb.....Pounds
lb/MMBtu .....Pounds per million Btu
lb/MWh.....Pounds per megawatt-hour
lb/yr .....Pounds per year
MACT .....maximum achievable control technology [as defined in 40 C.F.R. 63]
MMBtu/hr.....million BTUs per hour
MMscf .....million standard cubic feet
MR&R.....monitoring, recordkeeping, and
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 [as contained in 40 C.F.R. 61 and 63]
$NH_3$ .....ammonia
$NO_X$.....nitrogen oxides
NSPS .....New Source Performance Standards [as contained in 40 C.F.R. 60]
O & M.....operation and maintenance
$O_2$ .....oxygen
PAL .....plantwide applicability limitation
Pb .....lead
$PM_{10}$ .....particulate matter less than or equal to a nominal 10 microns in diameter
$PM_{2.5}$ .....particulate matter less than or equal to a nominal 2.5 microns in diameter
ppm .....parts per million
ppmv, ppmvd .....parts per million by volume on a dry basis
psia .....pounds per square inch (absolute)
PSD .....prevention of significant deterioration
PTE .....potential to emit
RICE .....Reciprocating Internal Combustion Engine
scf.....standard cubic feet
SIC. .....Standard Industrial Classification
SIP.....State Implementation Plan
SPC .....Standard Permit Condition or Standard Operating Permit Condition
$SO_2$ .....sulfur dioxide
TAPS.....Tans-Alaska Pipeline System
tph .....tons per hour
TPY .....tons per year
VOC .....volatile organic compound [as defined in 40 C.F.R. 51.100(s)]
VOL .....volatile organic liquid [as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol% .....volume percent
wt% .....weight percent
$wt\%S_{fuel}$ .....weight percent of sulfur in fuel

# *Section 1. Stationary Source Information*

## Identification

| | | |
|---|---|---|
| Permittee: | | **Alyeska Pipeline Service Company**<br>P. O. Box 196660<br>Anchorage, AK 99519-6660 |
| Stationary Source Name: | | **Pump Station 4 (PS-4)** |
| Location: | | Latitude 68.4221º North; Longitude 149.3589º West |
| Physical Address: | | Sections 5 and 8, T12S, R12E, Umiat Meridian, 155 miles south of Prudhoe Bay, AK |
| Owner: | | Harvest Alaska, LLC<br>ConocoPhillips Transportation (Alaska), Inc.<br>ExxonMobil Pipeline Company |
| Operator: | | **Alyeska Pipeline Service Company**<br>P. O. Box 196660<br>Anchorage, AK 99519-6660 |
| Permittee's Responsible Official: | | Hillary Schaefer, Pipeline Director<br>Alyeska Pipeline Service Company<br>P. O. Box 60469, MS830<br>Fairbanks, AK 99706<br>Phone: 907-450-7746<br>Email: Hillary.Schaefer@alayeska-pipeline.com |
| Designated Agent: | | CT Corporation<br>9360 Glacier Highway, Suite 202<br>Juneau, AK 99801 |
| Stationary Source and Building Contact: | | Mark Dahl/Tim Jones, Maintenance Supervisors PS-3 and PS-4<br>APSC, P. O. Box 196660, MS 507<br>Anchorage, AK 99519-6660<br>(907) 787-4402 |
| Fee Contact: | | Cindy Keuler, Environmental Program Coordinator<br>Alyeska Pipeline Service Company<br>P. O. Box 196660, MS 507<br>Anchorage, AK 99519-6660<br>(907) 787-8975, Email: Cindy.Keuler@alyeska-pipeline.com |
| Permit Contact: | | Don Mark Anthony, Air Quality SME<br>APSC, P. O. Box 196660, MS 507<br>Anchorage, AK 99519-6660<br>(907) 787-8568, Email: markanthonydt@alyeska-pipeline.com |
| Process Description: | SIC Code | 4612 – Crude Petroleum Pipelines |
| | NAICS Code: | 486110 – Pipeline Transportation of Crude Oil |

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

## *Section 2. Emissions Unit Inventory and Description*

Emissions units listed in Table A have specific monitoring, recordkeeping, or reporting conditions in this permit. Emissions unit descriptions and ratings are given for identification purposes only, unless noted elsewhere in the permit.

**Table A - Emissions Unit Inventory[1]**

| EU ID | Tag No. | Emission Unit Description | Fuel | Rating/Size | Commence Construction[2] |
|---|---|---|---|---|---|
| 8[1] | 34-H-1A | Eclipse Therminol Heater, 1000-5 HCLT Design | Natural Gas/ Diesel | 20.6 MMBtu/hr | Pre-1980 |
| 9[1] | 34-H-1B | Eclipse Therminol Heater, 1000-5 HCLT Design | Natural Gas/ Diesel | 20.6 MMBtu/hr | Pre-1980 |
| 10[3] | 34-FP-2PK | Detroit Diesel 6-71 Firewater Pump | Diesel | 190 hp | Pre-1980 |
| 12 | 34-PK-3701R | Siemens Cyclone Turbine Electric Generator, PK Model #SGT-400 | Natural Gas/ Diesel | 12.9 MW ISO[4] | 2005[5] |
| 13 | 34-PK-3601R | Siemens Cyclone Turbine Electric Generator, PK Model #SGT-400 | Natural Gas | 12.9 MW ISO[4] | 2005[5] |
| 14 | 34-GEN-3801R | Caterpillar 3516B Engine Electric Generator | Diesel | 2,250 kW | 2005[5] |
| 15[3] | 34-GEN-4605R | UPS Electric Generator, PK Model #PPJD65MOD-1 | Diesel | 65 kWe | 2005[5] |
| 18[3] | N/A | 11 Miscellaneous Shop Heaters | Natural Gas | 3.28 MMBtu/hr, combined | 2009[5] |
| 21 | TK-140 | Breakout Tank 140 | N/A | 55,000 bbl | Pre-1978 |
| 22 | 34-GEN-4401 | MTU Detroit 16V 2000G45TB | Diesel | 800 kWe | 2010 |

Notes:

1. The stationary source is now operating under strategic reconfiguration. EU IDs 1 – 7 have been decommissioned and the MR&R requirements applicable to these units have been deleted from the permit.
2. Commence construction is defined by 40 C.F.R. 52.21(b) & (i) and 40 C.F.R. 60.2.
3. EU IDs 10, 15 and 18 have potential emissions less than the significant thresholds under 18 AAC 50.326(e) & (g) but cannot be insignificant per 18 AAC 50.326(d)(1)(A) & (B).
4. International Standards Organization (ISO) standard day conditions means 288 degrees Kelvin, 60 percent humidity, and 101.3 kilopascals pressure, as described in 40 C.F.R. 60.331.
5. Construction dates represent when on-site installation activities commenced. The dates do not necessarily reflect the equipment manufacture dates since several of the units were purchased in completed form.

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

## *Section 3. State Requirements*

### Visible Emissions Standard

1. **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 8 – 10, 12 – 15, 18, and 22 listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j)(4), 50.055(a)(1), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(1)]

1.1. For EU IDs 15 and 22, as long as the emissions units do not exceed the limits in Table B (EU ID 15) and Condition 23.2 (EU ID 22), monitoring shall consist of an annual compliance certification under Condition 80 for the visible emissions standard based on reasonable inquiry. Otherwise comply with Condition 1.2.

1.2. For EU IDs 10 and 14, as long as actual emissions from the emissions unit are less than the significant emissions thresholds listed in 18 AAC 50.326(e) during any consecutive 12-month period, monitoring shall consist of an annual compliance certification under Condition 80 for the visible emissions standard based on reasonable inquiry. The Permittee shall report in the operating report under Condition 79 if any of EU IDs 10, 14, 15, and 22 reaches any of the significant emissions thresholds listed in 18 AAC 50.326(e) and monitor, record, and report in accordance with Conditions 2 through 4 for the remainder of the permit term for that emissions unit.

1.3. For EU ID 18, monitoring shall consist of an annual compliance certification under Condition 80 for the visible emissions standard based on reasonable inquiry.

1.4. For EU IDs 8, 9, and 12 burn gas as the primary fuel. Monitoring for this emissions unit shall consist of a statement in each operating report under Condition 79 indicating whether this emissions unit burned gas as the primary fuel during the period covered by the report. If the emissions unit operated on a back-up liquid fuel during the period covered by the report, the Permittee shall monitor, record, and report in accordance with Condition 12.

1.5. For EU ID 13, burn only gas as fuel. Monitoring for this emissions unit shall consist of a statement in each operating report under Condition 79 indicating whether this emissions unit burned only gas during the period covered by the report. Report under Condition 78 if any fuel other than gas is burned.

[18 AAC 50.040(j)(4), 50.326(j)(3) & (4), & 50.346(c)]
[40 C.F.R. 71.6(a)(3) & (c)(6)]

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

*Liquid Fuel-Burning Equipment, EU IDs 10, 14, 15, and 22*

**2. Visible Emissions Monitoring.** When required by any of Conditions 1.1 or 1.2, or in the event of replacement[1] during the permit term, the Permittee shall observe the exhaust of EU IDs 10, 14, 15, and 22 for visible emissions using the Method 9 Plan under Condition 2.1.

2.1. The Permittee may for each unit elect each unit elect to continue the visible emissions monitoring schedule specified in Conditions 2.2.b through 2.2.e that remains in effect from a previous permit.

2.2. **Method 9 Plan.** For all observations in this plan, observe emissions unit exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9 for 18 minutes to obtain 72 consecutive 15-second opacity observations.[2]

a. First Method 9 Observation. Observe the exhausts of EU IDs 10, 14, 15, and 22 according to the following criteria:

(i) For any unit replaced, observe exhaust within 60 days of the newly installed emissions unit becoming fully operational.[3] Except as provided in Condition 2.2.e, after the First Method 9 observation:

(ii) For each of EU IDs 10, 14, 15, and 22, observe the exhaust of the emissions unit within 30 days after the end of the calendar month during which monitoring was triggered under Condition 1.2; or for an emissions unit with intermittent operations, within the first 30 days during the unit's next scheduled operation.

b. Monthly Method 9 Observations. After the first Method 9 observation conducted under Condition 2.2.a, perform observations at least once in each calendar month that the emissions unit operates.

c. Semiannual Method 9 Observations. After at least three monthly observations under Condition 2.2.b, unless a six-consecutive-minute average opacity is greater than 15 percent and one or more individual observations are greater than 20 percent, perform semiannual observations

(i) no later than seven months, but not earlier than five months, after the preceding observation; or

(ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following seven months after the preceding observation.

[1] *"Replacement,"* as defined in 40 C.F.R. 51.166(b)(32).
[2] Visible emissions observations are not required during emergency operations.
[3] "*Fully operational*" means upon completion of all functionality checks and commissioning after unit installation. "*Installation*" is complete when the unit is ready for functionality checks to begin.

d. Annual Method 9 Observations. After at least two semiannual observations under Condition 2.2.c, unless a six-consecutive-minute average opacity is greater than 15 percent and one or more individual observations are greater than 20 percent, perform annual observations

(i) no later than 12 months, but not earlier than 10 months, after the preceding observation; or

(ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following 14 months after the preceding observation.

e. Increased Method 9 Frequency. If a six-consecutive-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more individual observations are greater than 20 percent, then increase or maintain the observation frequency for that emissions unit to at least monthly intervals as described in Condition 2.2.b, and continue monitoring in accordance with the Method 9 Plan.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

**3. Visible Emissions Recordkeeping.** The Permittee shall keep records as follows:

3.1. For all Method 9 observations,

a. the observer shall record the following:

(i) the name of the stationary source, emissions unit and location, emissions unit type, observer's name and affiliation, and the date on the Visible Emissions Observation Form in Section 12;

(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 rate (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 Emission Observation Form in Section 12, 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,

(i) divide the observations recorded on the record sheet into sets of 24 consecutive observations;

(ii) sets need not be consecutive in time and in no case shall two sets overlap;

(iii) for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; and

(iv) record the average opacity on the sheet.

c. Calculate and record the highest six- and 18-consecutive-minute average opacities observed.

3.2. The records required by Condition 3.1 may be kept in electronic format.

[18 AAC 50.040(j)(4), 50.326(j)(3) & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

**4. Visible Emissions Reporting.** The Permittee shall report as follows:

4.1. Include in each operating report required under Condition 79 for the period covered by the report:

a. for all Method 9 Plan observations:

(i) copies of the observation results (i.e. opacity observations) for each emissions unit, 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-consecutive- and 18-consecutive-minute average opacities observed; and

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

b. a summary of any monitoring or recordkeeping required under Conditions 2 and 3 that was not done.

4.2. Report under Condition 78:

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

b. if any monitoring under Condition 2 was not performed when required, report within three days of the date the monitoring was required.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

## Particulate Matter (PM) Emissions Standard

**5. Industrial Process and Fuel-Burning Equipment PM Emissions.** The Permittee shall not cause or allow particulate matter emitted from EU IDs 8 – 10, 12 – 15, 18, and 22 listed in Table A 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)(4), 50.055(b)(1), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(1)]

5.1. For EU IDs 15 and 22, as long as the emissions units do not exceed the limits in Table B (EU ID 15) and Condition 23.2 (EU ID 22), monitoring shall consist of an annual compliance certification under Condition 80 for the PM emissions standard based on reasonable inquiry. Otherwise, comply with Condition 5.2.

5.2. For EU IDs 10 and 14, as long as actual emissions from the emissions unit are less than the significant emissions thresholds listed in 18 AAC 50.326(e) during any consecutive 12-month period, monitoring shall consist of an annual compliance certification under Condition 80 for the PM emissions standard based on reasonable inquiry. The Permittee shall report in the operating report under Condition 79 if any of EU IDs 10, 14, 15, and 22 reaches any of the significant emissions thresholds and monitor, record and report in accordance with Conditions 6 through 8 for the remainder of the permit term for that emissions unit.

5.3. For EU ID 18, the Permittee must annually certify compliance under Condition 80 for the PM emissions standard based on reasonable inquiry.

5.4. For EU ID 8, 9, and 12, the Permittee shall comply with Condition 1.4.

5.5. For EU ID 13, the Permittee shall comply with Condition 1.5.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3) & (c)(6)]

## PM MR&R

*Liquid Fuel-burning Engines and Turbines (EU IDs 10, 12, 14, 15, and 22)*

**6. PM Monitoring.** The Permittee shall conduct source tests on EU IDs 10, 14, 15, and 22 (when required by Condition 5.2), to determine the concentration of PM in the exhaust of each emissions unit as follows:

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

6.1. If the result of any Method 9 observation conducted under Condition 2.1 for any of EU IDs 10, 14, 15, and 22 is greater than the criteria of Condition 6.2.a or Condition 6.2.b, or if the Method 9 observation conducted under Condition 12.3 for EU ID 12 exceeds the standard in Condition 1, the Permittee shall, within six months of that Method 9 observation, either:

a. take corrective action and observe the emissions unit exhaust under load conditions comparable to those when the criteria were exceeded, following 40 C.F.R. 60, Appendix A-4 Method 9 for 18 minutes to obtain 72 consecutive 15-second opacity observations, to show that emissions are no longer greater than the criteria of Condition 6.2; or

b. except as exempted in Condition 6.4, conduct a PM source test according to requirements set out in Section 6.

6.2. Take corrective action or conduct a PM source test, in accordance with Condition 6.1, if any Method 9 observation under Condition 2.1 results in an 18-minute average opacity greater than

a. 20 percent for an emissions unit with an exhaust stack diameter that is equal to or greater than 18 inches; or

b. 15 percent for an emissions unit with an exhaust stack diameter that is less than 18 inches, unless the Department has waived this requirement in writing.

6.3. During each one-hour PM source test run under Condition 6.1.b, observe the emissions unit exhaust for 60 minutes in accordance with Method 9 and calculate the highest 18-consecutive-minute average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

6.4. The PM source test requirements in Conditions 6.1.b are waived for an emissions unit if

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

b. corrective action was taken to reduce visible emissions and two consecutive 18-minute Method 9 visible emissions observations (as described in Condition 2.1) conducted thereafter within a six-month period show visible emissions less than the threshold in Condition 6.2.

**7. PM Recordkeeping.** The Permittee shall comply with the following:

7.1. Keep records of the results of any source test and visible emissions observations conducted under Condition 6.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

**8. PM Reporting.** The Permittee shall report as follows:

8.1. Notify the Department of any Method 9 observation results that are greater than the threshold of either Condition 6.2.a or Condition 6.2.b within 30 days of the end of the month in which the observations occurred. Include the dates, EU IDs, and results when an observed 18-minute average opacity was greater than an applicable threshold in Condition 6.2.

8.2. In each operating report under Condition 79, include:

a. a summary of the results of any PM source test and visible emissions observations conducted under Condition 6; and

b. copies of any visible emissions observation results greater than the thresholds of Condition 6.2, if they were not already submitted.

8.3. Report in accordance with Condition 78

a. anytime the results of a PM source test exceed the PM emissions standard in Condition 5; or

b. if the requirements under Condition 6.1 were triggered and the Permittee did not comply on time with either Condition 6.1.a or 6.1.b. Report the deviation within 24 hours of the date compliance with Condition 6.1 was required.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

*Liquid Fuel-Burning Boilers and Heaters (EU IDs 8 and 9)*

**9. PM Monitoring.** The Permittee shall conduct source tests to determine the concentration of PM in the exhaust of each emissions unit as follows:

9.1. If the result of any Method 9 observation conducted under Condition 12.3 for any of EU IDs 8 and 9 results in an 18-minute average opacity greater than 20 percent opacity, the Permittee shall, within six months of that Method 9 observation, either:

a. take corrective action and observe the emissions unit exhaust under load conditions comparable to those when the criteria were exceeded, following 40 C.F.R. 60, Appendix A-4 Method 9 for 18 minutes to obtain 72 consecutive 15-second opacity observations, to show that emissions are no longer greater than an 18-minute average opacity of 20 percent; or

b. except as exempted under Condition 9.3, conduct a PM source test according to the requirements in Section 6.

9.2. During each one-hour PM source test run under Condition 9.1, observe the emissions unit exhaust for 60 minutes in accordance with Method 9 and calculate the highest 18-consecutive-minute average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

9.3. The PM source test requirement in Condition 9.1 is waived for an emissions unit if:

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

b. corrective action was taken to reduce visible emissions and two consecutive 18-minute Method 9 visible emissions observations (as described in Condition 2.1) conducted thereafter within a six-month period show visible emissions less than the threshold in Condition 9.1.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

**10. PM Recordkeeping.** The Permittee shall keep records of the results of any source test and visible emissions observations conducted under Condition 9.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

**11. PM Reporting.** The Permittee shall report as follows:

11.1. Notify the Department of any Method 9 observation results that are greater than the threshold of Condition 9.1 within 30 days of the end of the month in which the observations occurred. Include the dates, EU IDs, and results when an observed 18-minute average opacity was greater than the threshold in Condition 9.1.

11.2. In each operating report required by Condition 79, include:

a. a summary of the results of any source test and visible emissions observations conducted under Condition 9; and

b. copies of any visible emissions observation results greater than the threshold in Condition 9.1, if they were not already submitted.

11.3. Report in accordance with Condition 78 any time the results of a source test exceed the PM emission standard in Condition 5.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

**Visible Emissions & PM MR&R**

*Dual Fuel-Burning Emissions Units (EU ID 8, 9, and 12)*

**12.** The Permittee shall monitor, record, and report the monthly hours of operation when operating on a back-up liquid fuel.

12.1. For any of EU IDs 8, 9, and 12 that does not exceed 400 hours of operations per calendar year on a back-up liquid fuel, monitoring of compliance for visible emissions and PM shall consist of an annual certification under Condition 80 based on reasonable inquiry.

12.2. For any of EU IDs 8, 9, and 12, notify the Department and begin monitoring the affected emissions unit in accordance with Condition 12.3 no later than 15 days after the end of a calendar month in which the cumulative hours of operation for the calendar year exceed any multiple of 400 hours on a back-up liquid fuel; or for an emissions unit with intermittent back-up fuel use, during the next scheduled operation on back-up liquid fuel.

12.3. When required to do so by Condition 12.2, observe the emissions unit exhaust, following 40 C.F.R. 60, Appendix A-4 Method 9, for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. If the observation exceeds the standard in Condition 1, monitor as described in Condition 6 for EU ID 12 or Condition 9 for EU IDs 8 and 9.

b. If the observation does not exceed the standard in Condition 1, no additional monitoring is required until the cumulative hours of operation exceed each subsequent multiple of 400 hours on back-up liquid fuel during a calendar year[4].

12.4. Keep records and report in accordance with Conditions 7 and 8 for EU ID 12 or Conditions 10 and 11 for EU IDs 8 and 9.

12.5. Report under Condition 78 if the Permittee fails to comply with Conditions 12.2, 12.3, or 12.4.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i) – (iii)]

**Sulfur Compound Emissions Standard**

**13. Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as $SO_2$, from EU IDs 8 – 10, 12 – 15, 18, and 22 to exceed 500 ppm averaged over three hours.

[18 AAC 50.040(j)(4), 50.055(c), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(1)]

**Sulfur Compound MR&R**

*Fuel Oil[5] (EU IDs 8 – 10, 12, 14, 15, and 22)*

**14. Sulfur Compound Monitoring, Recordkeeping, and Reporting.** The Permittee shall monitor, record, and report sulfur content in fuel oil according to Condition 19.2.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i) & (ii)]

*Fuel Gas (EU IDs 8, 9, 12, 13, 18)*

**15. Sulfur Compound Monitoring Recordkeeping, and Reporting.** The Permittee shall monitor, record, and report sulfur content in fuel gas according to Condition 19.1.

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

**Preconstruction Permit[6] Requirements**

*Owner Requested Limits to Avoid PSD Modification and Protect Ambient Air Quality*

[4] If the requirement to monitor is triggered more than once in a calendar month, only one Method-9 observation is required to be conducted by the stated deadline for that month.

[5] *Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil, as defined in 40 C.F.R. 60.41b, effective 7/1/07.

[6] *Preconstruction Permit* refers to federal PSD permits, state-issued permits-to-operate issued on or before January 17, 1997 (these permits cover both construction and operations), construction permits issued on or after January 18, 1997, and minor permits issued on or after October 1, 2004.

**16. Eclipse Heaters (EU IDs 8 & 9) Fuel Consumption and Operational Hour Limits.**

16.1. The Permittee shall not allow the fuel usage and operating time for EU IDs 8 and 9 to exceed:

a. 1,000 hours for any consecutive 12-month period on liquid fuel, combined total, or

b. 159,000 gallons for any consecutive 12-month period on liquid fuel, combined total, whichever is less.

[Permit to Operate No. 9572-AA009 Amendment No. 2, 12/4/98]

16.2. Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and maximum fuel oil firing rate in gal/hr.

16.3. Report under Condition 78:

a. the total combined hours of operation on liquid fuel per rolling 12-month period for each month of the reporting period, and

b. the total combined liquid fuel consumption per rolling 12-month period for each month of the reporting period.

16.4. Report under Condition 78 when the fuel or operational hour limits of Condition 16 are exceeded.

16.5. Conditions 16 through 16.5 will no longer apply upon decommissioning of EU IDs 8 and 9 in accordance with Condition 18.2.

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

*Owner Requested Limits to Avoid Classification as a HAP Major*

**17. Tank 140 (EU ID 21) Owner Requested Limits (ORLs).** To avoid classification as a Hazardous Air Pollutant (HAP) Major Stationary Source under 18 AAC 50.316, the Permittee shall limit the HAP emissions from the crude oil breakout tank, Tank 140 (EU ID 21), to no more than 8.0 tons per 12-month rolling period for any individual HAP and 16.9 tons per 12-month rolling period for the aggregate total of HAPs.

17.1. Monitoring and Recordkeeping. The Permittee shall monitor compliance with Condition 17 as follows:

a. Sample the discharge crude stream at PS-1 once every 12 calendar months[7].

(i) Sampling under Conditions 17.1.a is not required if the Permittee is satisfying the crude oil sampling requirements for HAP ORLs at another TAPS pump station.

[7] The Permittee has satisfied the quarterly and semi-annual sampling requirements of Construction Permit No. AQ0075CPT03.

b. Determine the amounts of 1,3 butadiene, N-hexane, benzene, 2,2,4 trimethylpentane, toluene, ethyl benzene, xylenes, isopropyl benzene, and naphthalene in the crude oil using ASTM Method D-5134M.

c. Determine the flow rate data of the crude oil routed to EU ID 21.

(i) Monitor and record tank level changes at least once per hour.

(ii) Monitor and calculate the monthly total volume of crude oil routed to EU ID 21 using tank level change indicators.

(iii) For any period during which crude oil flow data is unavailable under Condition 17.1.c, the Permittee shall estimate the flow rate of crude oil to EU ID 21 using a crude oil flow rate of 1,675,000 barrels per year (bbl/yr), prorated over the time period during which no data is available.[8]

d. Calculate the 12-month rolling total HAP emissions from EU ID 21 for each month as follows:

(i) Use the most recent crude composition analysis in Condition 17.1.b, and the total volume of crude oil routed to EU ID 21 for the month determined from Conditions 17.1.c(ii) or 17.1.c(iii).

(ii) Use the methodology presented in the Permittee's October, 2003 permit application as described in Section 11.

(iii) Perform and record the calculations for the six calendar months at the time the semi-annual operating reports are due under Condition 79 for the six calendar months covered in the operating report.

(iv) If the most recent calculations under Condition 17.1.d(iii) show HAP emissions exceed 50 percent of either limit under Condition 17, for any 12-month rolling period, perform and record the calculations for each calendar month no later than 30 days after the end of the month.

(v) After performing six months of calculations under Condition 17.1.d(iv) and showing HAP emissions less than 50 percent of each limit in Condition 17, the Permittee shall perform calculations semi-annually at the time the operating reports are due.

e. If the calculated HAP emissions under Condition 17.1.d exceed 90 percent of either of the limits in Condition 17,

[8] The pro-ration calculation for periods when no data is available does not apply to periods when the tank is drained and isolated.

(i) Within four months of discovery, initiate and complete a validation demonstration of predicting crude vapor HAP content from crude oil sampling by comparing HAP emissions derived using Gas Producers Association Method 2286 on the headspace of any one of the breakout tanks at Pump Stations (PS) 3, 4, 5, 7 or 9 to calculations based on sampling of PS-1 crude discharge stream;

(ii) For headspace sampling, take four samples of the tank headspace, consecutively, and if possible take all on the same day;

(iii) For crude oil sampling, take at least two crude oil discharge samples at PS-1, within 15 days of headspace sampling; and

(iv) Use the average results of the sampling conducted under Conditions 17.1.e(ii) and 17.1.e(iii), to compare the calculated HAP emissions using crude oil discharge analysis to those using the in-tank headspace analysis carried out concurrently.

(A) If the crude oil analysis methodology predicts higher emissions than the headspace sampling, sample crude oil once every 12 calendar months and calculate the HAP emissions according to Condition 17.1.d;

(B) If the crude oil analysis methodology predicts lower emissions than the headspace sampling, calculate HAP emissions by sampling at quarterly intervals and calculate according to Condition 17.1.d and multiply all results by the ratio between test results from Conditions 17.1.e(ii) and 17.1.e(iii). When HAP emissions fall below 90 percent, the Permittee may reduce sampling frequency to once every 12 calendar months and calculate HAP emissions according to Condition 17.1.d. The Permittee shall continue to multiply the results by the ratio determined between test results from Conditions 17.1.e(ii) and 17.1.e(iii).

17.2. Reporting. The Permittee shall report as follows:

a. Report under the operating report in Condition 79 the following information:

(i) the results of any crude oil sample analysis obtained under Condition 17.1.b during the reporting period; and

(ii) the completed calculation spreadsheets showing the 12-month rolling total HAP emissions for each pollutant and the 12-month rolling aggregate total HAP emissions as calculated under Conditions 17.1.d and 17.1.e.[9]

[9] Corrected the material mistake in Permit No. AQ0075CPT03 for the cross-referenced condition, from Condition 17.1.d(i) to Condition 17.1.e.

b. Report under excess emission and permit deviation reports in Condition 78, if:

(i) the 12-month rolling total individual HAP emissions from EU ID 21 exceeds the limit in Condition 17;

(ii) the 12-month rolling total aggregate HAP emissions from EU ID 21 exceeds the limit in Condition 17; or

(iii) the monitoring, recordkeeping, or reporting requirements are not in accordance with Conditions 17.1.a through 17.1.e(iv).[9]

[Construction Permit No. AQ0075CPT03, 10/28/05]
[18 AAC 50.040(j); 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)]

*Installation Authorization and Startup Notification Requirements under Strategic Reconfiguration*

**18.** The Permittee may install EU IDs 12 – 15, and 18 described in Table A at this stationary source. The Permittee shall configure EU IDs 12 and 13 with Dry Low Emissions (DLE) Technology.

18.1. At least 5 days before initial startup[10] of EU IDs 18 (or replacement units), submit the following to the Department's Fairbanks office:

a. vendor specification sheets that identify the unit type, make and model (including model number), serial number and rating/size; and

b. the installation date and estimated date of startup.

18.2. Unless an extension is granted by the Department in writing as indicated in Condition 18.3, decommission[11] existing EU IDs 8 and 9 listed in 18.3 within 270 calendar days[12] after initial startup of EU 18 (or replacement units).

18.3. The Department may allow an extension of the "initial startup period" for due cause. Submit a request for an extension in writing to the Department's Fairbanks office within 240 days of initial startup of EU ID 18 (or replacement units). Include a description of the reason for the extension. The Department will grant an extension of up to 90 days if the Department finds due cause exists.

18.4. Include the following information with the next operating report described in Condition 79:

a. the actual initial startup date for EU ID 18, or any replacement unit (unless previously submitted);

b. the decommissioning dates for each EU IDs 8 and 9; and

[10] *Initial startup* means when an emission unit is first fired.

[11] *Decommission* means the fuel systems and generator electrical leads have been disconnected.

[12] The initial startup period lasts 270 days after initial startup.

c. copies of the notifications and records required by Condition 18.1.

[Minor Permit No. AQ0075MSS02, 3/26/08]
[18 AAC 50.040(j); 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)]

*Ambient Air Quality Protection Requirements*

**19. Fuel Sulfur Limits.** For EU IDs 8 – 10, 12 – 15, 18, and 22, the Permittee shall comply with $SO_2$ ambient air quality standards and increments as follows:

19.1. For EU IDs 8, 9, 12, 13, 18, the Permittee shall limit the hydrogen sulfide ($H_2S$) concentration of fuel gas to no greater than 150 parts per million by volume (ppmv).

[Permit No. AQ0075CPT02, 2/14/05]

a. The Permittee shall obtain a statement from the fuel supplier no less than once every three months, of the fuel gas $H_2S$ concentration in ppm; or

b. Conduct tests no less than once every three months and on each change in the supply of gas to determine the fuel gas $H_2S$ concentration.

(i) A representative sample can be taken anywhere along the fuel gas line.

(ii) Determine the $H_2S$ concentration using either ASTM D4810, D4913, or GPA Standard 2377, or an appropriate method listed in 18 AAC 50.035(b)-(c) or 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

c. Keep records of the $H_2S$ concentration of the fuel gas for all tests required under Condition 19.1.a or 19.1.b.

d. The Permittee shall report as follows:

(i) Report in each operating report required by Condition 79, the results of each $H_2S$ concentration analysis of gaseous fuel obtained under Condition 19.1.a or 19.1.b.

(ii) Report as excess emissions and permit deviation, in accordance with Condition 78, whenever the $H_2S$ concentration in the gaseous fuel obtained under Condition 19.1.a or 19.1.b exceeds the limit in Condition 19.1.

[40 C.F.R. 71.6(a)(3) & (c)(6)]

19.2. For EU IDs 8 – 10, 12, 14, 15, and 22, the Permittee shall limit the diesel fuel sulfur content to no greater than 0.20 percent by weight.

[Permit No. AQ0075CPT02, 2/14/05]

a. The Permittee shall do one of the following for each shipment of fuel:

(i) If the fuel grade requires a sulfur content of less than 0.2 percent by weight, keep receipts that specify the fuel grade and amount; or

(ii) If the fuel grade does not require a sulfur content of less than 0.2 percent by weight, keep receipts that specify fuel grade and amount and

(A) test a representative sample of the fuel from the stationary source fuel storage tank once per calendar month to determine the sulfur content; or

(B) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.

b. Fuel testing under Condition 19.2.a(ii) must follow an appropriate method listed in 18 AAC 50.035(b)-(c) or 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

c. Keep records of the sulfur content of each fuel delivery obtained under Condition 19.2.a(i) and the results of any fuel sulfur testing conducted under Condition 19.2.a(ii).

d. The Permittee shall report as follows:

(i) Report in each operating report required by Condition 79, a list of the fuel grades received at the stationary source during the reporting period. For any grade with a maximum fuel sulfur content greater than 0.2 percent by weight, the fuel sulfur content of each shipment of fuel.

(ii) Report as excess emissions and permit deviation, in accordance with Condition 78, whenever the sulfur content of a shipment of fuel or fuel in the stationary source's storage tank exceeds the limit in Condition 19.2.

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

**20. Operational Limits (NOx, $SO_2$).** The Permittee shall restrict the 12 consecutive month operating hours of EU IDs 12, 14, and 15 to less than the limits listed in Table B and shall comply with Conditions 20.1 through 20.4 to protect ambient air quality standards and increments.

**Table B – Operating Hour Limits**

| EU ID | 12-Consecutive Month Hourly Limit, in hours |
|---|---|
| 12 | 240 on diesel fuel |
| 14 | 600 total |
| 15 | 300 total |

[Minor Permit No. AQ0075MSS02, 3/26/08]

20.1. Monitor and record the hours of operation for each month.

a. that EU ID 12 operated on diesel fuel; and

b. the total hours of operation for each EU IDs 14 and 15.

[Minor Permit No. AQ0075MSS02, 3/26/08]

20.2. By the last day of each month, add the previous months' total to preceding 11 months to get the 12 consecutive months' total:

a. For EU ID 12 operated on diesel fuel; and

b. For each EU IDs 14 and 15.

20.3. Report as described in Condition 78 if the 12 12-month total operating hours exceeds the limit in Table B.

20.4. Include copies of records required under Conditions 20.1 and 20.2 with the operating report for that period as described in Condition 79.

[Permit No. AQ0075CPT02, 2/14/05]
[Minor Permit AQ0075MSS03, 09/30/10]
[18 AAC 50.040(j); 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)]

**21. Stack Parameters.** The Permittee shall maintain the exhaust stack for EU ID 12 to at least 51 feet above gravel pad elevation.

[Construction Permit No. AQ0075CPT02, 2/14/05]
[18 AAC 50.040(j), 50.326(j)]
[40 C.F.R. 71.6(a)]

*ORLs to Avoid Project Classification as a PSD Modification*

**22. Carbon Monoxide (CO) Limit.** For EU IDs 12 and 13, the Permittee shall

22.1. Comply with operating hour limits listed in Table B;

22.2. Use the following limits that are based on vendor data shown in Table C:

a. Limit operating hours (including diesel operating hours) at less than or equal to 50 percent load ($H_{\leq 50}$) to no more than 2,160 hours per 12 consecutive months; and

b. Limit operating hours (including diesel operating hours) at loads greater than 50 percent and less than or equal to 60 percent ($H_{50\text{-}60}$) as defined in Equation 1:

**Equation 1**[13] $$H_{50-60} = 10{,}177 - 3.9177(H_{\leq 50})$$

[13] From page 2-28 of the application dated August 2004. APSC developed this equation based on vendor data.

Where: $H_{\leq 50}$ = number of hours at less than or equal to 50 percent load (maximum 2,160); and

$H_{50\text{-}60}$ = number of hours at loads greater than 50 percent and less than or equal to 60 percent.

22.3. Ensure the hourly average[14] minimum intake temperature is above minus 20 degrees Fahrenheit (°F).

22.4. For each of EU IDs 12 and 13, record the hourly average turbine intake temperature ($T$) in °F for fuel gas and diesel fuel.

22.5. For each of EU IDs 12 and 13, using an hour meter, monitor and record the number of hours operated (including diesel operating hours) at less than or equal to 50 percent load, and at greater than 50 percent but less than or equal to 60 percent load, calculated as follows:

a. Measure and record the hourly average power output in kW;

b. For each hour, based on $T$ recorded in Condition 22.4, calculate the maximum turbine load in kW for that hourly temperature as follows:[15]

(i) If $T$ is less than or equal to minus 20°F:

$$L_{MAX} = 12{,}958$$

(ii) If $T$ is between minus 20°F and plus 20°F:

$$L_{MAX} = 13{,}292 + 10.706T - 0.3105T^2$$

(iii) If $T$ is above plus 20°F:

$$L_{MAX} = 14{,}548 - 55.97T$$

Where: $L_{MAX}$ = Maximum turbine load in kW

$T$ = Hourly temperature in °F

c. Calculate the hourly percent load by dividing the actual power output in kW recorded in Condition 22.5.a by the maximum load calculated in Condition 22.5.b.

22.6. Sample fuel gas heat content quarterly and calculate heat content (in MMBtu/lb[16]) in accordance with ASTM 3588.

22.7. No later than the last day of each month, calculate the number of hours in each tier for the previous month and add to the preceding 11 months to get the 12 month total.

[14] For the purposes of this permit, hourly average shall be calculated using a minimum of one data point every 15 minutes, excluding periods of startup not to exceed 10 minutes.

[15] Email from Don Mark Anthony, 2/10/05.

[16] Corrected the typographical error in Permit No. AQ0075CPT03 for the *pound* abbreviation, from *lbm* to *lb*.

22.8. Report as excess emissions and permit deviation as described in Condition 78, any time the

a. cumulative operating hours (including diesel operating hours) for EU IDs 12 and 13 exceed any limit in Conditions 22.1 and 22.2; and

b. hourly average turbine intake temperature is below the limit in Condition 22.3.

22.9. Report as described in Condition 79.

a. the monthly and 12 consecutive month:

(i) total operating hours at less than or equal to 50 percent load (Tier 3);

(ii) operating limit greater than 50 percent load and less than or equal to 60 percent load calculated using Equation 1; and

(iii) total operating hours greater than 50 percent load and less than or equal to 60 percent load (Tier 2);

b. the quarterly fuel heat content (Lower Heating Value).

c. the minimum hourly average turbine intake temperature for each month of the reporting period.

d. records sufficient for an inspector to verify compliance with Conditions 22.1 and 22.2.

**Table C – CO Emission Rates for EU IDs 12 and 13 Burning Fuel Gas (ppmvd) and corrected to 15 percent Oxygen, Based on Vendor Data[1, 3]**

| Source Test Average Load (Percent)[2] | Source Test Turbine Inlet Temperature, T, degrees Fahrenheit | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | T ≥ 90 | 80 < T ≤ 90 | 60 < T ≤ 80 | 40 < T ≤ 60 | 20 < T ≤ 40 | 0 < T ≤ 20 | -10 < T ≤ 0 | -20 < T ≤ -10 | T ≤ -20 |
| | Summertime | | | | Wintertime | | | | |
| **60 < Load (Tier 1)** | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| **50 < Load ≤ 60 (Tier 2)** | 30 | 30 | 60 | 60 | 575 | 575 | 1,450 | 1,562 | 1,562 |
| **Load ≤ 50 (Tier 3)** | 1,800 | 2,200 | 2,500 | 2,590 | 3,750 | 3,750 | 5,000 | 5,625 | 5,625 |

Notes:
(1) Emission rates in ppmvd are the emission rates used to develop the equation in Condition 22.2, as described in the application.
(2) Take into account the change in maximum load with temperature.
(3) Because the source test results are lower than the vendor data, the Permittee elects to use the more conservative vendor emission rates data provided in Table C until re-tested emission factors exceed these values.

[Permit No. AQ0075CPT02, 2/14/05]
[18 AAC 50.040(j), 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)]

**23. Nitrogen Oxides (NOx) Limit.** The Permittee shall

23.1. For EU IDs 12, 14, and 15:

a. Comply with operating hour limits, listed in Table B;

b. Calculate and record the 12 consecutive month total operating hours for EU ID 12 burning diesel using data obtained in Condition 20.1; and

c. Monitor, record, and report in accordance with Conditions 20.1 through 20.4.

[Permit No. AQ0075MSS02, 3/26/2008]
[18 AAC 50.040(j), 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a) & (c)(6)]

23.2. For EU ID 22, limit the hours of operation to no more than 200 hours per 12 consecutive month period. Monitor, record, and report as follows:

a. Equip EU ID 22 with a non-resettable, dedicated engine hour meter.

b. Monitor and record the monthly hours of operation of EU ID 22.

c. Before the end of each calendar month, calculate and record the total hours of operation for EU ID 22 for the previous month, then calculate the 12 consecutive month total hours of operation by adding the monthly total to the previous 11 consecutive month total.

d. Report in the operating report described in Condition 79, the total hours of operation for EU ID 22 for each 12 consecutive month period, for each month covered by the report.

e. Report as excess emissions and permit deviation as described in Condition 78, any time the annual hours of operation for EU ID 22, recorded under Condition 23.2.c, exceed the limit in Condition 23.2; or if any of Conditions 23.2.a through 23.2.d are not met.

[Permit No. AQ0075MSS03, 9/30/10]
[18 AAC 50.040(j), 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a) & (c)(6)]

**24. Sulfur Dioxide ($SO_2$) Limit.** The Permittee shall comply with operating hour limits for EU IDs 12, 14, and 15 listed in Table B, and fuel sulfur limits in Condition 19.

24.1. Monitor, record, and report in accordance with Conditions 19 and 20.

[Permit No. AQ0075CPT02, 2/14/05]
[18 AAC 50.040(j), 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a) & (c)(6)]

## Insignificant Emissions Units

**25.** For emissions 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:

25.1. **Visible Emissions Standard**: The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process or 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)]

25.2. **Particulate Matter Standard**: The Permittee shall not cause or allow particulate matter 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)]

25.3. **Sulfur Compound 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)]

25.4. **General MR&R for Insignificant Emissions Units:** The Permittee shall comply with the following:

a. Submit the compliance certifications of Condition 80 based on reasonable inquiry;

b. Comply with the requirements of Condition 61;

c. Report in the operating report required by Condition 79 if an emissions unit has historically been classified as insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and current actual emissions have become greater than any of those thresholds; and

d. No other monitoring, recordkeeping or reporting is required for insignificant emissions units to demonstrate compliance with the emissions standards under Conditions 25.1, 25.2, and 25.3.

[18 AAC 50.040(j)(4), 50.326(j)(3), & 50.346(b)(4)]
[40 C.F.R. 71.6(a)(1) & (3)]

## *Section 4. Federal Requirements*

### 40 C.F.R. Part 60 New Source Performance Standards (NSPS)

### Subpart A – General Provisions

**26. NSPS Subpart A Notification.** For any affected facility[17] or existing facility[18] regulated under NSPS requirements in 40 C.F.R. 60, and required by the applicable subpart, the Permittee shall furnish the Department and EPA written or electronic notification of:

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

26.1. the date 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), Subpart A]

26.2. 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]

26.3. 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), Subpart A]

26.4. 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), Subpart A]

a. the name and address of owner or operator,

b. the location of the existing facility,

[17] *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.

[18] *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in 40 C.F.R. Part 60, 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.

**27. NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs 12 and 13 any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU IDs 12 and 13 is inoperative.

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

**28. NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report.** The Permittee shall submit to the Department and to EPA "excess emissions and monitoring systems performance (EEMSP)[19] report" any time a limit in Conditions 34 and 35 has been exceeded as described in Conditions 28.1 and 28.2 and / or summary report described in Condition 29 for EU ID 12 (only when fired with diesel fuel). Written reports of excess emissions shall include the following information[20]:

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.7(c), Subpart A]

28.1. The magnitude of excess emissions computed in accordance with 40 C.F.R. 60.13(h), any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

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

28.2. Identification of each period of excess emissions that occurred during startup, shutdown, and malfunction of affected facility, the nature and cause of any malfunction, and the corrective action taken or preventative measures adopted.

[40 C.F.R. 60.7(c)(2)]

[19] The Federal EEMSP report is not the same as the State excess emission report required by Condition 78.

[20] Periods of excess emissions and monitor downtime are defined in 40 C.F.R. 60.334(j)(2) for Subpart GG affected units.

**29. NSPS Subpart A EEMSP Summary Report Form.** The Permittee shall submit to the Department and to EPA one "summary report form" in the format shown in Figure 1 of 40 C.F.R. 60.7 (see Attachment A in the Statement of Basis) for each pollutant monitored for EU IDs 18 and 19[21] The report shall be submitted semiannually, postmarked by the 30th day following the end of each 6-month period, except when more frequent reporting is specifically required by an applicable subpart, case-by-case basis, or the EPA, as follows:

[18 AAC 50.040(a)(1)]
[40 C.F.R. 60.7(c) & (d), Subpart A]

29.1. If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, submit a summary report form unle**ss** the EEMSP report described in Condition 28 is requested, or

[40 C.F.R. 60.7(d)(1), Subpart A]

29.2. If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is five percent or greater of the total time for the reporting period, then submit a summary report form **and the EEMSP** report described in Condition 28.

[40 C.F.R. 60.7(d)(2), Subpart A]

**30. NSPS Subpart A Performance (Source) Tests.** The Permittee shall conduct source tests according to Section 6 and as indicated in this condition on any affected facility within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup, and 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. The Permittee shall:

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

30.1. Conduct source tests and reduce data as set out in 40 C.F.R. 60.8(b), and provide the Department copies of any EPA waivers or approvals of alternative methods.

[40 C.F.R. 60.8(b), Subpart A]

30.2. Conduct source tests under conditions specified by EPA to be based on representative performance of EU IDs 12 and 13.

[40 C.F.R. 60.8(c), Subpart A]

30.3. Notify the Department and EPA at least 30 days in advance of the source test.

[40 C.F.R. 60.8(d), Subpart A]

[21] The reports under Conditions 28 and 29 are only required in cases where the Permittee periodically monitors fuel sulfur content, or uses a CMS to determine NOx emissions. As allowed under 40 C.F.R. 60.334(h)(1), the Permittee is not monitoring natural gas sulfur content to determine $SO_2$ emissions. The Permittee also does not use a CMS to determine NOx emissions. As a result, the reporting requirements currently only apply to EU ID 12 diesel fuel operation.

30.4. Provide adequate sampling ports, safe sampling platform(s), safe access to sampling platform(s), and utilities for sampling and testing equipment.

[40 C.F.R. 60.8(e), Subpart A]

**31. NSPS Subpart A Good Air Pollution Control Practice.** At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU IDs 12 and 13 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 12 and 13.

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

**32. NSPS Subpart A Credible Evidence.** For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in Conditions 34 and 35 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 12 and 13 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), Subpart A]

**33. NSPS Subpart A Concealment of Emissions.** The Permittee 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 34, 35, and 37. 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, Subpart A]

### NSPS Subpart GG[22] – Stationary Gas Turbines

*EU IDs 12 and 13*

**34. NSPS Subpart GG NOx Standard.** The Permittee shall not allow the exhaust gas concentration of NOx from

34.1. EU ID 12 (natural gas fired) and EU ID 13 to exceed 212 ppmv at 15 percent oxygen ($O_2$) dry exhaust basis; and

34.2. EU ID 12 (diesel fired) to exceed 205 ppmv at 15 percent $O_2$ dry exhaust basis.

[18 AAC 50.040(a)(2)(V)]

[22] The provisions of NSPS Subpart GG listed in Conditions 34 through 35 are current as amended through December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

[40 C.F.R. 60.332(a)(2) & (d), Subpart GG]

34.3. **Monitoring**. The Permittee shall comply with the following:

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

a. **Periodic Testing**. For each turbine subject to Condition 34 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall satisfy either Condition 34.3.a(i) or 34.3.a(ii).

(i) For existing turbines whose latest emissions source testing was certified as operating at less than or equal to 90 percent of the limit shown in Condition 34, the Permittee shall conduct a $NO_X$ and $O_2$ source test under 40 C.F.R. 60, Appendix A, Method 20, or Method 7E and either Method 3 or 3A, within the first applicable criteria below in the noted timeframe:

(A) Within 5 years of the latest performance test, or

(B) Within 1 year of the effective date of this permit if the last source test occurred greater than five years prior to the effective date of this permit and the 400-hour threshold was triggered within 6 months of the permit's effective date, or

(C) Within 1 year after exceeding 400 hours of operation in a 12-month period if the last source test occurred greater than 4 years prior to the exceedance.

(ii) For existing turbines whose latest emissions source testing was certified as operating at greater than 90 percent of the limit shown in Condition 34, the Permittee shall conduct a $NO_X$ and $O_2$ source test under 40 C.F.R. 60, Appendix A, Method 20, or Method 7E and either Method 3 or 3A, annually until two consecutive tests show performance results certified at less than or equal to 90 percent of the limit in Condition 34.

b. **Substituting Test Data**. The Permittee may use a source test completed under Condition 34.3.a performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if

(i) the Permittee demonstrates that test results are less than or equal to 90 percent of the emission limit of Condition 34, and are projected under Condition 34.3.c to be less than or equal to 90 percent of the limit at maximum load;

(ii) for any source test conducted after the effective date of this permit, the Permittee identifies in a source test plan under Condition 70

(A) the turbine to be tested;

(B) the other turbines in the group that are to be represented by the test; and

(C) why the turbine to be tested is representative, including that each turbine in the group

(1) is located at a stationary source operated and maintained by the Permittee;

(2) is tested under close to identical ambient conditions;

(3) is the same make and model and has identical injectors and combustor;

(4) uses the same fuel type from the same source.

(iii) The Permittee may not use substitute test results to represent emissions from a turbine or group of turbines if that turbine or group of turbines is operating at greater than 90 percent of the emission limit of Condition 34.

c. **Load**. The Permittee shall comply with the following:

(i) Conduct all tests under Condition 34.3 in accordance with 40 C.F.R. 60.335, except as otherwise approved in writing by the Department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the Permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and stationary source operating conditions in effect at the time of the test.

(ii) Demonstrate in the source test plan for any test performed after the effective date of this permit whether the test is scheduled when maximum $NO_X$ emissions are expected.

(iii) If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the test data,

(A) for each such turbine the Permittee shall provide to the Department as an attachment to the source test report

(1) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and

(2) a demonstration based on the additional test information that projects the test results from Condition 34.3 to predict the highest load at which emissions will comply with the limit in Condition 34;

(B) the Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the limit of Condition 34;

(C) the Permittee shall comply with a written finding prepared by the Department that

(1) the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load,

(2) the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than maximum load, and the Permittee must not exceed the highest load at which compliance is predicted, or

(3) the Permittee must retest during a period of greater expected demand on the turbine, and

(D) the Permittee may revise a load limit by submitting results of a more recent Method 20, or Method 7E and either Method 3 or 3A, test done at a higher load, and, if necessary, the accompanying information and demonstration described in Condition 34.3.c(iii)(A); the new limit is subject to any new Department finding under Condition 34.3.c(iii)(C) and

(iv) In order to perform a Method 20, or Method 7E and either Method 3 or 3A, emission test, the Permittee may operate a turbine at a higher load than that prescribed by Condition 34.3.c(iii).

(v) For the purposes of Conditions 34.3 through 34.5, maximum load means the hourly average load that is the smallest of

(A) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;

(B) the highest load allowed by an enforceable condition that applies to the turbine; or

(C) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

34.4. **Recordkeeping**. The Permittee shall keep records as follows:

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

a. The Permittee shall comply with the following for each turbine for which a demonstration under Condition 34.3.c(iii) does not show compliance with the limit of Condition 34 at maximum load.

(i) The Permittee shall keep records of

(A) load; or

(B) as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.

(ii) Records in Condition 34.4.a shall be hourly or otherwise as approved by the Department.

(iii) Within one month after submitting a demonstration under Condition 34.3.c(iii)(A)(2) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under Condition 34.3.c(iii)(C), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.

b. For any turbine subject to Condition 34, that will operate less than 400 hours in any 12 consecutive months, the Permittee shall keep monthly records of the hours of operation.

34.5. **Reporting**. The Permittee shall keep report as follows

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

a. In each operating report under Condition 79 the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under Condition 34.3.c(iii)

(i) the load limit;

(ii) the turbine identification; and

(iii) the highest load recorded under Condition 34.4.a during the period covered by the operating report.

b. In each operating report under Condition 79 for each turbine for which Condition 34.3 has not been satisfied because the turbine normally operates less than 400 hours in any 12 consecutive months, the Permittee shall identify

(i) the turbine;

(ii) the highest number of operating hours for any 12 consecutive months ending during the period covered by the report; and

(iii) any turbine that operated for 400 or more hours.

c. The Permittee shall report under Condition 78 if

(i) a test result exceeds the emission standard;

(ii) Method 20, or Method 7E and either Method 3 or 3A, testing is required under Condition 34.3.a(i) or 34.3.a(ii) but not performed, or

(iii) the turbine was operated at a load exceeding that allowed by Conditions 34.3.c(iii)(B) and 34.3.c(iii)(C); exceeding a load limit is deemed a single violation rather than a multiple violation of both monitoring and the underlying emission limit.

[18 AAC 50.220(a) - (c) & 50.040(a)(1)]
[40 C.F.R. 60.8(b), Subpart A]

**35. NSPS Subpart GG $SO_2$ Standard.** The Permittee shall comply with the fuel sulfur standard in Condition 35.1 below:

[18 AAC 50.040(a)(2)(V)]
[40 C.F.R. 60.333, Subpart GG]

35.1. Do not allow the sulfur content for the fuel burned in EU IDs 12 and 13 to exceed 0.8 percent by weight.

[40 C.F.R. 60.333(b), Subpart GG]

35.2. **Monitoring.** The Permittee shall monitor compliance with the standard listed in Condition 35.1, as follows:

[18 AAC 50.040(a)(2)(V)]
[40 C.F.R. 60.334 & 60.335, Subpart GG]

a. Monitor the total sulfur content of the fuel being fired in the turbine, except as provided in Condition 35.2.b. The sulfur content of the fuel must be determined using total sulfur methods described in 40 C.F.R. 60.335(b)(10) and Condition 35.3. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084–82, 94, D5504–01, D6228–98, or Gas Processors Association Standard 2377–86, which measure the major sulfur compounds may be used.

[40 C.F.R. 60.334(h)(1), Subpart GG]

b. The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the Administrator requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration.[23]

[23] The Permittee submitted a demonstration to EPA indicating that the fuel gas combusted at the stationary source meets the definition of natural gas in 40 C.F.R. 60.331(u), pursuant to 40 C.F.R. 60.334(h)(3). EPA confirmed by letter dated December 11, 2006 stating that the fuel gas demonstration adequately meets the definition criteria for natural gas, as defined in 40 C.F.R. 60.331(u). Gaseous fuel sulfur monitoring under Condition 35.2.a and reporting under Conditions 28, 29, and 35.5.a do not apply to Subpart GG turbines that have demonstrated that natural gas fuel meets the definition of 40 C.F.R. 60.331(u) as set out by Condition 35.2.b(i). However, if the Permittee uses Condition 35.2.b(ii) to demonstrate compliance with the sulfur

(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

(ii) Representative fuel sampling data, which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. 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. 60.334(h)(3), Subpart GG]

c. For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

[40 C.F.R. 60.334(h)(4), Subpart GG]

d. The frequency of determining the sulfur content of the fuel shall be as follows:

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 60.334(i), Subpart GG]

(i) Fuel oil. For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of Appendix D of 40 C.F.R Part 75 (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). If an emission allowance is being claimed for fuel-bound nitrogen, the nitrogen content of the oil shall be determined and recorded once per unit operating day.

[40 C.F.R. 60.334(i)(1), Subpart GG]

(ii) Gaseous fuel. For owners and operators that elect not to demonstrate sulfur content using options in Condition 35.2.b, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.

[40 C.F.R. 60.334(i)(2), Subpart GG]

standard for gaseous fuel, then 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 pursuant to 40 C.F.R. 60.334(h)(3)(ii).

(iii) Custom schedules. Notwithstanding the requirements of Condition 35.2.d(ii), operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in 40 C.F.R. 60.334(i)(3)(i) and (i)(3)(ii), custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in Condition 35. The two custom sulfur monitoring schedules set forth in 40 C.F.R. 60.334(i)(3)(i)(A) through (D) and 60.334(i)(3)(ii) are acceptable without prior Administrative approval.

[40 C.F.R. 60.334(i)(3), Subpart GG]

35.3. **Test Methods and Procedures.** If the owner or operator is required under Conditions 35.2.d(i) or 35.2.d(iii) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using Conditions 35.3.a and/or 35.3.b:

[18 AAC 50.040(a)(2)(V)]
[40 C.F.R. 60.335(b)(10), Subpart GG]

a. For liquid fuels, ASTM D129–00, D2622–98, D4294–02, D1266–98, D5453–00 or D1552–01; or

[18 AAC 50.040(a)(2)(V)]
[40 C.F.R. 60.335(b)(10)(i), Subpart GG]

b. For gaseous fuels, ASTM D1072-80, 90; D3246-81, 92, 96; D4468-85; or D6667-01. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

[40 C.F.R. 60.335(b)(10)(ii), Subpart GG]

c. The fuel analyses required under Condition 35.3 may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

[40 C.F.R. 60.335(b)(11), Subpart GG]

35.4. **Recordkeeping.** Keep records of the information required by Condition 35.2 in accordance with recordkeeping requirements in Condition 74.

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

35.5. **Reporting.** The Permittee shall report as follows:

a. For each affected EU that periodically determines the fuel sulfur content under Condition 35.2.a, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with 40 C.F.R. 60.7(c) as summarized in Condition 28 except where otherwise approved by a custom fuel monitoring schedule. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction as described by 40 C.F.R. 60.334(j)(2).

[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 60.334(j), Subpart GG]

b. For each affected EU that demonstrates compliance with the sulfur standard in Condition 35.1 using either Conditions 35.2.b(i) or 35.2.b(ii), submit the required demonstration information in the operating report required by Condition 79.

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

## Subpart IIII[24] – Compression Ignition Internal Combustion Engines (CI ICE)

*EU ID 22*

**36. NSPS Subpart IIII Requirements.** For EU ID 22, the Permittee 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[25], modification[26], or reconstruction[27] commences after July 11, 2005, as identified in Conditions 37 – 42.

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

36.1. Comply with the applicable provisions of Subpart A as specified in Table 8 to Subpart IIII.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4218 & Table 8, Subpart IIII]

**37. NSPS Subpart IIII Emission Standards.** For EU ID 22:

37.1. The Permittee shall comply with the emission standards in Table D.

[24] The provisions of NSPS Subpart IIII listed in Conditions 36 through 42 are current as amended through December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.
[25] For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.
[26] As defined in 18 AAC 50.990(59).
[27] As defined in 18 AAC 50.990(88).

**Table D – Engine Emission Standards (g/kW-hr)**

| EU ID | $NO_X$ | NMHC | CO | PM |
|---|---|---|---|---|
| 22 | 3.5 | 0.4 | 3.5 | 0.10 |

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4204(b), §60.4201(a), §1039.102(b), Table 7, Subpart IIII]

37.2. Owners and operators who conduct performance tests must meet the not-to-exceed standards as indicated in 40 C.F.R. 60.4212, for performance tests conducted in-use.

[40 C.F.R. 60.4204(d), Subpart IIII]

37.3. Operate and maintain the stationary CI ICE that achieve the emission standards in Condition 37.1 over the entire life of the engine.

[40 C.F.R. 60.4206, Subpart IIII]

**38. NSPS Subpart IIII Fuel Requirements.** The Permittee shall comply with the following:

38.1. For EU ID 22, the Permittee shall use diesel fuel that meets the following specifications:

a. A maximum sulfur content of 15 parts per million by weight (ppmw).

b. A minimum cetane number of 40, or a maximum aromatic content of 35 percent by volume.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 60.4207(b), Subpart IIII]
[40 C.F.R. 80.510(b), Subpart IIII]

**39. NSPS Subpart IIII Compliance Requirements.** For EU ID 22, the Permittee must do all of the following, except as permitted under Condition 39.5:

[18 AAC 50.040(a)(2)(OO), (j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4211(a), Subpart IIII]

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

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

39.3. Meet the requirements of 40 C.F.R. parts 89, 94 and/or 1068, as they apply to you.

[40 C.F.R. 60.4211(a)(1) through (3), Subpart IIII]

39.4. Comply with the emission standards in Condition 37.1 by purchasing an engine certified to the emission standards in Condition 37.1. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g), specified in Condition 39.5.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(i & ii)]
[40 C.F.R. 60.4211(c), Subpart IIII]

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

[18 AAC 50.040(a)(2)(OO), (j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4211(g), Subpart IIII]

a. 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, conduct an initial performance test to demonstrate compliance with the applicable emission standards within one year of startup, or within one 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 one year after changing emission-related settings in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours of engine operation or three years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

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

**40. NSPS Subpart IIII Test Methods and Other Procedures.** For EU ID 22, owners and operators who conduct performance tests must conduct the performance tests pursuant to NSPS Subpart IIII according to 40 C.F.R. 60.4212(a) and (c).

[40 C.F.R. 60.4212, Subpart IIII]

**41. NSPS Subpart IIII Monitoring and Recordkeeping.** For EU ID 22, the Permittee shall comply with the following:

41.1. Keep records of engine manufacturer data indicating compliance with the emission standards in Table D.

[40 C.F.R. 60.4209 and 60.4211(b)(3), Subpart IIII]

41.2. Comply with either Condition 41.2.a(i) or 41.2.a(ii):

a. For each shipment of fuel:

(i) Keep receipts that specify fuel grade and amount and

(A) Test the fuel for sulfur content; or

(B) Obtain test results showing the fuel content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent; or

(ii) Test the sulfur content of the fuel in the storage tank for EU ID 27.

[40 C.F.R. 71.6(a)(3)(i) & (ii)]

41.3. Fuel testing under Condition 41.2.a(i) or 41.2.a(ii) must follow an appropriate method listed in 18 AAC 50.035(b)-(c) or 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

[40 C.F.R. 71.6(a)(3)(i) & (ii)]

**42. NSPS Subpart IIII Reporting.** The Permittee shall report as follows:

42.1. Demonstrate compliance with Condition 38.1 by including in the operating report required by Condition 79 a copy of the records required in Condition 41.2 for the period covered by the report.

42.2. Report in accordance with Condition 78 if any of the requirements in Conditions 36 through 42.1 are not met.

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

## 40 C.F.R. Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAP)

### Subpart A – General Provisions

**43. NESHAP Subpart A Applicability.** The Permittee shall comply with the applicable requirements of 40 C.F.R. 63 Subpart A as follows:

43.1. For diesel-fired engines EU IDs 10, 14, 15, and 22, the Permittee shall comply with the applicable requirements of 40 C.F.R. 63 Subpart A in accordance with the provisions for applicability of Subpart A in Table 8 to 40 C.F.R. 63, Subpart ZZZZ.

[18 AAC50.040(c)(1), (23) & (39), 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1) & (a)(3)]
[40 C.F.R. 63.1-63.15, Subpart A]
[40 C.F.R. 63.6665 & Table 8, Subpart ZZZZ]

### NESHAP Subpart ZZZZ[28] – Stationary ICE

(EU IDs 10, 14, 15, and 22)

**44.** For EU ID 22, the Permittee shall 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 36 – 40.

[40 C.F.R. 63.6590(c)(1), Subpart ZZZZ]

**45.** For EU IDs 10, 14, and 15, the Permittee shall comply with the requirements in Conditions 45.1 through 45.9.

[40 C.F.R. 71.6(c)(7)]

[28] The provisions of NESHAP Subpart ZZZZ listed in Conditions 44 through 45 are current as of December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

45.1. **Management Practices for Emergency CI ICE[29]:** For EU IDs 10 and 14, conduct maintenance as follows:

a. Change oil and filter every 500 hours of operation or annually, whichever comes first; except as allowed by Condition 45.5;

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

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

[18 AAC 50.040(c)(23)]
[40 C.F.R. 63.6603 and Table 2d, Item 4, Subpart ZZZZ]

45.2. **Management Practices for Non-Emergency CI ICE.** For EU ID 15, conduct maintenance as follows:

a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first, except as allowed by Condition 45.5;

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

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

[18 AAC 50.040(c)(23)]
[40 C.F.R. 63.6603(a) and Table 2d, Item 1, Subpart ZZZZ]

45.3. **Good Air Pollution Control Practices.** For EU IDs 10, 14, and 15, at all times, operate and maintain the emission units, including any 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 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 not limited to monitoring results, review of operation, maintenance procedures and records, and inspection of the source.

[18 AAC 50.040(c)(23)]
[40 C.F.R. 63.6605(b), Subpart ZZZZ]

45.4. **Operation and Maintenance.** For EU IDs 10, 14, and 15, the Permittee shall:

[29] If operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required under Conditions 45.1 and 45.2, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the Permittee may delay the management practice until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated.

[40 C.F. R. 63, Footnote 2 to Table 2d, Subpart ZZZZ]

a. 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)(3), Subpart ZZZZ]

b. 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, Subpart ZZZZ]

c. Install a non-resettable hour meter if one is not already installed.

[40 C.F.R. 63.6625(f), Subpart ZZZZ]

45.5. **Oil Analysis Program.** For EU IDs 10, 14, and 15, the Permittee has the option to utilize an oil analysis program to extend the specified oil change requirement in Conditions 45.1.a and 45.2.a as described below:

a. The oil analysis must be performed at the same frequency specified for changing the oil in Conditions 45.1.a and 45.2.a.

b. 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:

(i) total Base Number is less than 30 percent of the Total Base Number of the oil when new;

(ii) viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or

(iii) percent water content (by volume) is greater than 0.5.

c. If all of these condemning limits in Conditions 45.5.b(i) through 45.5.b(iii) are not exceeded, the engine owner or operator is not required to change the oil.

d. If any of the limits in Conditions 45.5.b(i) through 45.5.b(iii) are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis.

(i) 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.

e. 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.

f. The analysis program must be part of the maintenance plan for the engine as required in Condition 45.4.c.

[40 C.F.R. 63.6625(i), Subpart ZZZZ]

45.6. **Operating Hour Limits for Emergency Engines.** For EU IDs 10 and 14, the Permittee shall operate the emergency stationary RICE according to the requirements in Conditions 45.6.a through 45.6.c. In order for the engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in Conditions 45.6.a through 45.6.c, is prohibited. If you do not operate the engine according to the requirements in Conditions 45.6.a through 45.6.c, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines.

[18 AAC 50.040(c)(23)]
[40 C.F.R. 63.6640(f), NSPS Subpart ZZZZ]

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

[40 C.F.R. 63.6640(f)(1)]

b. The Permittee may operate the emission units for the purpose of 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. The Permittee 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 the Permittee maintains 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. 63.6640(f)(2)]

c. The Permittee may operate the emission units up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing under Condition 45.6.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. 63.6640(f)(4)]

45.7. **NESHAP Subpart ZZZZ Monitoring.** For EU IDs 10, 14, and 15, the Permittee must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Conditions 45.1 and 45.2 by:

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

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

b. Developing and following 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]

45.8. **NESHAP Subpart ZZZZ Recordkeeping:** The Permittee shall keep records as follows:

a. For EU IDs 10 and 14, keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

[40 C.F.R. 63.6655(f) , Subpart ZZZZ]

b. For EU IDs 10, 14, and 15, keep records of the maintenance conducted on the stationary RICE to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to its own maintenance plan, including, but not limited to, the parameters analyzed, the results of the oil analysis, and the oil changes for the engine as part of the oil analysis program described in Condition 45.5.

[40 C.F.R. 63.6655(e), (e)(2), & (e)(3), Subpart ZZZZ]

c. For EU IDs 10, 14, and 15, 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.

[40 C.F.R. 63.6660, Subpart ZZZZ]
[40 C.F.R. 63.10(b)(1), and Table 8 to 40 C.F.R. 63, Subpart A]

45.9. **NESHAPs Subpart ZZZZ Reporting:** For EU IDs 10, 14, and 15, the Permittee shall include in the operating report required by Condition 79, 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(b), 63.6650(f), Subpart ZZZZ]

## 40 C.F.R. Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP)

### Subpart A – General Provisions & Subpart M – Asbestos

**46.** The Permittee shall comply with the applicable 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]

## 40 C.F.R. Part 82 Protection of Stratospheric Ozone

**47. Subpart F – Recycling and Emissions Reduction.** The Permittee shall comply with the applicable 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]

**48. Subpart G – Significant New Alternatives.** 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) & 50.326(j)]
[40 C.F.R. 82.174(b) through (d), Subpart G]

**49. Subpart H – Halons Emissions 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) & 50.326(j)]
[40 C.F.R. 82.270(b) through (f), Subpart H]

## 40 C.F.R. 63 NESHAP Applicability Determinations

**50.** The Permittee shall determine rule applicability and designation of affected sources under National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories (40 C.F.R. 63) in accordance with the procedures described in 40 C.F.R. 63.1(b).

50.1. If an owner or operator of a stationary source who is in the relevant source category determines that the source is not subject to a relevant standard or other requirement established under 40 C.F.R. 63, the owner or operator must keep a record as specified in 40 C.F.R. 63.10(b)(3).

50.2. 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).

50.3. 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), 63.9(b), & 63.10(b)(3), Subpart A]

## *Section 5. General Conditions*

### Standard Terms and Conditions

**51.** 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)]

**52.** 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)]

**53.** 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)]

**54. 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) & AS 46.14.240]

**55. Assessable Emissions.** For each period from July 1 through the following June 30, the Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions, as determined by the Department under 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 the stationary source's:

55.1. potential to emit of 1,635 TPY; or

55.2. projected annual rate of emissions, in TPY, based upon actual annual emissions for the most recent calendar year, or another 12-month period approved in writing by the Department, when demonstrated by credible evidence of actual emissions, based upon the most representative information available from 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; or

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

[18 AAC 50.040(j)(4), 50.035, 50.326(j)(1) & (3), 50.346(b)(1), 50.410, & 50.420]

**56. Assessable Emission Estimates.** The Permittee shall comply as follows:

56.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions as determined in Condition 55.2. Submit actual emissions estimates in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-condition-i-submission-instructions/.

56.2. The Permittee shall include with the assessable emissions report all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates.

56.3. 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 in Condition 55.1.

[18 AAC 50.040(j)(4), 50.326(j)(1) & (3), 50.346(b)(1), 50.410, & 50.420]

**57. Good Air Pollution Control Practice (GAPCP).** The Permittee shall do the following for EU IDs 8 and 9:

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

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

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

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

**58. Dilution.** The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a)]

**59. 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.

59.1. 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 59.1.a or to address the results of Department inspections that found potential problems; and

(ii) to prevent future dust problems.

59.2. The Permittee shall report according to Condition 61.3.

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

**60. 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 stationary 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)]

**61. 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 50.040(j)(4), 50.110, 50.326(j)(3) & 50.346(a)]
[40 C.F.R. 71.6(a)(3)]

61.1. **Monitoring.** The Permittee shall monitor as follows:

a. 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 61.

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

(i) 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 61; or

(ii) the Department notifies the Permittee that it has found a violation of Condition 61.

61.2. **Recordkeeping.** 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 61; and

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

61.3. **Reporting.** The Permittee shall report as follows:

a. With each stationary source operating report under Condition 79, the Permittee shall include a brief summary report which must include the following for the period covered by the report:

(i) the number of complaints received;

(ii) the number of times the Permittee or the Department found corrective action necessary;

(iii) the number of times action was taken on a complaint within 24 hours; and

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

b. 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.

c. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 78.

**62. Technology-Based Emission Standard.** If an unavoidable emergency, malfunction (as defined in 18 AAC 50.235(d)), or non-routine repair (as defined in 18 AAC 50.990(64), causes emissions in excess of a technology-based emission standard[30] listed in Conditions 34, 35, 37, 38, and 47 (refrigerants), the Permittee shall

62.1. take all reasonable steps to minimize levels of emissions that exceed the standard; and

62.2. report in accordance with Condition 78.1.b; the report must include information on the steps taken to mitigate emissions and corrective measures taken or to be taken.

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

## Open Burning Requirements

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

63.1. The Permittee shall keep written records to demonstrate that the Permittee complies with the requirements of 18 AAC 50.065. Upon request by the Department, submit copies of the records.

63.2. Compliance with this condition shall be an annual certification conducted under Condition 80.

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

[30] As defined in 18 AAC 50.990(106), the term "*technology-based emission standard*" means a best available control technology (BACT) standard; a lowest achievable emission rate (LAER) standard; a maximum achievable control technology (MACT) 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*

**64. 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)]

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

[18 AAC 50.220(b)]

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

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

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

66.1. 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]

66.2. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b) & 50.220(c)(1)(B)]
[40 C.F.R. 61]

66.3. 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]

66.4. 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. The Permittee may use the form in Section 12 to record data.

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

66.5. 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]

66.6. Source testing for emissions of $PM_{10}$ and $PM_{2.5}$ 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]

66.7. 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)(32) & 50.220(c)(2)]
[40 C.F.R. 63, Appendix A, Method 301]

**67. 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 emissions 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)]

**68. Test Exemption.** The Permittee is not required to comply with Conditions 70, 71 and 72 when the exhaust is observed for visible emissions by Method 9 Plan (Condition 2.1).

[18 AAC 50.345(a)]

**69. 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)]

**70. Test Plans.** Except as provided in Condition 68, 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 emissions 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 64 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 done without resubmitting the plan.

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

**71. Test Notification.** Except as provided in Condition 68, 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)]

**72. Test Reports.** Except as provided in Condition 68, within 60 days after completing a source test, the Permittee shall submit one certified copy 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 75. 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)]

**73. Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in Conditions 5 and 25.2, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f)]

## *Section 7. General Recordkeeping and Reporting Requirements*

### Recordkeeping Requirements

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

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

74.2. 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.

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

### Reporting Requirements

**75. 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.

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

a. uses a security procedure, as defined in AS 09.80.190, that the Department has approved; and

b. accepts or agrees to be bound by an electronic record executed or adopted with that signature.

[18 AAC 50.205, 50.326(j)(3), 50.345(a) & (j), & 50.346(b)(10)]

**76. Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall submit to the Department one certified copy of reports, compliance certifications, and/or other submittals required by this permit. The Permittee may submit the documents electronically or by hard copy.

76.1. Submit the certified copy of reports, compliance certifications, and/or other submittals in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-condition-xvii-submission-instructions/.

[18 AAC 50.326(j)(3) & 50.346(b)(10)]

**77. 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)]

**78. Excess Emissions and Permit Deviation Reports.** The Permittee shall report excess emissions and permit deviations as follows:

78.1. **Excess Emissions Reporting.** Except as provided in Condition 61, the Permittee shall report all emissions or operations that exceed emissions standards or limits of this permit as follows:

a. In accordance with 18 AAC 50.240(c), as soon as possible, report

(i) excess 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. If a continuous or recurring excess emissions is not corrected within 48 hours of discovery, report within 72 hours of discovery unless the Department provides written permission to report under Condition 78.1.d.

d. Report all other excess emissions not described in Conditions 78.1.a, 78.1.b, and 78.1.c within 30 days after the end of the month during which the excess emissions occurred or as part of the next routine operating report in Condition 79 for excess emissions that occurred during the period covered by the report, whichever is sooner.

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

78.2. **Permit Deviations Reporting.** For permit deviations that are not "excess emissions," as defined under 18 AAC 50.990:

a. Report according to the required deadline for failure to monitor, as specified in other applicable conditions of this permit (Conditions 4.2.b and 8.3.b).

b. Report all other permit deviations within 30 days after the end of the month during which the deviation occurred or as part of the next routine operating report in Condition 79 for permit deviations that occurred during the period covered by the report, whichever is sooner.

78.3. **Notification Form.** When reporting either excess emissions or permit deviations, the Permittee shall report using either the Department's online form, which can be found at the Division of Air Quality's Air Online Services (AOS) system webpage http://dec.alaska.gov/applications/air/airtoolsweb using the Permittee Portal option, or, if the Permittee prefers, the form contained in Section 13 of this permit. The Permittee must provide all information called for by the form that is used. Submit the report in accordance with the submission instructions on the Department's Standard Permit Conditions webpage found at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-conditions-iii-and-iv-submission-instructions/.

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

**79. Operating Reports.** During the life of this permit[31], the Permittee shall submit to the Department an operating report in accordance with Conditions 75 and 76 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.

79.1. 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.

79.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 79.1, the Permittee shall identify

a. the date of the excess emissions or 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; or

[31] *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.

79.3. when excess emissions or permit deviation reports have already been reported under Condition 78 during the period covered by the operating report, the Permittee shall either

a. include a copy of those excess emissions or permit deviation reports with the operating report; or

b. cite the date(s) of those reports.

79.4. The operating report must include, for the period covered by the report, a listing of emissions monitored under Conditions 2.2.e, 6.2, 9.1, and 34.3.a 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

d. the monitoring result which triggered the additional monitoring.

79.5. **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(b)(6) & 50.326(j)]
[40 C.F.R. 71.6(a)(3)(iii)(A)]

**80. Annual Compliance Certification.** Each year by March 31, the Permittee shall compile and submit to the Department an annual compliance certification report according to Condition 76.

80.1. 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.

80.2. **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.

80.3. In addition, submit a copy of the report directly to the Clean Air Act Compliance Manager, US EPA Region 10, ATTN: Air Toxics and Enforcement Section, Mail Stop: 20-C04, 1200 Sixth Avenue, Suite 155, Seattle, WA 98101-3188.

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

**81. Emission Inventory Reporting.** The Permittee shall submit to the Department reports of actual emissions for the previous calendar year, by emissions unit, of CO, $NH_3$, $NO_x$, $PM_{10}$, $PM_{2.5}$, $SO_2$, VOC and lead (Pb) and lead compounds, as follows:

81.1. **Every-year inventory.** 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 $NH_3$, $PM_{10}$, $PM_{2.5}$ or VOCs; or

b. 2,500 TPY of CO, $NO_X$ or $SO_2$.

81.2. **Triennial inventory.** Every third year by April 30, if the stationary source's potential to emit (except actual emissions for Pb) for the previous calendar year equals or exceeds:

a. For stationary sources located in Attainment and Unclassifiable Areas:

(i) 0.5 TPY of actual Pb, or

(ii) 1,000 TPY of CO; or

(iii) 100 TPY of $SO_2$, $NH_3$, $PM_{10}$, $PM_{2.5}$, $NO_X$ or VOCs.

b. For stationary sources located in Nonattainment Areas:

(i) 0.5 TPY of actual Pb; or

(ii) 1,000 TPY of CO or, when located in a CO nonattainment area, 100 TPY of CO; or

(iii) 100 TPY of $SO_2$, $NH_3$, $PM_{10}$, $PM_{2.5}$, $NO_x$, or VOC; or as specified in Conditions 81.2.b(iv) through 81.2.b(viii);

(iv) 70 TPY of $SO_2$, $NH_3$, $PM_{2.5}$, $NO_x$, or VOC in $PM_{2.5}$ serious nonattainment areas; or

(v) 70 TPY of $PM_{10}$ in $PM_{10}$ serious nonattainment areas; or

(vi) 50 TPY of $NO_x$ or VOC in $O_3$ serious nonattainment areas; or

(vii) 25 TPY of $NO_x$ or VOC in $O_3$ severe nonattainment areas; or

(viii) 10 TPY of $NO_x$ or VOC in $O_3$ extreme nonattainment areas.

81.3. For reporting under Condition 81.2, the Permittee shall report the annual emissions and the required data elements under Condition 81.4 every third year for the previous calendar year as scheduled by the EPA.[32]

81.4. For each emissions unit and the stationary source, include in the report the required data elements[33] contained within the form included in the Emission Inventory Instructions available at the Department's AOS system on the Point Source Emission Inventory webpage at http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory.

81.5. Submit the report in accordance with the submission instructions on the Department's Standard Permit Conditions webpage at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-conditions-xv-and-xvi-submission-instructions/.

[18 AAC 50.040(j)(4), 50.200, 50.326(j)(3), & 50.346(b)(8)]
[40 C.F.R. 51.15, 51.30(a)(1) & (b)(1), and Appendix A to 40 C.F.R. 51 Subpart A]

**82. NSPS and NESHAP Reports.** The Permittee shall comply with the following:

82.1. **Reports:** Except for previously submitted reports and federal reports and notices submitted through EPA's Central Data Exchange (CDX) and Compliance and Emissions Data Reporting Interface (CEDRI) online reporting system, attach to the operating report required by Condition 79 for the period covered by the report, a copy of any NSPS and NESHAP reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10. For reports previously submitted to ADEC or submitted through CDX/CEDRI, state in the operating report the date and a brief description of each of the online reports submitted during the reporting period.

82.2. **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 Permittee shall keep a copy of each U.S. EPA-issued monitoring waiver or custom monitoring schedule with the permit.

[18 AAC 50.040(j)(4) and 50.326(j)(4)]
[40 C.F.R. 60.13, 63.10(d) & (f) and 40 C.F.R. 71.6(c)(6)]

[32] The calendar years for which reports are required are based on the triennial reporting schedule in 40 C.F.R. 51.30(b)(1), which requires states to report emissions data to the EPA for inventory years 2011, 2014, 2017, 2020, and every 3rd year thereafter. Therefore, the Department requires Permittees to report emissions data for the same inventory years by April 30 of the following year (e.g., triennial emission inventory report for 2020 is due April 30, 2021, triennial emission inventory report for 2023 is due April 30, 2024, etc.).

[33] The required data elements to be reported to the EPA are outlined in 40 C.F.R. 51.15 and Tables 2a and 2b to Appendix A of 40 C.F.R. 51 Subpart A.

## *Section 8. Permit Changes and Renewal*

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

83.1. 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;

83.2. The information shall be submitted to the Part 70 Operating Permit Program, US EPA Region 10, Air Permits and Toxics Branch, Mail Stop: 15-H13, 1200 Sixth Avenue, Suite 155, Seattle, WA 98101-3188;

83.3. 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

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

[18 AAC 50.040(j)(7), 50.326(a) & (j)(3), and 50.346(b)(7)]
[40 C.F.R. 71.10(d)(1)]

**84. 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)]

**85. 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. Parts 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:

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

85.2. 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;

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

85.4. 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)(4)]
[40 C.F.R. 71.6(a)(12)]

**86. Operational Flexibility.** The Permittee may make CAA Section 502(b)(10)[34] 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):

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

86.2. For each such change, the notification required by Condition 86.1 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.

86.3. The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to Condition 86.

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

**87. Permit Renewal.** To renew this permit, the Permittee shall submit to the Department[35] an application under 18 AAC 50.326 no sooner than [18 months before the expiration date of this permit] and no later than [6 months before the expiration date of this permit]. 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) & (j)(2)]
[40 C.F.R. 71.5(a)(1)(iii) & 71.7(b) & (c)(1)(ii)]

[34] As defined in 40 C.F.R. 71.2, CAA Section 502(b)(10) changes are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[35] Submit permit applications to the Department's Anchorage office. The current address is: Air Permit Intake Clerk, ADEC, 555 Cordova Street, Anchorage, AK 99501.

## *Section 9. Compliance Requirements*

### General Compliance Requirements

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

88.1. included and specifically identified in the permit; or

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

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

**89.** The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 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

89.1. an enforcement action;

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

89.3. denial of an operating permit renewal application.

[18 AAC 50.040(j), 50.326(j) & 50.345(a) & (c)]

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

[18 AAC 50.040(j)(3) & (4) and 50.326(j)]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(A)]

**91.** 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)]

**92.** 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

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

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

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

92.4. 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)]

**93.** 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.

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

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

94.2. 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 50.040(j)(4) and 50.326(j)]
[40 C.F.R. 71.6(f)(3)(i) & (ii)]

**95.** Table E identifies the emissions units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table E 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 50.040(j)(4) and 50.326(j)]
[40 C.F.R. 71.6(f)(1)(ii)]

**Table E - Permit Shields Granted**

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| Breakout Tank: EU ID 21 (TK-140) | 40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids | Commenced construction prior to effective date of subpart (May 18, 1978). The tank has not been modified or reconstructed since the effective date of the standard. The tank is a crude oil breakout tank (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2. |
| | 40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) | Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard. The tanks are crude oil breakout tanks (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2. |
| Tank: TK-147 | 40 C.F.R. 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids | The tank stores diesel fuel and diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111(b)]. |
| | 40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids | Commenced construction prior to effective date of subpart (May 18, 1978). The tank has not been modified or reconstructed since the effective date of the standard. In addition, diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111a(b)]. |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| | 40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) | Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard. |
| Engines: EU IDs 10, 14, and 15 | 40 C.F.R. 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines | Not affected units (unless modified or reconstructed in the future). These emission units were manufactured prior to April 1, 2006 applicability date (see 40 C.F.R. 60.4200(a)(2(i)), and have not been modified or reconstructed after July 11, 2005 (see 40 C.F.R. 60.4200(a)(3)). |
| Turbines: EU IDs 12 & 13 | 40 C.F.R. 60 Subpart A – General Provisions (portions of) | §60.7(a)(5) – (a)(7) – Do not apply because no continuous monitoring system is used. Opacity observation is not required because visible emissions are not regulated under Subpart GG.<br>§60.13 – Does not apply because no continuous monitoring system or monitoring device as each term is defined in 60.2 is required under Subpart GG for EU IDs 12 and 13. |
| Turbines: EU IDs 12 & 13 | 40 C.F.R. 60 Subpart GG – Standards of Performance for Stationary Gas Turbines: | Standards for NOx:<br>§60.332(a)(1) – Does not apply because EU IDs 12 and 13 are subject to §60.332(a)(2).<br>§60.332(3) & (a)(4) – Do not apply because APSC has chosen not to take an allowance for fuel-bound nitrogen.<br>Standard for Sulfur Dioxide:<br>§60.333(a) – Does not apply because APSC has chosen to comply with the sulfur limit under §60.333(b).<br>Monitoring of Operations:<br>§60.334(a) and (b) – Apply only to turbines using water injection for NOx control.<br>§60.334(c)-(g) – Optional monitoring methods (CEMS) that APSC chooses not to conduct.<br>§60.334(h)(2) – Nitrogen monitoring under 60.334(h)(2) is not required because APSC has chosen not to claim an allowance for fuel bound nitrogen.<br>§60.334(j) – Does not apply to EU IDs 12 (only when fired with natural gas) and 13 because no continuous monitoring of parameters or emissions is required. |
| Storage Tanks | 40 C.F.R. 63 Subpart OO – National Emission Standards for Tanks – Level 1 | Provisions only apply to tanks subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart OO. The stationary source does not include any tanks subject to any subpart of Part 60, 61, or 63. |
| Portable Storage Containers | 40 C.F.R. 63 Subpart PP – National Emission Standards for Containers | Provisions only apply to portable containers, as defined in §63.921, subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically references 40 C.F.R. 63 Subpart PP. The stationary source does not include any containers subject to any subpart of Part 60, 61, or 63. |
| Drain Systems | 40 C.F.R. 63 Subpart RR – National Emission Standards for Individual Drain Systems | Provisions only apply to drain systems affected by 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| | | RR. The stationary source does not include any drain systems subject to any subpart of Part 60, 61, or 63 [40 C.F.R. 63.960]. |
| Oil-Water Separators | 40 C.F.R. 63 Subpart VV – National Emission Standards for Oil-Water Separators and Organic-Water Separators | EPA stated that these provisions were placed within this standard only for convenience and only where a stationary source is subject to another Part 60, 61, or 63 subpart that references Subpart VV [40 C.F.R. 63.1040]. This stationary source is not subject to any subpart in Part 60, 61, or 63 that references Subpart VV. |
| Stationary Source - Wide | 40 C.F.R. 51 Appendix Y – Guidelines for BART Determinations Under the Regional Haze Rule | PS-4 has been determined not to be a BART eligible source by the Department due to its distance from the nearest Class I area (Denali Park). |
| Stationary Source - Wide | 40 C.F.R. 60 Subpart LLL - Standards of Performance for Onshore Natural Gas Processing Plants | Stationary source does not process natural gas [40 C.F.R. 60.640] and commenced construction prior to effective date of subpart (January 20, 1984). Stationary source has not been modified or reconstructed since the effective date of the standard. |
| Stationary Source - Wide | 40 C.F.R. 61 Subpart A - General Provisions | Other than the asbestos renovation and demolition requirements of Subpart M this subpart does not apply to this stationary source because it only applies where there are subparts applicable to the stationary source and no other Part 61 subparts apply to this stationary source. |
| | 40 C.F.R. 61 Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene | No process components in *benzene service*, as defined by subpart (10 percent benzene by weight) [40 C.F.R. 61.110 and 61.111]. |
| | 40 C.F.R. 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) | No process components in *volatile hazardous air pollutant (VHAP) service*, as defined by subpart (≥10 percent VHAP by weight) [40 C.F.R. 61.241 and 61.245]. This subpart only applies where identified by another applicable Part 61 subpart [40 C.F.R. 61.240]. |
| | 40 C.F.R. 61 Subpart Y - National Emission Standard for Benzene Emissions from Benzene Storage Vessels | The stationary source does not have storage tanks that store benzene as defined by the standards in 40 C.F.R. 61.270(a). |
| | 40 C.F.R. 61 Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations | Crude oil and petroleum distillates are exempt from this subpart [40 C.F.R. 61.300]. Other than crude oil and other petroleum distillates there are no other benzene containing substances where loading occurs at this stationary source. |
| | 40 C.F.R. 61 Subpart FF - National Emission Standard for Benzene Waste Operations | This subpart only applies to chemical manufacturing plants, coke byproduct recovery plants and petroleum refineries [40 C.F.R. 61.340]. This stationary source does not include any of those activities. |
| Stationary Source - Wide | 40 C.F.R. 61 Subpart M - National Emission Standard for Asbestos | §61.142 - - Standard for Asbestos Mills: APSC PS-4 is not an Asbestos Mill.<br>§61.144 - Standard for Manufacturing: APSC PS-4 does not engage in any manufacturing operations using commercial asbestos. |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| | | §61.146 - Standard for Spraying: APSC PS-4 does not spray apply asbestos containing materials.<br>§61.147 - Standard for Fabricating: APSC PS-4 does not engage in any fabricating operations using commercial asbestos.<br>§61.149 - Standard for Waste Disposal for Asbestos Mills: Applies only to those stationary sources subject to 40 C.F.R. 61.142 (Asbestos Mills).<br>§61.151 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations: Applies only to those stationary sources subject to 40 C.F.R. 61.142, 61.144, or 61.147 (Asbestos Mills, manufacturing or fabricating).<br>§61.153 - Standard for Reporting: No reporting requirements apply for sources subject to 40 C.F.R. 61.145 (demolition and renovation) [40 C.F.R. 61.153(a)].<br>§61.154 - Standard for Active Waste Disposal Sites: APSC PS-4 is not an active waste disposal site and does not receive asbestos containing waste material.<br>§61.155 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations: APSC PS-4 does not process regulated asbestos containing material (RACM). |
| Stationary Source - Wide | 40 C.F.R. 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning | Stationary source does not operate halogenated solvent cleaning machines. |
| | 40 C.F.R. 63 Subpart CCCCCC NESHAP Source Category for Gasoline Dispensing Facilities (GDF) | Stationary Source does not meet the definition of a Gasoline Dispensing Facility under 40 C.F.R. 63.11132 because gasoline is not dispensed in “motor vehicles” as defined by CAA Section 216. |
| | 40 C.F.R. 63 Subpart DDDDD – NESHAP for Industrial/Commercial/Institutional Boilers and Process Heaters | PS-4 is not a major source of HAPs as defined under any subpart of 40 C.F.R. 63. |
| | 40 C.F.R. 63 Subpart EEEE – NESHAP for Organic Liquid Distribution (non-gasoline) | PS-4 is not a major source of HAPs as defined under any subpart of 40 C.F.R. 63. |
| | 40 C.F.R. 63 Subpart HHHHHH – NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations | MeCl is not used for paint stripping. Painting activities occurring at the stationary source meet the definition of facility maintenance as defined by 40 C.F.R. 63.11180, and thus, are categorically exempt from 63.11170(a)(2) & (3). This shield is not valid if APSC operations change in regards to using MeCl. |
| EU IDs 10, 14, 15, 19, & 20 | 40 C.F.R. Subpart ZZZZ<br>§§63.6600, 63.6601, 63.6602, 63.6610, 63.6611 | Requirements apply to affected units located at a major source. PS 4 is an area source of HAP emissions. |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| EU IDs 10, 14, & 15 | 40 C.F.R. Subpart ZZZZ emission limitations and operating limitations under Table 2b referenced by §63.6603(a) | Emergency CI RICE located at area sources are not subject to the numerical CO emissions limitations or the operating limitations related to oxidation catalysts in Table 2b. |
| | §63.6604 | Emergency RICE are not subject to the fuel requirements under 63.6604. |
| | §§63.6612, 63.6615, and 63.6620 | The performance test requirements and initial compliance demonstrations do not apply to emergency RICE not subject to numerical CO emission standards. |
| | §§63.6625(a)-(d) | Requirements apply to RICE using CEMS or CPMS to demonstrate compliance, to RICE burning landfill or digester gas, or to emergency RICE located at a major source of HAP emissions. |
| | §63.6625(g) | Emergency RICE are not subject to the crankcase control requirements under 63.6604. |
| | §63.6630 | Does not apply because emergency RICE are not subject to numerical CO emission standards. |
| | §§63.6640(b) & (e) | Reporting requirements apply to RICE subject to an emission limitation or operating limitation. |
| | §§63.6645(a) | Per 63.6645(a)(5), notification requirements do not apply to emergency RICE. |
| | §§63.6645(b)-(h) | Notification requirements apply to RICE located at HAP major sources, or to RICE required to conduct a performance test or other initial compliance demonstration. |
| | §§63.6655(a) & (b) | These recordkeeping requirements only apply to RICE subject to an emission or operating limitation. |
| | §63.6655(c) | These recordkeeping requirements only apply to RICE burning landfill or digester gas. |
| Stationary Source – Wide | 40 C.F.R. 64 – Compliance Assurance Monitoring (CAM) | Stationary source does not contain a pollutant-specific emitting unit that satisfies all of the following criteria:<br>-The emission unit is subject to an applicable emission limitation or standard;<br>-The unit uses a control device to comply with any such applicable emission limitation or standard; and |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| | | -The unit has potential pre-control device emissions of the applicable regulated air pollutant equal to or greater than the major source thresholds for the applicable regulated air pollutant. |
| Stationary Source – Wide | 40 C.F.R. 68 – Accidental Release: Risk Management Plan (RMP) | 40 C.F.R Part 68 applies to "stationary sources" [40 C.F.R. 68.10]. "Stationary source" is defined for purposes of Part 68 to exclude stationary sources engaged in the transportation of hazardous liquids and subject to 49 C.F.R. Parts 192, 193, and 195 [40 C.F.R 68.3]. TAPS PS-4 transports and stores crude oil subject to the federal Pipeline Safety Act and 49 C.F.R Part 195. The transportation of crude oil by this pump station and the incidental storage in the pump station breakout tank are not activities that fall within the definition of a stationary source. Therefore, Part 68 does not apply to PS-4. There are no threshold quantities or other 112(r) regulated substances at PS-4. Therefore, Part 68 does not apply to PS-4. The fuel gas line is a 49 C.F.R. Part 192 facility and does not fall within the definition of a "stationary source" [40 C.F.R 68.2]. |
| Stationary Source – Wide | 40 C.F.R. 82.1 Subpart A – Production and Consumption Controls | Stationary source does not produce, transform, destroy, import or export Class 1 or Group I or II substances or products. |
| | 40 C.F.R. 82.30 Subpart B – Servicing of Motor Vehicle Air Conditioners | Stationary source does not service motor vehicle air conditioners. |
| | 40 C.F.R. 82.60 Subpart C – Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances | Stationary source does not manufacture or distribute Class I and II products or substances. |
| | 40 C.F.R. 82.80 Subpart D – Federal Procurement | Subpart applies only to Federal Departments, agencies, and instrumentalities. |
| | 40 C.F.R. 82.100 Subpart E – The Labeling of Products Using Ozone-Depleting Substances | Stationary Source does not manufacture or distribute Class I and II products or substances. |
| | 40 C.F.R. 82.158 Subpart F – Recycling and Emissions Reduction | Stationary source does not manufacture or import recovery and recycling equipment. |
| | 40 C.F.R. 82.160 – Recycling and Emissions Reduction | Stationary source does not contract equipment testing organizations to certify recovery and recycling equipment. |
| | 40 C.F.R. 82.164 – Recycling and Emissions Reduction | Stationary source does not sell reclaimed refrigerant. |
| Stationary Source - Wide | 18 AAC 50.055(a)(2) – (a)(9) | Stationary source does not operate sources specific to the listed standards. |
| | 18 AAC 50.055(b)(2) – (b)(6) | Stationary source does not operate sources specific to the listed standards. |

| EU ID | Requirements Not Applicable | Reason for Non-Applicability |
|---|---|---|
| | 18 AAC 50.055(d) - (f) | Stationary source does not operate sources specific to the listed standards. |
| | 18 AAC 50.075 | Stationary source does not use wood-fired heating devices. |

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

## *Section 11. Procedure for HAP Content of Crude Oil Storage Tank Vapors*

This section provides a step-by-step procedure for determining the Hazardous Air Pollutants (HAPs) for the crude oil storage tank vapors. APSC will conduct laboratory tests of the crude oil to determine the weight fraction of various components. These weight fractions are then used, through many calculations, to determine the HAP emission rate from the tank.

I. Sample Description/Comments

1. Sample location _____
2. Sample Date _____
3. Sample ID _____
4. Core Laboratories data includes crude molecular weight and component wt% values.

II. Determine Component Mole Fractions in Liquid Crude

Methodology Assumptions/Comments:

1. The component mole fraction in crude is determined from component weight fraction and component molecular weight by assuming a mass of 1,000 lb of crude (see AP-42 Section 7.1.5).
2. The component molecular weight of Decanes+ is equal to the value required for the sum of all molecular weights to be equal to the Core Laboratories measured crude molecular weight of: _____lb/lb-mole

| **Liquid Crude Analysis Data** | | **Calculate Component Mole Fraction in Crude** | | | |
|---|---|---|---|---|---|
| Component **i** | Component Weight Fraction in Crude (wt%/100) $\mathbf{Z_{Li}}$ | Component Molecular Weight $\mathbf{M_i}$ | Total Moles of Crude (sum $Z_{Li}/M_i$ x 1000) $\mathbf{x_T}$ | Component Mole Fraction in Crude ($Z_{Li}/M_i/x_T$) $\mathbf{x_i}$ | Crude Molecular Weight (sum $M_i*x_i$) $\mathbf{M_T}$ |
| Methane | | 16 | | | |
| Ethane | | 30 | | | |
| Propane | | 44 | | | |
| Isobutane | | 58 | | | |
| N-Butane | | 58 | | | |
| 1,3 Butadiene | | 54 | | | |
| Isopentane | | 72 | | | |
| N-Pentane | | 72 | | | |
| N-Hexane | | 86 | | | |
| Hexane | | 84 | | | |
| Benzene | | 78 | | | |
| Heptanes | | 97 | | | |
| 2,2,4 Trimethylpentane | | 114 | | | |
| Toluene | | 92 | | | |
| Octanes | | 111 | | | |
| Ethyl Benzene | | 106 | | | |
| Xylenes | | 106 | | | |
| Isopropylbenzene | | 120 | | | |
| Nonanes | | 123 | | | |
| Naphthalene | | 128 | | | |
| Decanes+ | | | | | |
| | | | | | |
| SUM $Z_{Li}$ / $x_T$ / $x_iM_T$ | 1.00 | | | 1.00 | |

Note:

1. Molecular weight values for component groups such as octanes are estimates from Core Laboratories.

III. Determine Component Vapor Pressure at Given Crude Temperature

Methodology Assumptions/Comments:

1. Clausius-Clapeyron equation provides relationship between temperature and vapor pressure:

   $\log P_2/P_1 = H_v/2.303R*(T_2-T_1/T_2T_1)$

   where: R = Universal Gas Constant = 8.31448 J/g-mole·K = 3.58 Btu/lb-mole·K
   $H_v$ = Heat of Vaporization = see table below

2. Let $P_1$ be known component vapor pressure at known temperature $T_1$ = 100°F (311 K), and $P_2$ be unknown component vapor pressure at given crude temperature $T_2$ (shown below).

3. Pump station crude (and vapor) constant temperature ($T_2$) of: °F = K
   Based on average crude temperature at this Pump Station during the reporting period

| **Component Physical Properties** | | | **Component Vapor Pressure at Crude Temperature** | | | |
|---|---|---|---|---|---|---|
| Component **i** | Component Vapor Pressure at 100°F (psia) **$P_1$** | Component Heat of Vaporization (Btu/lb-mole) **$H_v$** | Component Heat of Vaporization/ Gas Constant $H_v/2.303R$ | Calculate $(T_2-T_1)/T_2T_1$ | Calculate Inverse Log of $(Hv/2.303R)*(T_2-T_1)/T_2T_1$ | Component Vapor Pressure at Crude Temperature (psia), **$P_2$** |
| Methane | | 3520 | 426.9 | | | |
| Ethane | | 6349 | 770.1 | | | |
| Propane | | 8071 | 978.9 | | | |
| Isobutane | | 9136 | 1108.2 | | | |
| N-Butane | | 9642 | 1169.5 | | | |
| 1,3 Butadiene | | 10025 | 1215.9 | | | |
| Isopentane | | 10613 | 1287.3 | | | |
| N-Pentane | | 11082 | 1344.2 | | | |
| N-Hexane | | 12404 | 1504.5 | | | |
| Hexane | | 12500 | 1516.1 | | | |
| Benzene | | 13215 | 1602.8 | | | |
| Heptanes | | 13500 | 1637.4 | | | |
| 2,2,4 Trimethylpentane | | 14000 | 1698.1 | | | |
| Toluene | | 14263 | 1730.0 | | | |
| Octanes | | 14500 | 1758.7 | | | |
| Ethyl Benzene | | 15288 | 1854.3 | | | |
| Xylenes | | 16000 | 1940.6 | | | |
| Isopropylbenzene | | 16136 | 1957.1 | | | |
| Nonanes | | 16500 | 2001.3 | | | |
| Naphthalene | | 16700 | 2025.5 | | | |
| Decanes+ | | 47282 | 5734.7 | | | |

Notes:

1 Heat of Vaporization and vapor pressure of pure components from GPSA Engineering Data Book, Volume II, Section 23.

2 Vapor Pressure values for component groups such as octanes are estimates from Core laboratories.

3 Heat of Vaporization values for component groups are estimates based on values for individual components within the group.

IV. Determine Component Partial Pressure and Mole Fraction in Crude Vapor

Methodology Assumptions/Comments:

1. Conservatively assume $C_1$ through $C_{10}$ hydrocarbons and HAP's are only species present in vapor phase due to dramatic drop-off in component vapor pressure as component molecular weight increases.
2. For speciation purposes, assume crude vapor pressure ($P_{VA}$) equal to sum of component partial pressures indicated below. This assumption ignores $CO_2$ present in crude and is conservative because it results in vapor mole fractions of listed components (including HAP's) being overstated.
3. Component partial pressure is equal to the component mole fraction in the liquid crude multiplied by the component vapor pressure at the given crude temperature:

$$P_i = P_2 * x_i$$

4. The component mole fraction in the crude vapor is then equal to the component partial pressure divided by the overall crude vapor pressure:

$$y_i = P_i / P_{VA}$$

| | **Calculation of Component Partial Pressure and Mole Fraction in Vapor** | | | |
|---|---|---|---|---|
| Component **i** | Component Vapor Pressure at Crude Temperature (psia) **$P_2$** | Component Mole Fraction in Crude ($Z_{Li}/M_i/x_T$) **$x_i$** | Component Partial Pressure at Crude Temperature ($P_2*x_i$) **$P_i$** | Component Mole Fraction in Vapor ($P_i/P_{VA}$) **$y_i$** |
| Methane | | | | |
| Ethane | | | | |
| Propane | | | | |
| Isobutane | | | | |
| N-Butane | | | | |
| 1,3 Butadiene | | | | |
| Isopentane | | | | |
| N-Pentane | | | | |
| N-Hexane | | | | |
| Hexane | | | | |
| Benzene | | | | |
| Heptanes | | | | |
| 2,2,4 Trimethylpentane | | | | |
| Toluene | | | | |
| Octanes | | | | |
| Ethyl Benzene | | | | |
| Xylenes | | | | |
| Isopropylbenzene | | | | |
| Nonanes | | | | |
| Naphthalene | | | | |
| Decanes+ | | | | |
| $P_{VA}$ / $y_i$ SUM | | | | 1.00 |

V. Determine Component Weight Fractions in Crude Vapor

1. Component weight fraction in the vapor is determined in two steps. First, the overall vapor molecular weight is determined by summing the product of the molecular weight and vapor mole fraction for each component:

$$M_v = \text{sum } (M_i * y_i)$$

2. Then, the component weight fraction is determined by dividing the product of the molecular weight and vapor mole fraction for each component by the overall vapor molecular weight:

$$Z_{vi} = (M_i * y_i)/M_v$$

| **Component Physical Properties** | | **Calculation of Component Weight Fraction in Vapor** | | |
|---|---|---|---|---|
| Component **i** | Component Molecular Weight **$M_i$** | Component Mole Fraction in Vapor ($P_i/P_{VA}$) **$y_i$** | Calculate Vapor Molecular Weight (sum Mi*yi) **$M_v$** | Component Weight Fraction in Vapor ($M_i*y_i/M_v$) **$Z_{vi}$** |
| Methane | 16 | | | |
| Ethane | 30 | | | |
| Propane | 44 | | | |
| Isobutane | 58 | | | |
| N-Butane | 58 | | | |
| 1,3 Butadiene | 54 | | | |
| Isopentane | 72 | | | |
| N-Pentane | 72 | | | |
| N-Hexane | 86 | | | |
| Hexane | 84 | | | |
| Benzene | 78 | | | |
| Heptanes | 97 | | | |
| 2,2,4 Trimethylpentane | 114 | | | |
| Toluene | 92 | | | |
| Octanes | 111 | | | |
| Ethyl Benzene | 106 | | | |
| Xylenes | 106 | | | |
| Isopropylbenzene | 120 | | | |
| Nonanes | 123 | | | |
| Naphthalene | 128 | | | |
| Decanes+ | | | | |
| $y_i$ SUM / $M_v$ / $Z_{vi}$SUM | | 1.00 | | 1.00 |

**Estimated Actual HAP Emissions – Breakout Tank**
**Pump Station 3**

1. The TOC emissions (losses) are determined from EPA's TANKS 4.0 Program. Individual component emission rates (losses) are then determined using the vapor phase weight fractions previously determined for each component.

$$L_{Ti} = (Z_{vi})(L_T)$$

2. Based on an actual flow of crude to the breakout tank of:_____ bbl/yr

_____ gal/yr

The Total TOC losses from the breakout tank are: _____ lb/yr

_____ TPY

| Calculation of Component Emission Rates (Losses) | | | | |
|---|---|---|---|---|
| Component **i** | Component Weight Fraction in Vapor **$Z_{vi}$** | TOC Losses (from TANKS) **$L_T$** | Component Emission Rate/Loss **$L_{Ti}$** | Total HAP Emission Rate/Losses **$L_{HAP}$** |
| Methane | | | | N/A |
| Ethane | | | | N/A |
| Propane | | | | N/A |
| Isobutane | | | | N/A |
| N-Butane | | | | N/A |
| 1,3 Butadiene | | | | |
| Isopentane | | | | N/A |
| N-Pentane | | | | N/A |
| N-Hexane | | | | |
| Hexane | | | | N/A |
| Benzene | | | | |
| Heptanes | | | | N/A |
| 2,2,4 Trimethylpentane | | | | |
| Toluene | | | | |
| Octanes | | | | N/A |
| Ethyl Benzene | | | | |
| Xylenes | | | | |
| Isopropylbenzene | | | | |
| Nonanes | | | | N/A |
| Naphthalene | | | | |
| Decanes+ | | | | N/A |
| | | | | |
| $L_{Ti}$ SUM / $L_{HAP}$ SUM | | | | |

[Permit No. AQ0075CPT03, 10/28/05]
[18 AAC 50.040(j), 7/25/08; 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)]

# *Section 12. Visible Emissions Forms*

## VISIBLE EMISSIONS 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" (a copy is available in https://www3.epa.gov/ttnemc01/methods/webinar8.pdf).

- 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 visible emissions 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, note in the Comments column whether the Plume is "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 color of clouds and 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.
- Observer's Affiliation: observer's employer.
- Certifying Organization, Certified By, Date: name of "smoke school," certifying observer, and date of most recent certification.

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**AIR PERMITS PROGRAM - VISIBLE EMISSIONS OBSERVATION FORM**

Page No.

| Stationary Source Name | Type of Emission Unit | Observation Date | Start Time | End Time |
|---|---|---|---|---|
| | | | | |

| Emission Unit Location | | |
|---|---|---|
| City | State | Zip |
| Phone # (Key Contact) | Stationary Source ID Number | |
| Process Equipment | Operating Mode | |
| Control Equipment | Operating Mode | |
| Describe Emission Point/Location | | |
| Height above ground level | Height relative to observer | Clinometer Reading |
| Distance From Observer Start / End | Direction From Observer Start / End | |
| Describe Emissions & Color Start | End | |
| Visible Water Vapor Present? If yes, determine approximate distance from the stack exit to where the plume was read: No / Yes | | |
| Point in Plume at Which Opacity Was Determined | | |
| Describe Plume Background Start / End | Background Color Start / End | |
| Sky Conditions: Start | End | |
| Wind Speed Start / End | Wind Direction From Start / End | |
| Ambient Temperature | Wet Bulb Temp | RH percent |

SOURCE LAYOUT SKETCH: 1 Stack or Point Being Read 2 Wind Direction From
3 Observer Location 4 Sun Location 5 North Arrow 6 Other Stacks

| Sec | 0 | 15 | 30 | 45 | Comments |
|---|---|---|---|---|---|
| Min 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
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| 26 | | | | | |
| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |

Additional Information:

Range of Opacity: Minimum / Maximum

I have received a copy of these opacity observations

Print Name:

Signature:

Print Observer's Name

Observer's Signature / Date

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 | | |
|---|---|---|---|---|---|---|
| | Start | End | | Sum | Average | Comments |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## *Section 13. Notification Form*[36]

**Trans Alaska Pipeline System – Pump Station 4** **AQ0075TVP04**

**Stationary Source Name** **Air Quality Permit Number.**

**Alyeska Pipeline Service Company**

**Company Name**

**When did you discover the Excess Emissions/Permit Deviation?**

Date: ____/____/____ Time: ____:____

**When did the event/deviation occur?**

Begin: Date: ____/____/____ Time: ____:____ (please use 24-hr clock)

End: Date: ____/____/____ Time: ____:____ (please 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

Note: All "excess emissions" are also "permit deviations." However, use only Section 1 for events that involve excess emissions.

☐ Deviation from Permit Conditions - Complete Section 2 and Certify

Note: Use only Section 2 for permit deviations that do not involve excess emissions.

☐ Deviation from COBC[37], CO[38], or Settlement Agreement - Complete Section 2 and Certify

[36] Revised as of July 22, 2020.

[37] Compliance Order By Consent

[38] Compliance Order

# Section 1. Excess Emissions

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

(b) **Cause of Event** (Check one that applies. Complete a separate form for each event, as applicable.):

☐ Start Up/Shut Down
☐ Natural Cause (weather/earthquake/flood)
☐ Control Equipment Failure
☐ Scheduled Maintenance/Equipment Adjustments
☐ 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. Attach supporting information if necessary.

| |
|---|
| |

(d) **Emissions Units (EU) Involved:**

Identify the emissions units 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 Exceedance |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

(e) **Type of Incident:** (Please check all that apply and provide the value requested, if any):

- ☐ Opacity _____%
- ☐ Control Equipment Down
- ☐ Emission Limit Exceeded
- ☐ Flaring
- ☐ Other**:** _____
- ☐ Venting _____(gas/scf)
- ☐ Fugitive Emissions
- ☐ Marine Vessel Opacity

(f) **Corrective Actions:**

Describe actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence. Attach supporting information if necessary.

| |
|---|
| |

(g) **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 (<u>go to end of form</u>)**

## Section 2. Permit Deviations

(a) **Permit Deviation Type:** (Check all boxes that apply per event. Complete a separate form for each event, as applicable.)

- ☐ Emissions Unit-Specific Requirements
- ☐ Stationary Source-Wide Specific Requirements
- ☐ Monitoring/Recordkeeping/Reporting Requirements
- ☐ General Source Test Requirements
- ☐ Compliance Certification Requirements
- ☐ Standard/Generally Applicable Requirements
- ☐ Insignificant Emissions Unit Requirements
- ☐ Other: _____

(b) **Emissions Units (EU) Involved:**

Identify the emissions units involved in the event, using the same identification number and name as in the permit. List the corresponding permit condition and the deviation.

| EU ID | EU Name | Permit Condition /Potential Deviation |
|---|---|---|
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(c) **Description of Potential Deviation:**

Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation. Attach supporting information if necessary.

(d) **Corrective Actions:**

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence. Attach supporting information if necessary.

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**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). Read and sign the certification in the bottom of the form above. (See Condition 75.)*

Submit this report in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-conditions-iii-and-iv-submission-instructions/.

*If submitted online, report must be submitted by an authorized E-signer for the stationary source (according to Condition 75).*