

# DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## AIR QUALITY OPERATING PERMIT

Permit No. AQ0227TVP02

Issue Date: Public Comment Draft - June 10, 2010

Expiration Date: Five Years

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **TDX North Slope Generating, Inc**, for the operation of the **Deadhorse Power Plant**.

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

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

Citations listed herein are contained within 18 AAC 50 dated June 19, 2009, Register 190. All federal regulation citations are from those sections adopted by reference in this version of regulation in 18 AAC 50.040 unless otherwise specified.

Upon the effective date of this permit, the Permittee is no longer required to comply with the terms and conditions of or Air Quality Operating Permit No. AQ0227TVP01.

The Operating Permit incorporates modifications and provisions of the Minor permit Number AQ0227TVMSS05.

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

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John F. Kuterbach, Manager  
Air Permits Program

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**Section 1. Stationary Source Information**

**Identification**

**Names and Addresses**

Permittee:	<b>TDX North Slope Generating, Inc</b> Deadhorse Power Plant Deadhorse, Alaska
Stationary Source Name:	<b>Deadhorse Power Plant</b>
Location:	70° 11' 40.9" North; 148° 27' 54" West
Physical Address:	Tract 72, ASL No. 76-227 Deadhorse, AK
Owner:	TDX-North Slope Generating, Inc. 4300 B Street, Suite 402 Anchorage, AK 99503
Operator:	TDX-North Slope Generating, Inc. 4300 B Street, Suite 402 Anchorage, AK 99503
Permittee's Responsible Official	Mr. Bruce Levy, President
Designated Agent:	Mr. Bruce Levy, President TDX-North Slope Generating, Inc. 4300 B Street, Suite 402 Anchorage, AK 99503
Stationary Source and Building Contact:	Hans Jensen (907) 659-2559 <a href="mailto:hjensen@tdxpower.com">hjensen@tdxpower.com</a>
Fee Contact:	Mr. Bruce Levy, President TDX-North Slope Generating, Inc. 4300 B Street, Suite 402 Anchorage, AK 99503
Permit Contact:	Mr. Bruce Levy, President TDX-North Slope Generating, Inc. 4300 B Street, Suite 402 Anchorage, AK 99503
<b>Process Description</b> SIC Code:	4911 - Electric Services

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

**Section 2. Emission Unit Inventory and Description**

Emission units listed in Table A have specific monitoring, record keeping, or reporting conditions in this permit. Emission unit descriptions and ratings are given for identification purposes only.

**Table A - Emission Units Inventory**

<b>EU ID</b>	<b>Emission Unit Name</b>	<b>Emission Unit Description</b>	<b>Rating/size</b>	<b>Installation Date</b>
1a	Generator No. 1	Cat G3516B LE (Natural gas)	1,818 bhp [1,350 kW]	2006
2	Generator No. 2	Gas Peaking Generator #2 - Cat G3516 (Natural gas)	1,152 bhp [800 kW]	1992
3	Generator No. 3	Gas Peaking Generator #3 – Cat G3516 (Natural gas)	1,152 bhp [800 kW]	1992
4a	Generator No. 4	Cat G3516B LE (Natural gas)	1,818 bhp [1,350 kW]	2006
5	Generator No. 6	EMD V20 - 645E (Diesel)	3,600 bhp [2,600 kW]	1982
6	Generator No. 11	Cat G3616 (Natural gas)	4,811 Hp [3,350 kW]	2003
8	Above Ground Fuel Storage Tank No. 13	N/A	20,000 gallons (Diesel)	1992
9	Above Ground Fuel Storage Tank No. 13	N/A	5,000 gallons (Diesel)	1992
10	Turbine Generator No. 1	Solar Taurus T-60 Turbine (Natural gas)	5.2 MW	2008 <sup>a</sup>
11	Turbine Generator No. 2	Solar Taurus T-60 Turbine (Natural gas)	5.2 MW	2009 <sup>b</sup>
12	Emergency Generator No. 1	Cummins GTA-28 (Natural gas)	574 kW	TBD
13	Emergency Generator No. 2	Cummins NTA-855 (Diesel)	300 kW	TBD

Table A notes:

<sup>a</sup> This turbine is used and was originally purchased by William Distributed Power. This unit was manufactured on May 9, 2000.

<sup>b</sup> This turbine is used and was originally purchased by William Distributed Power. This unit was manufactured on April 13, 2000.

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

### **Section 3. State Requirements**

#### **Visible Emissions Standards**

- 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 ID(s) 1a 2, 3, 4a, 6, and EU ID 10 through 13 listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.
  - 1.1 For Emission Unit 13 verify initial compliance as follows:
    - a. Obtain a certified manufacturer guarantee that the emission unit will comply with the visible emission standard; or
    - b. Conduct a Method 9 visible emission source test within 30 days of unit installation
  - 1.2 Attach a copy of the guarantee obtained under Condition 2.1a, or a copy of the surveillance records developed under Condition 2.1b, as applicable, to the operating report required under Condition 75.
  - 1.3 Report under Excess Emissions and Permit Deviation under Condition 74, if any visible emissions exceed the limit in Condition 2.
  - 1.4 For Emission Unit 13 monitor, record and report in accordance with Conditions 2 through 4.
  - 1.5 For EU ID(s) 10, 11 and 12 burn only gas as fuel. Monitoring for these emission unit(s) shall consist of a certification in each operating report under Condition 75 that each of these emission unit(s) fired only gas. Report under Condition 74 if any fuel is burned other than gas.

[18 AAC 50.040(j) and 18 AAC 50.326(j); and 18 AAC 50.055(a)(1)]  
[40 C.F.R. 71.6(a)(1)]  
[Condition 12, AQ0227MSS05, <Date>]

#### **Visible Emissions Monitoring, Recordkeeping and Reporting**

##### *Liquid Fuel-fired Sources (EU ID(s) 5 and 13)*

- 2. Visible Emissions Monitoring.** The Permittee shall observe the exhaust of EU ID(s) 5 and 13 for visible emissions using either the Method 9 Plan under Condition 2.1 or the Smoke/No-Smoke Plan under Condition 2.2. The Permittee may change visible-emissions plans for an emission unit at any time unless prohibited from doing so by Condition 2.3.
  - 2.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

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

- a. First Method 9 Observation. For any unit, observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition 2.2. For any units replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.
  - b. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emission unit operates.
  - c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under Condition 2.1a, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations at least semiannually.  
  
Semiannual observations must be taken between four and seven months after the previous set of observations.
  - d. Annual Method 9 Observations. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, perform 18-minute observations at least annually.  
  
Annual observations must be taken between 10 and 13 months after the previous observations
  - e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emission unit to at least monthly intervals, until the criteria in Condition 2.1b for semiannual monitoring are met.
- 2.2 **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.
- a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that an emission unit operates.
  - b. Reduced Monitoring Frequency. After the emission unit has been observed on 30 consecutive operating days, if the emission unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emission unit operates.
  - c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of Condition 2.1 or perform the corrective action required under Condition 2.3
- 2.3 **Corrective Actions Based on Smoke/No Smoke Observations.** If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of Condition 2.2, then the Permittee shall either follow the Method 9 plan of Condition 2.1 or
- a. initiate actions to eliminate smoke from the source within 24 hours of the observation;

- b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and
- c. after completing the actions required under Condition 2.3a,
  - (i) take Smoke/No Smoke observations in accordance with Condition 2.2.
    - (A) at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and
    - (B) continue as described in Condition 2.2b; or
  - (ii) if the actions taken under Condition 2.3a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of Condition 2.3c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under Condition 2.2a.

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

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

3.1 If using the Method 9 Plan of Condition 2.1,

- a. the observer shall record:
  - (i) the name of the stationary source, emission unit and location, stationary source type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 10;
  - (ii) the time, estimated distance to the emissions 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) on the sheet at the time opacity observations are initiated and completed;
  - (iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
  - (iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation in Section 10, and
  - (v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;
- b. to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24

observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

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

3.2 If using the Smoke/No Smoke Plan of Condition 2.2, record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department:

- a. the date and time of the observation;
- b. from Table A, the ID of the source observed;
- c. whether visible emissions are present or absent in the exhaust;
- d. a description of the background to the exhaust during the observation;
- e. if the source starts operation on the day of the observation, the startup time of the source;
- f. name and title of the person making the observation; and
- g. operating rate (load or fuel consumption rate).

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

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

4.1 include in each stationary source operating report under Condition 75:

- a. which visible-emissions plan of Condition 2 was used for each source; if more than one plan was used, give the time periods covered by each plan;
- b. for each source under the Method 9 Plan,
  - (i) copies of the observation results (i.e. opacity observations) for each source that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and
  - (ii) a summary to include:
    - (A) number of days observations were made;
    - (B) highest six-minute average observed; and
    - (C) dates when one or more observed six-minute averages were greater than 20 percent;
- c. for each source under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and
- d. a summary of any monitoring or record keeping required under Conditions 2 and 2.3c(ii) that was not done;

- 4.2 report under Condition 74:
- a. the results of Method 9 observations that exceed an average 20 percent for any six-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.

## Particulate Matter Emissions Standards

- 5. Industrial Process and Fuel-Burning Equipment Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from EU ID(s) 1a, 2, 3, 4a, 5, 6, and EU ID 10 through 13 listed in Table A to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

- 5.1 For EU ID 13, monitor, record and report in accordance with Conditions 6 - 7.
- 5.2 For EU ID(s) 1a, 2, 3, 4a, 6, and EU IDs 10 through 12 burn only gas as fuel. Monitoring for these emission unit(s) shall consist of a certification in each operating report under Condition 75 that each of these emission unit(s) fired only gas. Report under Condition 74 if any fuel is burned other than gas.

[18 AAC 50.040(j) and 18 AAC 50.326(j); and 18 AAC 50.055(b)(1)]

[40 C.F.R. 71.6(a)(1)]

[Condition 16, Minor Permit AQ0227MSS05, <Date>]

## PM Monitoring, Recordkeeping and Reporting

### *Liquid-Fired Sources (EU IDs 5 and 13)*

- 6. Particulate Matter Monitoring for Diesel Engines.** The Permittee shall conduct source tests on diesel engines, EU ID(s) 5 and 13, to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this Condition 6.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]

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

[Condition 17, Minor Permit AQ0227MSS05, <Date>]

- 6.1 Except as provided in Condition 6.4 within six months of exceeding the criteria of Conditions 6.2a or 6.2b, either
- a. conduct a PM source test according to requirements set out in Section 6; or
  - b. make repairs so that emissions no longer exceed the criteria of Condition 6.2; to show that emissions are below those criteria, observe emissions as described in Condition 2.1 under load conditions comparable to those when the criteria were exceeded.
- 6.2 Conduct the test according to Condition 6.1 if
- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or
  - b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average

opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

- 6.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 6.4 The automatic PM source test requirement in Conditions 6.1 and 6.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.
7. **Particulate Matter Record Keeping for Diesel Engines.** Within 180 calendar days after the effective date of this permit, the Permittee shall record the exhaust stack diameter(s) of Emission Unit 13 listed in Table A. Report the stack diameter(s) in the next operating report required under Condition 75.

[18 AAC 50.040(j), 50.326(j), & 50.346(c) and 40 C.F.R. 71.6(a)(3)(ii)]  
[Condition 18, Minor Permit AQ0227MSS05, <Date>]

8. **Particulate Matter Reporting for Diesel Engines.** The Permittee shall report as follows:

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

- 8.1 report under Condition 74
- a. the results of any PM source test that exceeds the PM emissions limit; or
  - b. if one of the criteria of Condition 6.2 was exceeded and the Permittee did not comply with either Condition 6.1a or 6.1b, this must be reported by the day following the day compliance with Condition 6.1 was required;
- 8.2 report observations in excess of the threshold of Condition 6.2b within 30 days of the end of the month in which the observations occur;
- 8.3 in each stationary source operating report under Condition 75, include
- a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 6.2;
  - b. a summary of the results of any PM testing under Condition 6; and
  - c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 6.2, if they were not already submitted.

### **Sulfur Compound Emission Standards Requirements**

9. **Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from EU ID(s) 1a, 2, 3, 4a, 5, 6 and EU ID 10 through 13 listed in Table A to exceed 500 ppm averaged over three hours.

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

*For diesel fuel<sup>1</sup> (EU IDs 5 and 13)*

- 9.1 The Permittee shall use only fuel oil with a sulfur content of no more than 0.2 percent by weight in all diesel-fired generators.

[Condition 7, Minor Permit AQ0227MSS05, <Date>]

- a. The Permittee shall obtain a statement or receipt from the fuel supplier certifying the maximum sulfur content of the fuel for each shipment of fuel delivered to the stationary source. If a certificate is not available from the supplier, the Permittee shall analyze a representative sample of the fuel according to Condition 9.1a to determine fuel sulfur content.
- b. If required under Condition 9.1a, the Permittee shall analyze the fuel samples using ASTM method D129, D4294, D2622, D6428 or a or a listed method approved in 18 AAC 50.035(b)-(c) and 40 CFR 60.17 incorporated by reference in 18 AAC 50.040(a)(1).
- c. The Permittee shall report under Condition 74 any fuel that exceeds 0.2 percent by weight.
- d. The Permittee shall attach copies of the applicable records required by Condition 9.1a and 9.1a with the operating reports required by Condition 75.

*For fuel gas (EU IDs 1a, 2, 3, 4a, 6, and 10 through 12)*

- 9.2 The Permittee shall use only gas fuel with a total sulfur content of no more than 100 ppm by volume (ppmv) in all gas-fired emission units.

- a. The Permittee shall obtain a semiannual statement or receipt from the fuel supplier certifying the fuel gas sulfur concentration in ppmv; or
- b. analyze a representative sample of the fuel no less than once each six months to determine the sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or a listed method approved in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).
- c. The Permittee shall record the total sulfur concentration of the fuel gas required under Condition 9.2a.
- d. The Permittee shall report under Condition 74 whenever the total sulfur concentration of the fuel gas obtained or analyzed exceeds 100 ppmv.
- e. The Permittee shall attach copies of the records required by Condition 9.2a with the operating reports required by Condition 75.

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 8, Minor Permit No. AQ0227MSS05, <Date>]

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<sup>1</sup> 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 7/1/03.

## Operating and Emission Limits from Minor and Construction Permits

### Ambient Air Quality Protection Requirements

- 10.** To protect the NO<sub>2</sub> ambient air quality standard and maximum allowable increase; the SO<sub>2</sub> ambient air quality standards and maximum allowable increases; and the PM-10 ambient air quality standards and maximum allowable increases, the Permittee shall, for each emission unit listed in Table B, comply with the following provisions:
- 10.1 maintain the exhaust stack so that the stack height is at or above the minimum stack height shown in Table B, and
- 10.2 maintain the exhaust stack with uncapped, vertical outlets – flapper valves, or similar, are allowed as long as they do not hinder the vertical momentum of the exhaust plume.

**Table B - Required Stack Heights**

Emission Unit ID	Emission Unit Name	Unit Description	Minimum Stack Height <sup>a</sup> (m)
1a	Generator No. 1	Caterpillar G3516B LE	15.00
2	Generator No. 2	Caterpillar G3516	14.00
3	Generator No. 3	Caterpillar G3516	14.00
4a	Generator No. 4	Caterpillar G3516B LE	15.00
5	Generator No. 6	EMD V20-645E	16.00
6	Generator No. 11	Caterpillar G3616	13.72
10	Turbine Generator No. 2	Solar Taurus T-60	9.98
11	Turbine Generator No. 2	Solar Taurus T-60	9.98
12	Emergency Generator No. 1	Cummins GTA-28	14.00
13	Emergency Generator No. 2	Cummins NTA-855	3.05

Table B Notes

<sup>a</sup> Stack height is the height measured from the existing grade to the top of the stack

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 4, Minor Permit No. AQ0227MSS05, <Date>]

*NO<sub>2</sub> ambient air quality standard and maximum allowable increase*

**11. EU Limitations.** To protect the annual average NO<sub>2</sub> ambient air quality standard and maximum allowable increase, the Permittee shall comply as follows:

- 11.1 EU ID 12 shall not exceed a total of 700 hours of operation per 12 month rolling period.
- 11.2 EU ID 13 shall not exceed a total of 250 hours of operation per 12 month rolling period.
- 11.3 Prior to startup of EU ID 12, disconnect the fuel supply to EU ID 7. Submit to the Department a written notice within 30 days of the date of disconnecting the EU ID 7 fuel supply and subsequent date of removal of EU 7 from the stationary source.
- 11.4 Prior to startup, equip EU IDs 12 and 13 with dedicated engine hour meters. Submit to the Department within 30 days of the date of installation related vendor and technical data for the installed engine hour meters.
- 11.5 Record at the end of each calendar month the hour-meter reading for each of EU IDs 12 and 13. Calculate and record the total operating hours per 12-month rolling period by summing the monthly operating hours with the total operating hours for the prior 11 month period, per unit.
- 11.6 Report as a permit deviation in accordance with Condition 74, whenever the total hours of operation for EU 12 or EU 13 exceed the limitations of Condition 11.1 or Condition 11.2, respectively.
- 11.7 Include copies of the records required by Condition 11.5 with the stationary source operating report by Condition 75 for the period covered by the report.

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 5, Minor Permit No. AQ0227MSS05, <Date>]

**12. Diesel Fuel Oil Consumption Restriction.** To protect the annual average NO<sub>2</sub> ambient air quality standard and maximum allowable increase, the Permittee shall comply with the stationary source diesel fuel oil consumption restriction as follows:

- 12.1 Limit total fuel oil consumption to EU IDs 5 and 13 to not exceed 300,000 gallons per 12-month rolling period.
- 12.2 Monitor and record the diesel fuel consumption (gallons) for each of EU IDs 5 and 13 no less than once per calendar month. Calculate and record the total diesel fuel consumption per 12-month rolling period by summing the monthly fuel consumption for EU IDs 5 and 13.
- 12.3 Report as a permit deviation in accordance with Condition 74, whenever the total combined fuel consumption to EUs 5 and 13 exceeds the limitation of Condition 12.1.

- 12.4 Include copies of the records required by Condition 12.2 with the stationary source operating report by Condition 75 for the period covered by the report.

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 6, Minor Permit No. AQ0227MSS05, <Date>]

*SO<sub>2</sub> ambient air quality standard and maximum allowable increase*

- 13. Diesel Fuel Sulfur Content Limitations.** To protect the 24-hour SO<sub>2</sub> ambient air quality standard and maximum allowable increase, the Permittee, use only fuel oil with a sulfur content of no more than 0.2 percent by weight in all diesel-fired emission units.

- 13.1 Obtain a statement or receipt from the fuel supplier certifying the maximum sulfur content of the fuel for each shipment of fuel delivered to the stationary source. If a certification is not available from the supplier, analyze a representative sample of the fuel according to Condition 13.2 to determine the sulfur content.

- 13.2 If required under Condition 13.1, analyze the fuel samples using ASTM method D129, D4294, D2622, D6428 or an appropriate method listed in 18 AAC 50.035.

- 13.3 Report under Excess Emissions and Permit Deviation Condition 74, any fuels that exceed 0.2 percent by weight.

- 13.4 Attach copies of the applicable records required by Conditions 13.1 and 13.2 in the operating report under Condition 75.

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 7, Minor Permit No. AQ0227MSS05, <Date>]

- 14. Fuel Gas Sulfur Content Limitations.** To protect the 24-hour SO<sub>2</sub> ambient air quality standard and maximum allowable increase, use only fuel gas with total sulfur content of no more than 100 parts per million (ppmv) by volume in all gas-fired emission units.

- 14.1 Obtain a semiannual statement or receipt from the fuel supplier certifying the fuel gas sulfur concentration in ppmv. If a certificate is not available from the supplier, then analyze a representative sample of the fuel no less than once each six months to determine the sulfur content using 40 C.F.R. 60, Appendix A, Method 11 or an appropriate method listed in 18 AAC 50.035.

- 14.2 Report under Excess Emissions and Permit Deviation Condition 74, whenever the total sulfur concentration of the fuel gas obtained or analyzed exceeds 100 ppmv.

- 14.3 Attach copies of the records required by Condition 14.1 in the operating report under Condition 75.

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)]

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

[Condition 8, Minor Permit No. AQ0227MSS05, <Date>]

## PSD Avoidance for CO

15. The Permittee shall limit the total CO emissions from Emission Units 1a, 2, 3, 4a, 5, 6, and 10 through 13 listed in Table A to no greater than 240.1 tons per 12 month rolling period. Monitor and record in accordance with Conditions 15.1 through 15.6 below.

15.1 For Emission Units 10 and 11 (CO Group A):

- a. Capture the *sixty second average load* (in percent of full-load) and the *sixty second average inlet air temperature* (in degrees Fahrenheit) during all periods of operation. Record for each calendar day, the minimum *sixty second average load* (in percent of full-load) and the minimum *sixty second average inlet air temperature* (in degrees Fahrenheit). Data capture and recording may be electronic.
- b. Except as noted below, round the *sixty second average load* up to the next highest load and round the *sixty second average inlet air temperature* down to the next lowest inlet air temperature presented in Table E. Consider all *sixty second average loads* between 40% (inclusive) and 50% (exclusive), as 40% loads. Data rounding may be electronic.
- c. Using the method described in Condition 15.1c, determine the pounds of CO emitted during the sixty-second period for the given *sixty second average load* and *sixty second average inlet air temperature*, as rounded under Condition 15.1a. For each hour, sum the sixty-second emissions to determine the hourly CO emissions (in pounds). Record the hourly CO emissions. Data selection and recording may be electronic.
- d. When calculating the CO emissions under Condition 15.1c, the Permittee must use either the lb/min CO values listed in Table E, or Department-approved substitute lb/min values derived from a Department-approved source test. Use one of the following approaches if a parameter measured under Condition 15.1 is missing or suspect. Note which approach is used (if applicable) in the operating report under Condition 75.
  - (i) If the *sixty second average load* is unknown or suspect, use the largest lb/min CO emissions in Table E (or the substitute worst-case lb/min value) for the given inlet air temperature.
  - (ii) If the *sixty second average inlet air temperature* is unknown or suspect,
    - (A) use the largest lb/min CO emissions in Table E (or the substitute worst-case lb/min value) for the given load, or
    - (B) obtain the ambient temperature measured by the National Weather Service (NWS) at the Deadhorse Airport for each hour of missing inlet air temperature and use the NWS temperature in lieu of the inlet air temperature when calculating the pounds of CO under Condition 15.1c.

- (iii) If the *sixty second average load* and the *sixty second average inlet air temperature* are both unknown or suspect, use 3.87 lb/min (or the Department-approved substitute maximum lb/min value).
- e. By the end of each calendar month, calculate and record the *monthly CO emissions* (in pounds) by summing the CO emissions calculated in Condition 15.1c during the previous month. Calculation and recording may be electronic.
- f. By the end of each calendar month, calculate and record the *cumulative monthly CO emissions* (in pounds) for CO Group A by summing all *monthly CO emissions* calculated in Condition 15.1e for the previous calendar month. Calculation and recording may be electronic.
- g. By the end of each calendar month, calculate and record the *Group A twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton). Calculation and recording may be electronic.

15.2 For Emission Units 1a, 2, 3, 4a, and 6 (CO Group B):

- a. Calculate the daily CO emission rate for each emission unit by multiplying the fuel specific emission rate (worse case vendor data) as listed in Table C by the unit's daily fuel consumption. For any period during which daily fuel consumption records are not recorded or records are suspect, use the maximum design fuel consumption for each recorded hour of source operation. The Permittee may upon written Department approval use site-specific emission factors.

Formula:  $E = F \times C$      where: E = Emission rate [lb/day]

F = Fuel Factor [lb/gallon or lb/Mscf]

C = Fuel consumption [gallon/day or Mscf/day]

- b. By the end of each calendar month, calculate and record the *monthly CO emissions* (in pounds) for each unit by summing the CO emissions calculated in Condition 15.2a during the previous month.
- c. By the end of each calendar month, calculate and record the *cumulative monthly CO emissions* (in pounds) for CO Group B by summing all *monthly CO emissions* calculated in Condition 15.2b for the previous calendar month.
- d. By the end of each calendar month, calculate and record the *Group B twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

15.3 For Emission Units 5, 12, and 13 (CO Group C):

- a. Calculate the daily CO emission rate for each emission unit by multiplying the fuel specific emission rate (from worse case vendor data or AP-42) as listed in Table C by the unit's daily hours of operation. The Permittee may upon written Department approval use site-specific emission factors.

Formula:  $E = F \times H$     where: E = Emission rate [lb/day]

F = Fuel Factor [lb/hr]

H = Hours of Operation [hrs/day]

- b. By the end of each calendar month, calculate and record the *monthly CO emissions* (in pounds) for each unit by summing the CO emissions calculated in Condition 15.3a during the previous month.
  - c. By the end of each calendar month, calculate and record the *cumulative monthly CO emissions* (in pounds) for CO Group C by summing all *monthly CO emissions* calculated in Condition 15.3b for the previous calendar month.
  - d. By the end of each calendar month, calculate and record the *Group C twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).
- 15.4 By the end of each calendar month, calculate and record the *Total Twelve Month Rolling CO Emissions* (in tons) by adding the *Group A, Group B, and Group C twelve month rolling CO emissions*.
- 15.5 Report, as described under Excess Emissions and Permit Deviation Reports under Condition 74, if the *Total Twelve Month Rolling CO Emissions* (as calculated under Condition 15.4) exceeds 240.1 tons per 12-month rolling period.
- 15.6 In each operating report required under Condition 75:
- a. For each month of the reporting period
    - (i) the range of inlet air temperatures recorded for the turbine (Emission Units 10 and 11) during the month; and
    - (ii) any periods where the monitoring equipment/electronic algorithm required under Condition 15.1, was malfunctioning or inoperable (specify the malfunctioning/inoperable item with each period);
  - b. the *cumulative monthly CO emissions* for CO Groups A, B, and C, as calculated in Conditions 15.1f, 15.2c, and 15.3c, for each month of the reporting period;
  - c. the *Groups A, B, and C twelve month rolling CO emissions*, as calculated in Conditions 15.1g, 15.2d, and 15.3d; and

- d. the *Total Twelve Month Rolling CO Emissions for Group A, B, and C combined*, as calculated under Condition 15.4, for each twelve month period covered by the operating report.

[18 AAC 50.040(j) and 18 AAC 50.326(j), 10/01/04]

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

[Condition 9, Minor Permit AQ0227MSS05, <Date>]

## PSD Avoidance for NO<sub>x</sub>

16. The Permittee shall limit the total NO<sub>x</sub> emissions from Emission Units 1a, 2, 3, 4a, 5, 6, and 10 through 13 listed in Table A to no greater than 242.6 tons per 12 month rolling period. Monitor and record in accordance with Conditions 16.1 through 16.7 below:

### 16.1 For Emission Units 10 and 11 (NO<sub>x</sub> Group A):

- a. Capture the *sixty second average load* (in percent of full-load) and the *sixty second average inlet air temperature* (in degrees Fahrenheit) during all periods of operation. Record for each calendar day, the minimum *sixty second average load* (in percent of full-load) and the minimum *sixty second average inlet air temperature* (in degrees Fahrenheit). Data capture and recording may be electronic.
- b. Except as noted below, round the *sixty second average load* up to the next highest load and round the *sixty second average inlet air temperature* down to the next lowest inlet air temperature presented in Table E. Consider all *sixty second average loads* between 40% (inclusive) and 50% (exclusive), as 40% loads. Data rounding may be electronic.
- c. Using the method described in Condition 16.1d, determine the pounds of NO<sub>x</sub> emitted during the sixty-second period for the given *sixty second average load* and *sixty second average inlet air temperature*, as rounded under Condition 16.1b. For each hour, sum the sixty-second emissions to determine the hourly NO<sub>x</sub> emissions (in pounds). Record the hourly NO<sub>x</sub> emissions. Data selection and recording may be electronic.
- d. When calculating the NO<sub>x</sub> emissions under Condition 16.1c, the Permittee must use either the lb/min NO<sub>x</sub> values listed in Table E, or Department-approved substitute lb/min values derived from a Department-approved source test. Use one of the following approaches if a parameter measured under Condition 16.1 is missing or suspect. Note which approach is used (if applicable) in the operating report under Condition 75:
  - (i) If the *sixty second average load* is unknown or suspect, use the largest lb/min NO<sub>x</sub> emissions in Table E (or the substitute worst-case lb/min value) for the given inlet air temperature.
  - (ii) If the *sixty second average inlet air temperature* is unknown or suspect,
    - (A) use the largest lb/min NO<sub>x</sub> emissions Table E (or the substitute worst-case lb/min value) for the given load, or

- (B) obtain the ambient temperature measured by the National Weather Service (NWS) at the Deadhorse Airport for each hour of missing inlet air temperature and use the NWS temperature in lieu of the inlet air temperature when calculating the pounds of NO<sub>x</sub> under Condition 16.1c.
- (iii) If the *sixty second average load* and the *sixty second average inlet air temperature* are both unknown or suspect, use 0.62 lb/min (or the Department-approved substitute maximum lb/min value).
- e. By the end of each calendar month, calculate and record the *monthly NO<sub>x</sub> emissions* (in pounds) by summing the NO<sub>x</sub> emissions calculated in Condition 16.1c during the previous month. Calculation and recording may be electronic.
- f. By the end of each calendar month, calculate and record the *cumulative monthly NO<sub>x</sub> emissions* (in pounds) for NO<sub>x</sub> Group A by summing all *monthly NO<sub>x</sub> emissions* calculated in Condition 16.1e for the previous calendar month. Calculation and recording may be electronic.
- g. By the end of each calendar month, calculate and record the *Group A twelve month rolling NO<sub>x</sub> emissions* (in tons) by summing the *cumulative monthly NO<sub>x</sub> emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton). Calculation and recording may be electronic.

16.2 For Emission Units 1a, 2, 3, 4a, and 6 (NO<sub>x</sub> Group B):

- a. Calculate the daily NO<sub>x</sub> emission rate for each emission unit by multiplying the fuel specific emission rate (worse case vendor data) as listed in Table D by the unit's daily fuel consumption. For any period during which daily fuel consumption records are not recorded or records are suspect, use the maximum design fuel consumption for each recorded hour of source operation. The Permittee may upon written Department approval use site-specific emission factors.

Formula:  $E = F \times C$     where: E = Emission rate [lb/day]

F = Fuel Factor [lb/gallon or lb/Mscf]

C = Fuel consumption [gallon/day or Mscf/day]

- b. By the end of each calendar month, calculate and record the *monthly NO<sub>x</sub> emissions* (in pounds) for each unit by summing the NO<sub>x</sub> emissions calculated in Condition 16.2a during the previous month.
- c. By the end of each calendar month, calculate and record the *cumulative monthly NO<sub>x</sub> emissions* (in pounds) for NO<sub>x</sub> Group B by summing all *monthly NO<sub>x</sub> emissions* calculated in Condition 16.2b for the previous calendar month.

- d. By the end of each calendar month, calculate and record the *Group B twelve month rolling NO<sub>x</sub> emissions* (in tons) by summing the *cumulative monthly NO<sub>x</sub> emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

16.3 For Emission Units 5, 12, and 13 (NO<sub>x</sub> Group C):

- a. Calculate the daily NO<sub>x</sub> emission rate for each emission unit by multiplying the hourly emission rate (from worse case vendor data or AP-42) as listed in Table D by the unit's daily hours of operation. The Permittee may upon written Department approval use site-specific emission factors.

Formula:  $E = F \times H$     where: E = Emission rate [lb/day]

F = Fuel Factor [lb/hr]

H = Hours of Operation [hrs/day]

- b. By the end of each calendar month, calculate and record the *monthly NO<sub>x</sub> emissions* (in pounds) for each unit by summing the NO<sub>x</sub> emissions calculated in Condition 16.3a during the previous month.
- c. By the end of each calendar month, calculate and record the *cumulative monthly NO<sub>x</sub> emissions* (in pounds) for NO<sub>x</sub> Group C by summing all *monthly NO<sub>x</sub> emissions* calculated in Condition 16.3b for the previous calendar month.
- d. By the end of each calendar month, calculate and record the *Group C twelve month rolling NO<sub>x</sub> emissions* (in tons) by summing the *cumulative monthly NO<sub>x</sub> emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

16.4 By the end of each calendar month, calculate and record the *Total Twelve Month Rolling NO<sub>x</sub> Emissions* (in tons) by adding the *Group A, Group B, and Group C twelve month rolling NO<sub>x</sub> emissions*.

16.5 Report, under Excess Emissions and Permit Deviation Reports under Condition 74 if the *Total Twelve Month Rolling NO<sub>x</sub> Emissions* (as calculated under Condition 16.4) exceeds 242.6 tons per 12-month rolling period.

16.6 In each operating report required under Condition 75:

- a. For each month of the reporting period
  - (i) the range of inlet air temperatures recorded for the turbine (Emission Units 10 and 11) during the month; and
  - (ii) any periods where the monitoring equipment/electronic algorithm required under Condition 16.1, was malfunctioning or inoperable (specify the malfunctioning/inoperable item with each period);

- b. the *cumulative monthly NO<sub>x</sub>* emissions for NO<sub>x</sub> Groups A, B, and C, as calculated in Conditions 16.1f, 16.2c, and 16.3c, for each month of the reporting period;
  - c. the *Groups A, B, and, C twelve month rolling NO<sub>x</sub> emissions*, as calculated in Conditions 16.1g, 16.2d and 16.3d; and
  - d. the *Total Twelve Month Rolling NO<sub>x</sub> Emissions for Group A, B, and C combined*, as calculated under Condition 16.4, for each twelve month period covered by the operating report.
- 16.7 If the total 12-month rolling NO<sub>x</sub> or CO emissions for Emissions Units 1a, 2, 3, 4a, 5, 6, and 10 through 13 exceed 225 tons, within 60 days conduct an emission source test on each emission unit. The emission source test shall represent no less than 4 loads of each unit, including the minimum, maximum and two mid range load points. Conduct the test in accordance with 40 C.F.R. 60, Appendix A, Test Method 7E for NO<sub>x</sub> or Test Method 10 for CO. Monitor and record each unit’s fuel consumption during the emission source test. Derive a fuel-specific NO<sub>x</sub> or CO emission factor for each load using the emission rate methodology as is set out in 40 C.F.R. 60, Appendix A, Method 19. Upon Department approval, use site- and fuel-specific emissions factors and the methodology described in Conditions 15 or 16 to calculate the 12-month rolling period emissions for each unit.

[18 AAC 50.040(j) and 18 AAC 50.326(j), 10/01/04]  
 [40 C.F.R. 71.6(a)]

[Condition 10, Minor Permit AQ0227MSS05, <Date>]

**Table C – EU ID(s) 1a, 2, 3, 4a, 5, 6, 12, and 13 CO Emission Factors**

<b>Emission Unit ID</b>	<b>Unit Name</b>	<b>Unit Description</b>	<b>Fuel Type</b>	<b>Rating</b>	<b>Fuel Specific CO Emission Rate</b>
1a	Generator No. 1	Caterpillar G3516B LE	Natural Gas	1,818 bhp	0.86 lb/Mscf
2	Generator No. 2	Caterpillar G3516	Natural Gas	1,152 bhp	0.57 lb/Mscf
3	Generator No. 3	Caterpillar G3516	Natural Gas	1,152 bhp	0.57 lb/Mscf
4a	Generator No. 4	Caterpillar G3516B LE	Natural Gas	1,818 bhp	0.86 lb/Mscf
5	Generator No. 6	EMD V20-645E	Diesel	3,600 bhp	3.77 lb/hr
6	Generator No. 11	Caterpillar G3616	Natural Gas	4,811 bhp	0.91 lb/Mscf
12	Emergency Generator No. 1	Cummins GTA-28	Natural Gas	574 kW	0.14 lb/hr
13	Emergency Generator No. 2	Cummins NTA-855	Diesel	300 kW	2.69 lb/hr

**Table D – NO<sub>x</sub> Emission Factors Based on Vendor Data**

<b>Emission Unit ID</b>	<b>Unit Name</b>	<b>Unit Description</b>	<b>Fuel Type</b>	<b>Rating</b>	<b>Fuel Specific NO<sub>x</sub> Emission Rate</b>
1a	Generator No. 1	Caterpillar G3516B LE	Natural Gas	1,818 bhp	0.31 lb/Mscf
2	Generator No. 2	Caterpillar G3516	Natural Gas	1,152 bhp	707 lb/Mscf
3	Generator No. 3	Caterpillar G3516	Natural Gas	1,152 bhp	707 lb/Mscf
4a	Generator No. 4	Caterpillar G3516B LE	Natural Gas	1,818 bhp	0.31 lb/Mscf
5	Generator No. 6	EMD V20-645E	Diesel	3,600 bhp	125.89 lb/hr
6	Generator No. 11	Caterpillar G3616	Natural Gas	4,811 bhp	240 lb/Mscf
12	Emergency Generator No. 1	Cummins GTA-28	Natural Gas	574 kW	2.04 lb/hr
13	Emergency Generator No. 2	Cummins NTA-855	Diesel	300 kW	12.46 lb/hr

**Table E – EU ID 10 and 11 Emission Factors**

<b>Solar Turbines Emissions Estimates</b>						
<b>Taurus 60-7800S</b>						
<b>10% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	70	4.8	0.08	3240	2.25	135
40	70	4.9	0.08	3240	2.32	139
20	70	5.2	0.09	3240	2.42	145
0	70	5.3	0.09	3240	2.50	150
-20	70	5.5	0.09	3240	2.57	154
-40	70	5.7	0.09	3240	2.67	160
-60	70	5.9	0.10	3240	2.78	167
<b>20% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	70	0.10	6	2980	2.60	
40	70	0.10	6.2	2980	2.78	
20	70	0.11	6.5	2980	2.80	
0	70	0.11	6.7	2980	2.90	
-20	70	0.12	7	2980	3.02	
-40	70	0.12	7.2	2980	3.10	
-60	70	0.13	7.5	2980	3.25	
<b>30% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	70	7.3	0.12	2720	2.87	172
40	70	7.6	0.13	2720	2.98	179
20	70	7.9	0.13	2720	3.10	186
0	70	8.2	0.14	2720	3.22	193
-20	70	8.5	0.14	2720	3.33	200
-40	70	8.7	0.15	2720	3.45	207
-60	70	9.2	0.15	2720	3.62	217
<b>40% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	70	0.14	8.5	2460	3.05	
40	70	0.15	8.9	2460	3.17	
20	70	0.16	9.3	2460	3.32	
0	70	0.16	9.6	2460	3.43	
-20	70	0.17	10	2460	3.57	
-40	70	0.17	10.4	2460	3.70	
-60	70	0.18	10.8	2460	3.87	
<b>50% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	3.9	0.07	50	0.08	4.7
40	25	4.1	0.07	50	0.08	5
20	25	4.3	0.07	50	0.09	5.2
0	25	4.5	0.08	50	0.09	5.4
-20	42	7.8	0.13	100	0.19	11.3
-40	120	23.1	0.39	150	0.29	17.6
-60	120	24	0.40	150	0.31	18.3
<b>60% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	0.07	4.3	50	0.09	
40	25	0.08	4.5	50	0.09	
20	25	0.08	4.7	50	0.10	
0	25	0.08	4.9	50	0.10	
-20	42	0.14	8.6	100	0.21	
-40	120	0.43	25.5	150	0.32	
-60	120	0.44	26.6	150	0.34	
<b>70% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	4.6	0.08	50	0.09	5.6
40	25	4.9	0.08	50	0.10	5.9
20	25	5.1	0.09	50	0.10	6.2
0	25	5.3	0.09	50	0.11	6.5
-20	42	9.3	0.16	100	0.23	13.5
-40	120	27.7	0.46	150	0.35	21.2
-60	120	28.9	0.48	150	0.37	22
<b>80% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	0.08	5	50	0.10	
40	25	0.09	5.2	50	0.11	
20	25	0.09	5.5	50	0.11	
0	25	0.10	5.7	50	0.12	
-20	42	0.17	10.1	100	0.24	
-40	120	0.50	29.9	150	0.38	
-60	120	0.52	31.1	150	0.40	
<b>90% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	5.5	0.09	50	0.11	6.6
40	25	5.7	0.10	50	0.12	7
20	25	6	0.10	50	0.12	7.3
0	25	6.3	0.11	50	0.13	7.6
-20	42	11	0.18	100	0.27	15.9
-40	120	32.7	0.55	150	0.42	24.9
-60	120	34	0.57	150	0.43	25.9
<b>100% load</b>						
Ambient Temperature	NOx (ppm)	NOx (lb/hr)	NOx (lb/min)	CO (ppm)	CO (lb/min)	CO (lb/hr)
60	25	0.10	5.9	50	0.12	
40	25	0.11	6.3	50	0.13	
20	25	0.11	6.6	50	0.13	
0	25	0.12	6.9	50	0.14	
-20	42	0.20	12	100	0.29	
-40	120	0.60	35.7	150	0.45	
-60	120	0.62	37.1	150	0.47	

## Insignificant Emission Units

**17.** For emission units at the stationary source that are insignificant as defined in 18 AAC 50.326(d)-(i) that are not listed in this permit, the following apply:

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

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

17.2 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)]

17.3 The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c)]

17.4 General MR&R for Insignificant Emissions Units

- a. The Permittee shall submit the compliance certifications of Condition 76 based on reasonable inquiry;
- b. The Permittee shall comply with the requirements of Condition 52;
- c. The Permittee shall report in the operating report required by Condition 75 if an emission unit is insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and actual emissions become greater than any of those thresholds;
- d. No other monitoring, recordkeeping or reporting is required.

[18 AAC 50.346(b)(4)]

## ***Section 4. Federal Requirements***

### **Emission Units Subject to Federal New Source Performance Standards (NSPS), Subpart A**

- 18. 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 ID 10 or 11 any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU ID 10 or 11 is inoperative.

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

- 19. NSPS Subpart A Performance (Source) Tests.** The Permittee shall conduct initial 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]

- 19.1 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]

- 19.2 Conduct source tests under conditions specified by EPA to be based on representative performance of EU ID 10 or 11.

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

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

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

- 19.4 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]

- 20. 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 ID 10 and 11 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 to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU ID 10 and 11.

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

- 21. 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 24 and 25 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 ID 10 and 11 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]

- 22. 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 24 and 25. 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]

### **Volatile Organic Liquid Storage Vessels (Tank EU ID 8) Subject to NSPS Subpart Kb**

- 23. NSPS Subpart Kb Requirements (Recordkeeping Only).** For the insignificant EU ID 8, the Permittee shall keep readily accessible records for the life of the tank showing the dimensions and an analysis showing the capacity of the tank.

[18 AAC 50.040(a)(2)(M)]  
[40 C.F.R. 60.112b, Subpart Kb]

### **Turbines Subject to NSPS Subpart GG, EU ID 10 and 11**

- 24. NSPS Subpart GG NO<sub>x</sub> Standard.** The Permittee shall not allow the exhaust gas concentration of NO<sub>x</sub> from EU ID 10 and 11 to exceed 181.5 ppmv at 15 percent O<sub>2</sub> dry exhaust basis.

[18 AAC 50.040(a)(2)(V)]  
[40 C.F.R. 60.332(a)(2) & (d), Subpart GG]

**24.1 Waivers.** The Permittee shall provide to the Department a written copy of any U.S. EPA granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules upon request by the Department. The Permittee shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit.

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

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

- a. **Periodic Testing.** For each turbine subject to Condition 24 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall satisfy either Condition 24.2a(i) or 24.2a(i)(A)
- (i) For existing turbines whose latest emissions source testing was certified as operating at less than or equal to 90% of the limit shown in Condition 24, the Permittee shall conduct a NO<sub>x</sub> and O<sub>2</sub> source test under 40 C.F.R. 60,

Appendix A-7, Method 20 within the first applicable criteria below in the noted timeframe once during the life of this permit except as set out in Condition 24.2a(ii):

- (A) Within 5 years of the latest performance test, or
  - (B) Within 1 year of the date of issue of this permit if the last source test occurred greater than five years prior to issuance of this permit, or
  - (C) Within 1 year after exceeding 400 hours of operation in a 12-month period if the last source test occurred greater than 5 years prior to the exceedance.
- (ii) For existing turbines whose latest emissions source testing was certified as operating at greater than 90% of the limit shown in Condition 24, the Permittee shall conduct a NO<sub>x</sub> and O<sub>2</sub> source test under 40 C.F.R. 60, Appendix A-7, Method 20 annually until two consecutive tests show performance results certified at less than or equal to 90% of the limit of Condition 24.
- b. **Substituting Test Data.** The Permittee may use a Method 20 test under Conditions 24.2a 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 90 percent of the emission limit of Condition 24, and are projected under Condition 24.2c to be less than 90 percent of the limit at maximum load;
  - (ii) for any source test done after the issuance date of this permit, the Permittee identifies in a source test plan under Condition 66
    - (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% of the emission limit of Condition 24.

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

- (i) The Permittee shall conduct all tests under Condition 24.2 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) The Permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO<sub>x</sub> 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 24.2 to predict the highest load at which emissions will comply with the limit in Condition 24;
  - (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 24;
  - (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 test done at a higher load, and, if necessary, the accompanying information and demonstration described in Condition 24.2c(iii)(A); the new limit is subject to any new Department finding under Condition 24.2c(iii)(C) and
  - (iv) In order to perform a Method 20 emission test, the Permittee may operate a turbine at a higher load than that prescribed by Condition 24.2c(iii).
  - (v) For the purposes of Conditions 24.2 through 24.4, 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.

### 24.3 Recordkeeping.

[18 AAC 50.040(j) and 18 AAC 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 24.2c(iii) does not show compliance with the limit of Condition 24 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 24.3a shall be hourly or otherwise as approved by the Department.
  - (iii) Within one month after submitting a demonstration under Condition 24.2c(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 24.2c(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 24, that will operate less than 400 hours in any 12 consecutive months, keep monthly records of the hours of operation.

**24.4 Reporting.** The Permittee shall keep report as follows:

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

- a. In each stationary source operating report under Condition 75 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 24.2c(iii)
  - (i) the load limit;
  - (ii) the turbine identification; and
  - (iii) the highest load recorded under Condition 24.3a during the period covered by the operating report.
- b. In each stationary source operating report under Condition 75 for each turbine for which Condition 24.2 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 74 if
  - (i) a test result exceeds the emission standard;
  - (ii) Method 20 testing is required under Condition 24.2 or 24.3b but not performed, or
  - (iii) the turbine was operated at a load exceeding that allowed by Conditions 24.2c(iii)(B) and 24.2c(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), 10/1/04 and 18 AAC 50.040(a)(1)]  
[40 C.F.R. 60.8(b), Subpart A]

**25. NSPS Subpart GG Sulfur Standard.** The Permittee shall comply with the SO<sub>2</sub> standard in Condition 25.1, or the fuel sulfur content standard in Condition 25.2 below:

25.1 Do not allow the exhaust gas concentration of SO<sub>2</sub> from EU 10 and 11 to exceed 150 ppmvd corrected to 15 percent O<sub>2</sub>, or

25.2 Do not allow the sulfur content for the fuel burned in EU 10 and 11 to exceed 0.8 percent by weight.

25.3 **Monitoring** - The Permittee shall monitor compliance with the standards listed in Condition 25 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 25.3b. 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 25.3d(ii). 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 source of information to make the required demonstration<sup>2</sup>:

- (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, showing 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.

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<sup>2</sup> The Permittee submitted a certified statement to the Department dated October 27, 2009 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). Periodic fuel sulfur monitoring under Condition 25.3a and reporting under Condition 25.6 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 25.3b. Per 40 C.F.R. 60.334(i)(3)(i), a custom sulfur monitoring schedule under 60.334(i)(3)(ii)(A) is acceptable without prior Administrative approval.

- 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) Gaseous fuel. For owners and operators that elect not to demonstrate sulfur content using options in Condition 25.3b, 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.
- (ii) Custom schedules. Notwithstanding the requirements of Condition 25.3c, 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 25. 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.

25.4 Test Methods and Procedures. If the owner or operator is required under Conditions 25.3c or 25.3d(ii) 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 Condition 25.4a:

- a. 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.
- b. The fuel analyses required under Condition 25.3d(ii) 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.

25.5 Recordkeeping - Keep records as required by Condition 25.3 and 25.3d(ii), and in accordance with Condition 70.

- 25.6 Reporting. For each affected unit that periodically determines the fuel sulfur content under Condition 25.3a, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with 40 C.F.R. 60.7(c) 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).

**Reciprocating internal combustion engines (RICE) Emission Units Subject to NESHAP Subpart ZZZZ, EU IDs 1a, 4a 6, 12 and 13.**

26. The provisions of Conditions 26 to 41 are applicable to the permittee as an owner and operator of stationary reciprocating internal combustion engines (RICE) with a site rating of more than 500 brake HP located at a major source of HAP emissions.
- 26.1 Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with Subpart ZZZZ upon startup of the affected source.
- 26.2 Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.  
[40 C.F.R. 63.6595(b)(1) and (2)]
- 26.3 An affected source, must meet the applicable notification requirements in §63.6645 and in 40 CFR Part 63, Subpart A  
[40 C.F.R. 63.6595(c)]
27. EU IDs 1a, 4a, 6, 12 and 13 must comply with the following emission limitations: reduce CO emissions by 70 percent or more; or limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppmvd or less at 15 percent O<sub>2</sub>.
- 27.1 If compliance with Condition 27 is met by limiting formaldehyde in the stationary RICE exhaust using an oxidation catalyst, the permittee must:
- a. maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and
  - b. maintain the temperature of the stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.
- 27.2 If the permittee complies with formaldehyde limits of Condition 27 with a control other than an oxidation catalyst then compliance must be maintained for any imposed operating limitations.  
[40 C.F.R. 63.6600(b)]

### General Compliance Requirements

- 28.** The permittee must operate and maintain the stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

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

### Testing and Initial Compliance Requirements

- 29.** The permittee must conduct the initial performance test to demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations within 180 days after the compliance date that is specified in Conditions 26.1 through 26.2 or no later than 180 days after startup of the source.

[40 C.F.R. 63.6610(a)]

- 30.** The permittee is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in 30.1 through 30.5.

30.1 The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

30.2 The test must not be older than 2 years.

30.3 The test must be reviewed and accepted by the Administrator.

30.4 Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

30.5 The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[40 C.F.R. 63.6610(d)]

- 31.** To meet the requirement to reduce CO emissions the permittee will measure the O<sub>2</sub> at the inlet and outlet of the control device; and measure the CO at the inlet and the outlet of the control device using ASTM D6522-00 (2005). Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for CO concentration or Method 10 of 40 CFR, appendix A. The CO concentration must be at 15 percent O<sub>2</sub>, dry basis.

[40 C.F.R. 63.6610, 40 C.F.R. 63.6611, 40 C.F.R. 63.6620, and 40 C.F.R. 63.6640]

- 32.** To meet the requirement to limit the concentration of formaldehyde, the permittee will

32.1 select the sampling port location and the number of traverse points;

32.2 determine the O<sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location;

- 32.3 measure moisture content of the stationary RICE exhaust at the sampling port location; and
- 32.4 measure formaldehyde at the exhaust of the stationary RICE. These measurements will use Method 1 or 1A, 3 or 3A or 3B, or ASTM Method D6522-00 (2005)<sup>3</sup>, Method 4 or Test Method 320 or ASTM D 6348-03, Method 320 or 323 or ASTM D6348-03<sup>b4</sup>, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.
- 32.5 If using a control device, the sampling site must be located at the outlet of the control device. Measurements to determine O<sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde concentration. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration. Formaldehyde concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[40 C.F.R. 63.6610, 40 C.F.R. 63.6611, 40 C.F.R. 63.6620, and 40 C.F.R. 63.6640]

### Monitoring

33. The permittee will conduct subsequent performance tests semiannually.  
[Table 3 to Subpart ZZZZ]
34. Each performance test required by Conditions 29, 31, 32 and 33 must be conducted at any load condition within plus or minus 10 percent of 100 percent load.
- 34.1 Do not conduct performance tests during periods of startup, shutdown, or malfunction.
- 34.2 Three separate test runs for each performance test is required. Each test run must last at least 1 hour.
- a. Use Equation 1 to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of CO or formaldehyde at the control device inlet,

$C_o$  = concentration of CO or formaldehyde at the control device outlet,  
and

<sup>3</sup> The permittee may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). The permittee may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>4</sup> The permittee may a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106

$R =$  percent reduction of CO or formaldehyde emissions.

34.3 Normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in Condition 34.3a through 34.3c of this section.

- a. Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

$F_o$  = Fuel factor based on the ratio of oxygen volume to the ultimate CO<sub>2</sub> volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

$F_c$  = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

- b. Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

$X_{co_2}$  = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub>–15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

- c. Calculate the NO<sub>x</sub> and SO<sub>2</sub> gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

%CO<sub>2</sub> = Measured CO<sub>2</sub> concentration measured, dry basis, percent.

34.4 If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial

performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

- 34.5 If the permittee petitions the Administrator for approval of operating limitations, the petition must include the information described in Conditions 34.5a through 34.5e.
- a. Identification of the specific parameters you propose to use as operating limitations;
  - b. A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;
  - c. A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
  - d. A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
  - e. A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.
- 34.6 If the permittee petitions the Administrator for approval of no operating limitations, your petition must include the information described in Condition paragraphs 34.6a through 34.6g.
- a. Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally ( *e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally ( *e.g.*, wear and tear, error, etc.) on a routine basis or over time;
  - b. A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
  - c. For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;
  - d. For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
  - e. For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

- f. For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and
- g. A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

34.7 The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report:

- a. the engine model number,
- b. the engine manufacturer,
- c. the year of purchase,
- d. the manufacturer's site-rated brake horsepower,
- e. the ambient temperature, pressure, and humidity during the performance test, and
- f. all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained.
- g. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[40 C.F.R. 63 6620]

**35.** The Permittee may elect to install a CEMS as specified in Table 5 of subpart ZZZZ, and shall install, operate, and maintain a CEMS to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and the outlet of the control device according to the requirements in Conditions 35.1 through 35.5.

35.1 Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR Part 60, Appendix B.

35.2 Conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

35.3 As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. There must be at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

35.4 The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

35.5 If the Permittee is required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, the Permittee must install, operate, and maintain each CPMS according to the requirements in §63.8.

[40 C.F.R. 63 6625(a)]

### **Continuous Compliance Requirements**

**36.** Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee must monitor continuously at all times that the stationary RICE is operating.

[40 C.F.R. 63 6635(b)]

**37.** Do not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. Use all the valid data collected during all other periods.

[40 C.F.R. 63 6635(c)]

**38.** Demonstrate continuous compliance with each emission limitation and operating limitation of subpart ZZZZ.

[40 C.F.R. 63 6640(a)]

**39.** Report each instance in which you did not meet each emission limitation or operating limitation. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements Condition 74. If the catalyst is changed, the values of the operating parameters measured during the initial performance test must be re-established. When the values of the operating parameters are re-established, a performance test to demonstrate that the required emission limitation applicable to the stationary RICE are being met.

[40 C.F.R. 63 6640(b)]

**40.** Deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if it is demonstrated that the Permittee was operating in accordance with 40 C.F. R. 63.6(e)(1). For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

[40 C.F.R. 63 6640(d)]

**41. Reporting.** Report the results of performance tests per Condition 68.

## ***Section 5. General Conditions***

### **Standard Terms and Conditions**

42. 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) and 50.345(a) & (e)]

43. 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) and 50.345(a) & (f)]

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

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

45. **Administration Fees.** The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-405.

[18 AAC 50.326(j)(1); 18 AAC 50.400 ; 18 AAC 50.403, 12/3/05 and 18 AAC 50.405, 1/29/05]  
[AS 37.10.052(b), 2000 and AS 46.14.240, 6/7/03]

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

46.1 the stationary source's assessable potential to emit of 612 TPY; or

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

- 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.

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

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

47.1 No later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the

submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

47.2 if no estimate is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 46.1.

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

**48. Good Air Pollution Control Practice.** The Permittee shall do the following for EU ID(s) 1a through 6 and EU ID 10 through 13:

- a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- b. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and
- c. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030; 18 AAC 50.326(j)(3) and 18 AAC 50.346(b)(5)]

**49. 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), 10/1/04]

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

[18 AAC 50.045(d), 50.040(e), 50.326(j)(3), & 50.346(c)]

50.1 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 50.1a or to address the results of Department inspections that found potential problems; and
  - (ii) to prevent future dust problems.

50.2 The Permittee shall report according to Condition 52.

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

[18 AAC 50.055(g)]

**52. Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

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

52.1 Monitoring, Record Keeping, and Reporting for Condition 52

- a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 74.
- b. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 52.

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

- a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 52; or
- b. the Department notifies the Permittee that it has found a violation of Condition 52.

52.3 The Permittee shall keep records of

- a. the date, time, and nature of all emissions complaints received;
- b. the name of the person or persons that complained, if known;
- c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 52; and
- d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

52.4 With each stationary source operating report under Condition 75, the Permittee shall include a brief summary report which must include

- a. the number of complaints received;
- b. the number of times the Permittee or the Department found corrective action necessary;
- c. the number of times action was taken on a complaint within 24 hours; and

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

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

- 53. Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235(d), causes emissions in excess of a technology-based emission standard listed in Condition 55,<sup>5</sup> the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under Condition 74 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 74.

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

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

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

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

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

### NESHAPs Applicability Determinations

- 56.** 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) and 63.10(b)(3). If a source becomes affected by an applicable subpart of 40 C.F.R. 63, the Permittee 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).

56.1 The Permittee must keep a record of the applicability determination on site for a period of 5 years after the determination or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the Permittee believes the

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<sup>5</sup> *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

source is unaffected. The analysis (or other information) must be sufficiently detailed to allow the Department to make a finding about the source's applicability status with regard to the relevant standard or other requirement.

[18 AAC 50.040(c)(1)(A) & (E) & 50.040(j) , and 18 AAC 50.326(j)]  
[40 C.F.R. 71.6(a)(3)(ii) ; and 40 C.F.R. 63.1(b) & 63.6(c)(1), 7/16/07]

### **Halon Prohibitions, 40 C.F.R. 82**

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

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

57.1 The Permittee shall not use a substitute which the Permittee knows or has reason to know was manufactured, processed, or imported in violation of the regulations of 40 C.F.R. 82 Subpart G or knows or has reason to know was manufactured, processed, or imported in violation of any use restriction in the acceptability determination, after the effective date of any rulemaking imposing such restrictions.

57.2 The Permittee shall not use a substitute without adhering to any use restrictions set by the acceptability decision, after the effective date of any rulemaking imposing such restrictions.

57.3 The Permittee shall not use a substitute after the effective date of any rulemaking adding such substitute to the list of unacceptable substitutes.

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

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

58.1 No person testing, maintaining, servicing, repairing, or disposing of halon-containing equipment or using such equipment for technician training may knowingly vent or otherwise release into the environment any halons used in such equipment, as follows:

- a. De minimis<sup>6</sup> releases associated with good faith attempts to recycle or recover halon are not subject to this prohibition.
- b. Release of residual halon contained in fully discharged total flooding fire extinguishing systems would be considered a de minimis release associated with good faith attempts to recycle or recover halon.
- c. Release of halons during testing of fire extinguishing systems is not subject to this prohibition if the following Conditions 58.1c(i) - 58.1c(iv) are met:
  - (i) systems or equipment employing suitable alternative fire extinguishing agents are not available;

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<sup>6</sup> A legal term meaning “of minimum importance.”

- (ii) system or equipment testing requiring release of extinguishing agent is essential to demonstrate system or equipment functionality;
  - (iii) failure of the system or equipment would pose great risk to human safety or the environment; and
  - (iv) a simulant agent cannot be used in place of the halon during system or equipment testing for technical reasons.
- d. Releases of halons associated with research and development of halon alternatives, and releases of halons necessary during analytical determination of halon purity using established laboratory practices are exempt from this prohibition.
  - e. This prohibition does not apply to qualification and development testing during the design and development process of halon-containing systems or equipment when such tests are essential to demonstrate system or equipment functionality and when a suitable simulant agent cannot be used in place of the halon for technical reasons.
  - f. This prohibition does not apply to the emergency release of halons for the legitimate purpose of fire extinguishing, explosion inertion, or other emergency applications for which the equipment or systems were designed.
- 58.2 Organizations that employ technicians who test, maintain, service, repair or dispose of halon-containing equipment shall take appropriate steps to ensure that technicians hired on or before April 6, 1998 will be trained regarding halon emissions reduction by September 1, 1998. Technicians hired after April 6, 1998 shall be trained regarding halon emissions reduction within 30 days of hiring, or by September 1, 1998, whichever is later.
- 58.3 The Permittee shall not dispose of halon- containing equipment except by sending it for halon recovery to a manufacturer operating in accordance with NFPA<sup>7</sup> 10 and NFPA 12A standards, a fire equipment dealer operating in accordance with NFPA 10 and NFPA 12A standards or a recycler operating in accordance with NFPA 10 and NFPA 12A standards. This provision does not apply to ancillary system devices such as electrical detection control components which are not necessary to the safe and secure containment of the halon within the equipment, to fully discharged total flooding systems, or to equipment containing only de minimis quantities of halons.
- 58.4 The Permittee shall not dispose of halon except by sending it for recycling to a recycler operating in accordance with NFPA 10 and NFPA 12A standards, or by arranging for its destruction using one of the following controlled processes:
- a. Liquid injection incineration;
  - b. Reactor cracking;
  - c. Gaseous/fume oxidation;

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<sup>7</sup> National Fire Protection Association

- d. Rotary kiln incineration;
- e. Cement kiln;
- f. Radio frequency plasma destruction; or
- g. An EPA-approved destruction technology that achieves a destruction efficiency of 98 percent or greater.

58.5 No owner of halon-containing equipment shall allow halon release to occur as a result of failure to maintain such equipment.

### **Open Burning Requirements**

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

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

59.2 Compliance with this condition shall be an annual certification conducted under Condition 76.

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

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## ***Section 6. General Source Testing and Monitoring Requirements***

- 60. 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)]

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

[18 AAC 50.220(b)]

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

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

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

62.1 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]

62.2 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]

62.3 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]

62.4 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 and may use the form in Section 10 to record data.

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

62.5 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]

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

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

62.7 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)(24) & 50.220(c)(2)]  
[40 C.F.R. 63, Appendix A, Method 301]

**63. 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 source 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) and 50.990(102) ]

**64. Test Exemption.** The Permittee is not required to comply with Conditions 66, 67 and 68 when the exhaust is observed for visible emissions by Method 9 Plan (Condition 2.1) or Smoke/No Smoke Plan (Condition 2.2).

[18 AAC 50.345(a)]

**65. 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)]

**66. Test Plans.** Except as provided in Condition 64, 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 source 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 60 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be performed without resubmitting the plan.

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

**67. Test Notification.** Except as provided in Condition 64, 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)]

- 68. Test Reports.** Except as provided in Condition 64, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall additionally certify the results in the manner set out in Condition 71. 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)]

- 69. Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in Conditions 5 and 17.2, 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**

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

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

- 70.1 copies of all reports and certifications submitted pursuant to this section of the permit; and
- 70.2 records of all monitoring required by this permit, and information about the monitoring including:
  - a. the date, place, and time of sampling or measurements;
  - b. the date(s) analyses were performed;
  - c. the company or entity that performed the analyses;
  - d. the analytical techniques or methods used;
  - e. the results of such analyses; and,
  - f. the operating conditions as existing at the time of sampling or measurement.

### **Reporting Requirements**

**71. 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.

- 71.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
  - a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and
  - b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 71.1a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature,

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

**72. Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall send an original and one copy of reports, compliance certifications, and other submittals required by this permit to **ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.** The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Condition 71.

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

**73. 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)]

**74. Excess Emissions and Permit Deviation Reports.**

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

74.1 Except as provided in Condition 52, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report
  - (i) emissions that present a potential threat to human health or safety; and
  - (ii) excess emissions that the Permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
  - (i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in Condition 74.1c(ii); and
  - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 74.1c(i).

74.2 When reporting excess emissions, the Permittee must report using either the Department's on-line form, which can be found at <http://www.dec.state.ak.us/air/ap/site.htm> or <https://myalaska.state.ak.us/deca/air/airtoolsweb/>, or if the Permittee prefers, the form contained in Section 11 of this permit. The Permittee must provide all information called for by the form that is used.

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

**75. Operating Reports.** During the life of this permit<sup>8</sup>, the Permittee shall submit to the Department an original and one copy of an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.

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

75.1 The operating report must include all information required to be in operating reports by other conditions of this permit. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Departmental submission requirements.

75.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 75.1, either

- a. The Permittee shall identify
  - (i) the date of the deviation;
  - (ii) the equipment involved;
  - (iii) the permit condition affected;
  - (iv) a description of the excess emissions or permit deviation; and
  - (v) any corrective action or preventive measures taken and the date of such actions; or
- b. When excess emissions or permit deviations have already been reported under Condition 74 the Permittee shall cite the date or dates of those reports.

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

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<sup>8</sup> "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.

**76. Annual Compliance Certification.** Each year by March 31, the Permittee shall compile and submit to the Department one original<sup>9</sup> and one copy of an annual compliance certification report. The Permittee, at their discretion, may submit one copy in electronic format (PDF or other Department compatible image format).

76.1 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;

76.2 **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

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

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

**77. NSPS and NESHAP Reports.** The Permittee shall:

77.1 attach to the operating report required by Condition 75, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10; and

77.2 upon request by the Department, provide a written copy of any EPA-granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.

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

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<sup>9</sup> See Condition 76.2 for clarification of the number of copies needed.

## ***Section 8. Permit Changes and Renewal***

**78. Permit Applications and Submittals.** The Permittee shall comply with the following requirements for submitting application information to the US Environmental Protection Agency (EPA):

- 78.1 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;
- 78.2 The information shall be submitted to the same address as in Condition 76.3.
- 78.3 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
- 78.4 The Permittee shall maintain records as necessary to demonstrate compliance with this condition.

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

**79. 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) and 50.326(j)]  
[40 C.F.R. 71.6(a)(8)]

**80. 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 CFR Part 72 through 78 or those that are modifications under any provision of Title I of the Act to be made without a permit revision, provided that the following requirements are met:

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

- 80.1 Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;
- 80.2 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;
- 80.3 The change shall not qualify for the shield under 40 CFR 71.6(f);
- 80.4 The Permittee shall keep a record describing changes made at the 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.

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

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

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

81.3 The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to Condition 81.

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

**82. Permit Renewal.** To renew this permit, the Permittee shall submit an application under 18 AAC 50.326 no sooner than **[18 months before]** 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 source's right to operate unless a timely and complete renewal application has been submitted consistent with 40 CFR 71.7(b) and 71.5(a)(1)(iii).

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

## ***Section 9. Compliance Requirements***

### **General Compliance Requirements**

- 83.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are
- 83.1 included and specifically identified in the permit; or
  - 83.2 determined in writing in the permit to be inapplicable.
- [18 AAC 50.326(j)(3); and 50.345(a) & (b)]
- 84.** The Permittee must comply with each permit term and condition.
- 84.1 For applicable requirements with which the Deadhorse Power Plant is in compliance, the Permittee will continue to comply with such requirements.
  - 84.2 Noncompliance with a permit term or condition constitutes a violation of AS 46.14.120(c), 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for:
    - a. an enforcement action; or
    - b. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
    - c. denial of an operating permit renewal application.
- [18 AAC 50.040(j), 50.326(j); and 50.345(a) & (c)]
- 85.** 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); and 50.345(a) & (d)]
- 86.** 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
- 86.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;
  - 86.2 have access to and copy any records required by the permit;
  - 86.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
  - 86.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.
- [18 AAC 50.326(j)(3) & 50.345(a) & (h)]

### **Compliance Schedule**

- 87.** 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) and 50.326(j)]  
[40 CFR 71.6(c)(3) & 71.5(c)(8)(iii)(B)]

- 88.** The Permittee shall comply with the emission limitations and the operating requirements of Conditions 26 through 41 and install a catalytic oxidation systems on EU IDs 1a and 4a within 18 months of January 15, 2010.

[COBC No. 2009-0582-50-8186, Exhibit D, 1/15/2010]

**Section 10. Visible Emissions Forms**

**Visible Emissions Field Data Sheet**

Certified Observer: \_\_\_\_\_

Company &  
 Stationary  
 Source: \_\_\_\_\_

Location: \_\_\_\_\_

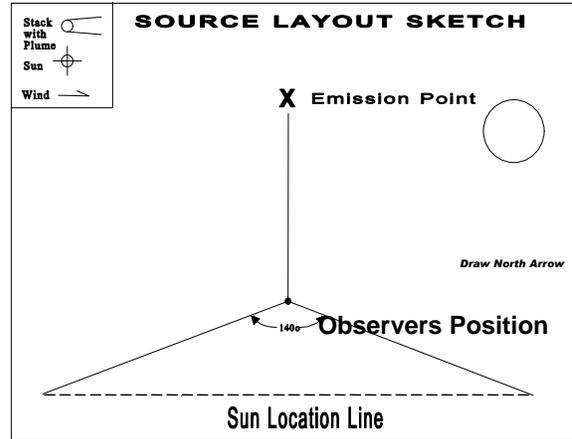
Test No.: \_\_\_\_\_ Date: \_\_\_\_\_

Emission Unit: \_\_\_\_\_

Production Rate/Operating  
 Rate: \_\_\_\_\_

Unit Operating Hours: \_\_\_\_\_

Hrs. of observation: \_\_\_\_\_



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					



**Section 11. ADEC Notification Form<sup>10</sup>**

**Deadhorse Power Plant**

Stationary Source Name

**AQ0227TVP02**

Air Quality Permit Number

**TDX North Slope Generating, Inc**

Company Name

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

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ : \_\_\_\_\_

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

Begin Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ : \_\_\_\_\_ (please use 24hr clock)

End Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ : \_\_\_\_\_ (please use 24hr clock)

**What was the duration of the event/deviation?:** \_\_\_\_\_ : \_\_\_\_\_ (hrs:min) or \_\_\_\_\_ days

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

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

Excess Emissions - Complete Section 1 and Certify.

Deviation from Permit Condition - Complete Section 2 and Certify

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

**Section 1. Excess Emissions**

(a) Was the exceedance:  Intermittent or  Continuous

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

Start Up /Shut Down

Natural Cause (weather/earthquake/flood)

Control Equipment Failure

Scheduled Maintenance/Equipment Adjustment

Bad fuel/coal/gas

Upset Condition

Other \_\_\_\_\_

(c) Description

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

(d) Emissions Units Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

EU ID	EU Name	Permit Condition Exceeded/Limit/Potential Exceedance

<sup>10</sup> Revised as of August 24, 2006.

(e) Type of Incident (Please Check only one).

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

(f) Unavoidable Emissions:

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

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

Certify Report (go to end of form)

**Section 2 Permit Deviations**

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

- Emission Unit Specific  
 Failure to monitor/report  
 General Source Test/Monitoring Requirements  
 Recordkeeping/Reporting/Compliance Certification  
 Standard Conditions Not Included in Permit  
 Generally Applicable Requirements  
 Reporting/Monitoring for Diesel Engines  
 Insignificant Emission Unit  
 Record Keeping Failure  
 Stationary Source Wide  
 Other Section \_\_\_\_\_ (title of section and section number of your permit).

(b) Emission Unit Involved.

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

EU ID	EU Name	Permit Condition / Potential Deviation

(c) Description of Potential Deviation:

Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

**Certification:**

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_ Phone Number: \_\_\_\_\_

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

**To Submit this Report:**

Fax to: 907-451-2187

Or

Email to: [DEC.AQ.Airreports@alaska.gov](mailto:DEC.AQ.Airreports@alaska.gov)

*If faxed or emailed, the report must be certified within the Operating Report required for the same reporting period per Condition 75.*

Or

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

Or

Phone Notification: 907-451-5173

*Phone notifications require a written follow-up report.*

Or

Submission of information contained in this report can be made electronically at the following website:

<https://myalaska.state.ak.us/deca/air/airtoolsweb/>

*If submitted online, report must be submitted by an authorized E-Signer for the stationary source.*