

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit: AQ0323MSS04
Revises Permit No. AQ0323MSS01

Preliminary – May 19, 2016

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit No. AQ0323MSS04 to the Permittee listed below.

Permittee: **Naknek Electric Association**
P. O. Box 118
Naknek, AK 99633

Stationary Source: **Naknek Power Plant**

Location: 1 School Road, Naknek, Alaska; Lat. 58° 43”N, Long. 157° 00”W

Project: Installation of Two Backup Generators and Two Temporary Generators

Permit Contact: Dianne King, General Manager, NEA, dking@nea.coop

This project is classified under 18 AAC 50.508(6) for revising or rescinding the terms and conditions of a Title I permit. The project is also classified under 18 AAC 50.508(5) for Owner Requested Limits to avoid a minor permit under 18 AAC 50.502(c)(3)(A) and PSD permit requirements under 18 AAC 50.306.

This permit satisfies the obligation of the Permittee to obtain a minor permit under 18 AAC 50. As required by AS 46.14.120(c) the Permittee shall comply with the terms and conditions of this permit.

John F. Kuterbach
Manager, Air Permits Program

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Section 1 Emission Unit Inventory

Emission Unit Authorization. The Permittee is authorized to install and operate the emission units listed in Table 1 in accordance with the terms and conditions of this permit and the minor permit application. Except as noted elsewhere in this permit, the information in Table 1 is for identification purposes only. The specific emission unit descriptions do not restrict the Permittee from replacing an EU identified in Table 1.

Table 1: Emission Unit Inventory

EU ID	EU Description	Make/Model	Fuel	Rating
13	Electric Generator Set	Caterpillar C175-20, 2014 model	Diesel	4,000 kW
13a	Mobile Generator Set	Caterpillar XQ1500, 3512B	Diesel	1,500 kW
14	Electric Generator Set	Caterpillar C175-20, 2014 model	Diesel	4,000 kW
14a	Mobile Generator Set	Caterpillar XQ2000, 3516C	Diesel	2,000 kW

Table Notes:

EU IDs 1 - 12 (not shown in table) have already been installed at the source and are not included in this permit. Permittee proposes to install EU IDs 13, 13a, 14, 14a in 2016 and are the subject of this permit action.

1. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement emission unit, including any applicable minor or construction permit requirements.

Section 2 Emission Fees

2. **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.
3. **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 equal to or greater than 10 tons per year (tpy). The quantity for which fees will be assessed is the lesser of:
 - 3.1 the stationary source's assessable potential to emit of 1,358 tpy; or
 - 3.2 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.
4. **Assessable Emission Estimates.** Emission fees will be assessed as follows:
 - 4.1 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., PO Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or
 - 4.2 if no estimate is received 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 3.1.

Section 3 State Emission Standards and Requirements

5. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 13, 13a, 14, and 14a, listed in Table 1 to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

5.1 Monitor, record, and report visible emissions as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50..

Particulate Matter (PM) Emissions Standards

6. **Industrial Process and Fuel-Burning Equipment PM.** The Permittee shall not cause or allow PM emitted from EU IDs 13, 13a, 14, and 14a listed in Table 1 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

6.1 Monitor, record, and report PM emissions as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

Sulfur Compound Emission Standards Requirements

7. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as sulfur dioxide (SO₂), from EU IDs 13, 13a, 14, and 14a to exceed 500 parts per million (ppm) averaged over three hours.

7.1 Monitor, record, and report sulfur compounds emissions as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

Section 4 ORLs to Avoid PSD Modification under 18 AAC 50.306

PSD Avoidance Limits for Nitrogen Oxides (NO_x)

8. **NO_x Limit.** The Permittee shall limit NO_x emissions from EU IDs 13a, 13, 14a, and 14 to less than 39.9 tons per year (tpy) by limiting the combined fuel consumption of EU IDs 13a, 13, 14a and 14 to less than 365,218 gallons per year (gal/yr) as described in Condition 8.1. Monitor, record, and report according to Conditions 8.2 – 8.6.
 - 8.1 Fuel consumption of EU IDs 13a and 14a shall be accounted for as operation of EU IDs 13 and 14 under a diesel gallon equivalent as follows:
 - a. One gallon of diesel fuel burned in EU ID 13a is equivalent to 1.83 gallons of diesel burned in EU IDs 13 and 14 combined.
 - b. One gallon of diesel burned in EU ID 14a is equivalent to 1.08 gallons of diesel burned in EU IDs 13 and 14 combined.
 - 8.2 Measure the gallons of diesel fuel consumed by EU IDs 13, 13a, 14, and 14a using a diesel fuel flow meter accurate to within five percent.
 - 8.3 For each month, record the monthly consumption for each of EU IDs 13, 13a, 14, and 14a. Convert the diesel fuel gallons consumption for each of EU IDs 13a and 14a into a combined diesel fuel gallons equivalent for EU IDs 13 and 14 using the equivalency factors in Condition 8.1.
 - 8.4 For each month, calculate and record the combined 12-consecutive month period fuel consumption using the monthly fuel consumption of EU IDs 13 and 14 and the gallons diesel equivalents for EU IDs 13a and 14a.
 - 8.5 Report the combined 12-consecutive month period diesel fuel consumption recorded in Condition 8.4 for each month in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
 - 8.6 Report as excess emissions and permit deviation as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50 if the 12-consecutive month period diesel fuel consumption recorded in Condition 8.4 for each month is equal to or exceeds the limit in Condition 8.
9. **SO₂ Limit.** The Permittee shall limit SO₂ emissions from EU IDs 13a, 13, 14a and 14 to less than 39.9 tpy by limiting the combined fuel consumption of EU IDs 13a, 13, 14a and 14 to less than 365,218 gal/yr and by limiting the sulfur content of the fuel burned in EU IDs 13a, 13, 14a and 14 to no more than 0.2 percent by weight.
 - 9.1 Monitor, record, and report the amount of diesel fuel burned in EU IDs 13, 13a, 14, and 14a by complying with Conditions 8.1 - 8.6.
 - 9.2 Monitor, record, and report sulfur content of diesel fuel burned in EU IDs 13, 13a, 14, and 14a as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

- a. If the sulfur content of the fuel burned in any of EU IDs 13a, 13, 14a and 14 exceeds the limit in Condition 9, report as excess emissions and permit deviation as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50

Section 5 ORLs to Avoid Minor Permit Requirements under 18 AAC 50.502(c)(3)(A)

ORL to Avoid Minor Permit Classification under 18 AAC 50.502(c)(3)(A)(ii).

10. **SO₂ Limit.** The Permittee shall limit the potential SO₂ emissions from EU IDs 13, 13a, 14, and 14a to less than 5.2 tpy by limiting the sulfur content of the diesel fuel burned in EU IDs 13, 13a, 14, and 14a to no more than 0.20 percent by weight and by limiting the fuel burned in EU IDs 13, 13a, 14, and 14a to less than 365,218 gal/yr.
 - 10.1 Monitor, record, and report the amount of diesel fuel burned in EU IDs 13, 13a, 14, and 14a by complying with Conditions 8.1 - 8.6.
 - 10.2 Monitor, record, and report sulfur content of diesel fuel burned in EU IDs 13, 13a, 14, and 14a by complying with Condition 9.2.

ORL to Avoid Minor Permit Classification under 18 AAC 50.502(c)(3)(A)(iii).

11. Condition 11 of Minor Permit No. AQ0323MSS01 issued September 20, 2010 is rescinded and replaced with Condition 12.
12. **NO_x Limit.** The Permittee shall limit the combined NO_x emissions from EU IDs 1 - 4, 8 - 10, 13, 13a, 14, and 14a to no more than 578 tpy. To demonstrate compliance, the Permittee shall:
 - 12.1 Measure the diesel fuel consumed by each emission unit listed in Condition 12 using a fuel meter accurate to within 5 percent.
 - 12.2 At the end of each calendar month, record the diesel fuel consumed that month by each emission unit listed in Condition 12
 - 12.3 By the end of each calendar month:
 - a. Calculate the tons of NO_x emissions from each of EU IDs 1 – 4, 8 – 10, 13, 13a, 14, and 14a for the previous month based on the diesel fuel consumption recorded in Condition 12.2 and the corresponding NO_x emission factor listed in Table 2.
 - b. Calculate the NO_x emissions (in tons) from EU IDs 1 – 4, 8 – 10, 13, 13a, 14, and 14a for the 12-consecutive month period ending with the previous month, based on the monthly emissions calculated in Condition 12.3a.

Table 2: NOx Emission Factors, Pounds per Gallon (lb/gal)

EU ID	Emission Factor (lb/gal)
1, 2, and 3	0.70
4	0.59
8	0.47
9 and 10	0.64
13 and 14	0.218 ¹
13a	0.400 ²
14a	0.236 ³

- 12.4 Include the 12-consecutive month period NOx emissions calculated in 12.3b in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- 12.5 If the combined 12-consecutive months period NOx emissions in Condition 12.3b for EU IDs 1 – 4, 8 – 10, 13, 13a, 14, and 14a exceeds the limit specified in Condition 11, report as excess emissions and permit deviation as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- 12.6 If the 12-consecutive months period total NOx emissions calculated in Condition 12.3b exceed 520 tons, then within 180 days of first discovery, conduct source tests on any one of EU IDs 1, 2, or 3, EU ID 4, EU ID 8, either EU ID 9 or EU ID 10 and either EU ID 13 or 14 to verify the NOx emission factors in Table 2. Emission units that operate for less than 500 hours in a 12-consecutive month period are exempt from the source testing.
- a. For each emission unit listed in Condition 12.6, monitor and record the operating hours for each month and for each 12-consecutive month period. Keep the records on site and make them available to Department personnel on request.
 - b. Conduct the source tests at three operating loads with the normal operating range of the emission units (including minimum and maximum loads). Monitor and record the fuel consumption and average load during the test.
 - c. Determine the NOx emission factors, in pounds per hour (lb/hr) and lb/gal using exhaust properties determined by either Method 19 or Methods 1 – 4. If using Method 19, then use the higher heating value of the fuel throughout the analysis.

¹ Emission factor for EU ID 13 and 14 was calculated based on manufacturer’s NOx emission factor of 5.07 g/hphr and fuel consumption rate of 274.6 gallons per hour at 100 percent load.

² Emission factor for EU ID 13a was calculated based on manufacturer’s NOx emission factor of 41.61 lb/hr and fuel consumption rate of 103.98 gallons per hour at 100 percent load.

³ Emission factor for EU ID14a was calculated based on manufacturer’s NOx emission factor of 5.5 g/hphr and fuel consumption rate of 138.0 gallons per hour at 100 percent load.

- d. Report the source tests as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- e. After Department approval of the source test results, calculate the monthly and combined 12-consecutive month period NO_x emissions from EU IDs 1 – 4, 8 – 10, 13, 13a, 14, and 14a using the emission factors derived from the source test required in Condition 12.6⁴.

⁴ The Permittee may retroactively apply the new emission factors to the preceding 12 consecutive months to avoid two sets of calculations for NO_x during a reporting period.

Section 6 Federal Requirements

New Source Performance Standards (NSPS) Subpart III Requirements, EU IDs 13 and 14

13. **NSPS Subpart III General Requirements.** For EU IDs 13 and 14, the Permittee shall comply with all applicable requirements in 40 C.F.R. 60, Subpart III for stationary compression ignition (CI) internal combustion engine (ICE) whose construction⁵, modification⁶, or reconstruction⁷ commences after July 11, 2005.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 C.F.R. 71.6(a)(1)]
[40 C.F.R. 60.4200(a)(2)(i)]

- 13.1 The owner and operator must comply with the applicable provisions of Subpart A as specified in Table 8 to Subpart III.

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

- 13.2 **Notification.** The Permittee shall comply with the following requirements:

- a. For EU IDs 13 and 14 submit an initial notification as required in 40 C.F.R. 60.7(a)(1). The notification shall include the information in Conditions 13.2a(i) through 13.2a(v):
- (i) Name and address of the owner or operator;
 - (ii) The address of the affected source;
 - (iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - (iv) Emission control equipment; and
 - (v) Fuel used.

[40 C.F.R. 60.4214(a)(1)]

- 13.3 **Performance Tests.** Owners and operators who conduct performance tests required by 40 C.F.R. 60, Subpart III must do so in accordance with 40 C.F.R. 60.4212 for stationary CI ICE with a displacement of less than 30 liters per cylinder.

[40 C.F.R. 60.4212]

14. **NSPS Subpart III Emission Standards.** For EU IDs 13 and 14, the Permittee shall comply with the applicable emission standards, as listed in Condition 14.1.

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

- 14.1 The owner and operator must comply with the emission standards in Table 3.

⁵ For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

⁶ As defined in 18 AAC 50.990(59).

⁷ As defined in 18 AAC 50.990(88).

Table 3: Emission Standards for Non-Emergency Engines (g/kWh)

EU ID	Rating	Model Year	NO_x + NMHC	CO	PM
13 and 14	4,000 kW	2014	6.4 g/kWh	3.5 g/kWh	0.10 g/kWh

[40 C.F.R. 4216(c), 4202(b)(2), 4201(c) for PM, 40 C.F.R. 89.112(a), 40 C.F.R. 1039.102]

14.2 The owner and operator must comply with the exhaust opacity standards in Condition 14.2a – 14.2c.

- a. 20 percent during the acceleration mode;
- b. 15 percent during the lugging mode, and
- c. 50 percent during the peaks in either the acceleration or lugging modes

[40 C.F.R. 4216(c), 4202(b)(2), 89.113]

14.3 The owner and operator must operate and maintain the stationary CI ICE that achieve the emission standards in Condition 14 over the entire life of the engine.

[40 C.F.R. 4206]

15. **NSPS Subpart III Fuel Requirements.** For EU IDs 13 and 14, the owner or operator must use diesel fuel that meets the requirements of 40 C.F.R. 510(b) for nonroad diesel.

15.1 a maximum sulfur content of 15 parts per million; and

15.2 a minimum cetane number of 40, or a maximum aromatic content of 35 volume percent.

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

[40 C.F.R. 60.4207(b)]

[40 C.F.R. 80.510(b)(1)(i) & (b)(2)]

16. **NSPS Subpart III Monitoring.** For EU IDs 13 and 14, the owner or operator must meet the monitoring requirements in 40 C.F.R. 60.4211.

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

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

[40 C.F.R. 60.4209]

16.1 If the engines are equipped with a diesel particulate filter to comply with the emission standards in Table 3, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[40 C.F.R. 60.4209(b) & 60.4214(c)]

17. **NSPS Subpart III Compliance Requirements.** For EU IDs 13 and 14, the owner or operator must comply with the monitoring requirements in Conditions 17.1 - 17.4:

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

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

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

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

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

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

17.4 You must comply with the emission standards in Condition 14.1 by purchasing an engine certified to the emission standards in Conditions 14.1, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 C.F.R. 60.4211(g)(3), as specified in Condition 17.4a.

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

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

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

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

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

18. **NSPS Subpart IIII Recordkeeping and Reporting Requirements.** For EU IDs 13 and 14:

18.1 If equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

[40 C.F.R. 60.4214(c)]

18.2 The owner or operator must include in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50 the method used to demonstrate compliance with Condition 14.1.

- 18.3 The owner or operator shall report as excess emissions or permit deviations as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50 in the event of excess emissions or deviation from any of the requirements of Conditions 13 through 18.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart A

19. **NESHAP Subpart A.** For stationary compression ignition internal combustion engines EU IDs 13 and 14, the Permittee shall comply with the applicable requirements of 40 C.F.R. 63 Subpart A in accordance with the provisions for applicability of Subpart A in NESHAP Subpart ZZZZ, Table 8.

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

Reciprocating Internal Combustion Engines Subject to NESHAP Subpart ZZZZ

20. **NESHAP Subpart ZZZZ Stationary Reciprocating Internal Combustion Engines.**

For stationary compression ignition internal combustion engines EU IDs 13 and 14, the Permittee shall comply with the requirements of 40 C.F.R. 63, Subpart ZZZZ by meeting the requirements of 40 C.F.R. 60, Subpart IIII in Conditions 21 through 26.

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

Section 7 General Recordkeeping, Reporting, and Certification Requirements

21. **Certification.** The Permittee shall certify all reports, or other documents 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 emissions 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.
 - 21.1 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 21.1a that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.
22. **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, 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.
23. **Excess Emissions and Permit Deviation Reports.** The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
24. **Operating Reports.** The Permittee shall submit all reports required by this permit as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

Section 8 *Standard Permit Conditions*

25. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for
 - 25.1 an enforcement action; or
 - 25.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
26. 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.
27. 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
 - 27.1 enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;
 - 27.2 have access to and copy any records required by this permit;
 - 27.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 27.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.
28. 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.
29. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
30. The permit does not convey any property rights of any sort, nor any exclusive privilege.

Section 9 *Permit Documentation*

Date

April 18, 2016

May 13, 2016

Document Details

Application Received

Applicant provides NESHAP ZZZZ applicability determination for EU IDs 13a and 14a, in response to a Department May 12, 2016 email request.

Attachment 1 – Visible Emissions Form

VISIBLE EMISSION OBSERVATION FORM

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

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

Attachment 2 - ADEC Notification Form

Excess Emissions and Permit Deviation Reporting
 State of Alaska Department of Environmental Conservation
 Division of Air Quality

Stationary Source Name	Air Quality Permit No.
Company Name	Date

When did you discover the Excess Emissions/Permit Deviation?

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

When did the event/deviation?

Begin Date: _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)
 End Date _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)
 : (hrs:min) or _____ days

What was the duration of the event?

(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 conditions complete Section 2 and certify
- Deviation 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 Adjustments
- Bad fuel/coal/gas Upset Condition Other

(c) Description

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

(d) Emission unit(s) Involved:

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

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

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

- | | | |
|--|--|---|
| <input type="checkbox"/> Opacity % | <input type="checkbox"/> Venting (gas/scf) | <input type="checkbox"/> Control Equipment Down |
| <input type="checkbox"/> Fugitive Emissions | <input type="checkbox"/> Emission Limit Exceeded | <input type="checkbox"/> Record Keeping Failure |
| <input type="checkbox"/> Marine Vessel Opacity | <input type="checkbox"/> Failure to monitor/report | <input type="checkbox"/> Flaring |
| <input type="checkbox"/> 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) (check boxes correspond with sections in permit)

- Emission Unit Specific
- 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
- Stationary Source-Wide
- Other Section: (title of section and section # of your permit)

(b) Emission unit(s) Involved:

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

EU ID	Emission Unit Name	Permit Condition /Potential Deviation

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

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

Certification:

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

Printed

Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

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

To Submit this report:

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

Or

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

if faxed or emailed,

Or

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

Or

4. Phone notifications: 907-451-5173

Phone notifications require written follow up report.

Or

5. Submission of information contained in this report can be made electronically at the following website: <http://dec.alaska.gov/air/ap/docs/eeform.pdf>

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

Attachment 3 – Material Balance Calculations

If the sulfur content of a fuel shipment is greater than 0.75 percent by weight, calculate the three-hour exhaust concentration of SO₂ using the following equations:

$$\begin{aligned}
 \text{A.} &= 31,200 \times [\text{wt}\% \mathbf{S}_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{B.} &= 0.148 \times [\text{wt}\% \mathbf{S}_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{C.} &= 0.396 \times [\text{wt}\% \mathbf{C}_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{D.} &= 0.933 \times [\text{wt}\% \mathbf{H}_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{E.} &= \text{B} + \text{C} + \text{D} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{F.} &= 21 - [\text{vol}\%_{\text{dry}} \mathbf{O}_2, \text{ exhaust}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{G.} &= [\text{vol}\%_{\text{dry}} \mathbf{O}_2, \text{ exhaust}] \div \text{F} = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{H.} &= 1 + \text{G} = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{I.} &= \text{E} \times \text{H} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \mathbf{SO}_2 \text{ concentration} &= \text{A} \div \text{I} = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ppm}
 \end{aligned}$$

The wt% S_{fuel}, wt% C_{fuel}, and wt% H_{fuel} are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is from the fuel supplier and operating reports the Permittee will submit periodically. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%_{dry}O₂, exhaust) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if wt% S_{fuel} = 1.0%, then enter 1.0 into the equations not 0.01 and if vol%_{dry}O₂, exhaust = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c)]