

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL MINOR PERMIT

Minor Permit No. AQ0214MSS02
Rescinds Minor Permit AQ0214MSS01

Issue Date: Preliminary – November 30, 2020

PAL Effective Date:

Section 5 is effective – < final issue date >
Section 6 is effective – < final issue date >
Section 7 is effective – < final issue date >
Section 8 is effective – < final issue date >
Section 9 is effective – < final issue date >

PAL Expiration Date:

Section 5 expires – < +10 years >
Section 6 expires – < +10 years >
Section 7 expires – < +10 years >
Section 8 expires – < +10 years >
Section 9 expires – < +10 years >

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ0214MSS02 to the Permittee listed below.

Permittee: Nushagak Electric Cooperative, Inc.
PO Box 350
Dillingham, AK 99576

Stationary Source: Dillingham Power Plant

Location: 59° 02' 35.24" North; 158° 28' 07.12" West

Project: Plantwide Applicability Limitation (PAL) Renewal

Permit Contact: James Denslinger, 907-842-6355, JDenslinger@nushagak.coop

This project is classified under 18 AAC 50.508(6) for revising or rescinding the terms and conditions of a Title I permit and 18 AAC 50.508(3) for establishing a PAL.

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.

James R. Plosay, Manager
Air Permits Program

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Abbreviations and Acronyms

AAC.....	Alaska Administrative Code	MR&R.....	monitoring, recordkeeping, and reporting
ADEC.....	Alaska Department of Environmental Conservation	NESHAPs.....	National Emission Standards for Hazardous Air Pollutants [as contained in 40 CFR 61 and 63]
AS.....	Alaska Statutes	NO _x	nitrogen oxides
ASTM.....	American Society for Testing and Materials	NSPS.....	New Source Performance Standards [as contained in 40 CFR 60]
BACT.....	best available control technology	O & M.....	operation and maintenance
bhp.....	brake horsepower	O ₂	oxygen
CDX.....	Central Data Exchange	PAL.....	plantwide applicability limitation
CEDRI.....	Compliance and Emissions Data Reporting Interface	PM ₁₀	particulate matter less than or equal to a nominal 10 microns in diameter
CFR.....	Code of Federal Regulations	PM _{2.5}	particulate matter less than or equal to a nominal 2.5 microns in diameter
CAA.....	Clean Air Act	ppm.....	parts per million
CO.....	carbon monoxide	ppmv, ppmvd.....	parts per million by volume on a dry basis
Department.....	Alaska Department of Environmental Conservation	psia.....	pounds per square inch (absolute)
dscf.....	dry standard cubic foot	PSD.....	prevention of significant deterioration
EPA.....	US Environmental Protection Agency	PTE.....	potential to emit
EU.....	emissions unit	SIC.....	Standard Industrial Classification
gr/dscf.....	grain per dry standard cubic foot (1 pound = 7000 grains)	SIP.....	State Implementation Plan
gph.....	gallons per hour	SO ₂	sulfur dioxide
HAPs.....	hazardous air pollutants [as defined in AS 46.14.990]	The Act.....	Clean Air Act
hp.....	horsepower	tph.....	tons per hour
ID.....	emissions unit identification number	tpy.....	tons per year
kPa.....	kiloPascals	VOC.....	volatile organic compound [as defined in 40 CFR 51.100(s)]
LAER.....	lowest achievable emission rate	VOL.....	volatile organic liquid [as defined in 40 CFR 60.111b, Subpart Kb]
MACT.....	maximum achievable control technology [as defined in 40 CFR 63]	vol%.....	volume percent
MMBtu/hr.....	million British thermal units per hour	wt%.....	weight percent
MMscf.....	million standard cubic feet		

Section 1 Emissions Unit Inventory

1. **Emissions Unit (EU) Authorization.** The Permittee is authorized to install and operate the emissions units listed in Table A in accordance with the terms and conditions of this permit. The information in Table A is for identification purposes only. The specific emissions unit descriptions do not restrict the Permittee from replacing an emissions unit identified in Table A.

Table A – Emissions Unit Inventory

EU ID	EU Description	Make/Model	Rating/Max Capacity	Installation Date
10	Diesel Engine	Caterpillar - Model 3516DI (S/N 73Z00232)	1,135 kW-e	1988
11	Diesel Engine	Caterpillar - Model 3512B (S/N 4AW-00411)	1,050 kW-e	2001
12	Diesel Engine	Caterpillar - Model 3512B (S/N CTB00217)	1,050 kW-e	2006
13	Diesel Engine	Caterpillar - Model 3512B (S/N CTB00228)	1,050 kW-e	2006
14	Diesel Engine	Caterpillar - Model 3512C (S/N LLA00724)	1,050 kW-e	2008
15	Diesel Engine	Caterpillar - Model 3512C (S/N LLA00727)	1,050 kW-e	2008
16	Diesel Engine	Caterpillar - Model 3456 (S/N 3PG01599)	455 kW-e	2009
17	Diesel Engine	Caterpillar - Model 3608 (S/N 6MC00599)	2,420 kW-e	2019
18	Diesel Engine	Caterpillar - Model 3608 (S/N 6MC00600)	2,420 kW-e	2019

Section 2 State Emission Standards

- 2. Visible Emissions for Industrial Process and Fuel-Burning Equipment.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from emissions units listed in Table A, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.
- 3. Particulate Matter for Industrial Process and Fuel-Burning Equipment.** The Permittee shall not cause or allow particulate matter emitted from emissions units listed in Table A to exceed 0.05 grains per dry standard cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.
- 4. Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from emissions units listed in Table A to exceed 500 parts per million (ppm) averaged over three hours.

Section 3 Ambient Standards and Increment Protection

5. For ambient air quality protection, the Permittee shall:
 - 5.1. limit the maximum sulfur content of fuel oil combusted to less than 0.5 weight percent sulfur (wt%S). Monitor, record, and report per Conditions 73 through 79;
 - 5.2. comply with annual NO_x limit in Condition 7;
 - 5.3. maintain a minimum stack height of 16.6 meters above ground level, for all emissions units; and
 - 5.4. maintain all emissions units listed in Table A with vertical uncapped stacks. This condition does not preclude the use of flapper valve rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume.

Section 4 Best Available Control Technology (BACT) for NO_x

6. Nitrogen Dioxide Requirements. The Permittee shall comply with the following requirements:

6.1. For EU IDs 11 through 13:

- a. Limit NO_x emissions to no greater than 24.9 lb/hr per engine, expressed as NO₂, averaged over the duration of the emission performance test or any three consecutive hours.
- b. Operate EU IDs 11 through 13 with a separate aftercooler loop and electronic controls set for low emission strategy.
- c. No less than once per calendar year, verify that electronic controls are set for low emission strategy as required by Condition 6.1.b. Submit verification in the operating report required by Condition 119.

Section 5 NO_x Plantwide Applicability Limitation (PAL)

PAL Limit

7. The Permittee shall limit stationary source-wide NO_x emissions to less than 363.6 tons for each rolling 12-month period.

Emissions from Startup, Shutdown and Malfunction

8. The Permittee shall include all emissions from startup, shutdown and malfunctions in the emissions calculations for showing compliance with the NO_x PAL limit established in Condition 7. In addition to including the emissions in the calculations the Permittee shall:
 - 8.1. record the date and duration of the deviation from normal operation; and
 - 8.2. report in the operating report, required by Condition 119, the date and duration of the deviation from normal operation.

Ongoing Emission Factor Re-Validation Requirements

9. The Permittee shall:
 - 9.1. source test each emissions unit subject to the NO_x PAL or a representative emissions unit for a group of emissions units established under Condition 10 or 11 no later than five years from the date the most recent source tests were completed for PAL emission factor re-validation for the operating mode (Fuel Efficiency or Low-NO_x).
 - a. For the groupings established under Condition 10 and groupings under Condition 11, source test an emissions unit that was not source tested in the previous test unless otherwise directed or approved by the Department.
 - 9.2. perform the source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 9.3. use methods contained in Section 14 to conduct the source test; and
 - 9.4. use the results of the source tests to revise the NO_x emission factor in lbs/kWh, used in Condition 14, by the methods contained in Condition 17.

Emissions Unit Groupings

10. If the Permittee wishes to establish groupings or multiple groupings of emissions units with a representative emissions unit for each grouping, the Permittee shall comply with Conditions 10.1 and 10.2:
 - 10.1. submit a request to the Department no later than 90 days prior to the required source testing under Condition 9. The request shall identify the requested groupings and their representative emissions unit; and

- 10.2. submit a certification from a company official, with the request under Condition 10.1, that each grouping and representative emissions unit:
 - a. have the same horsepower rating and engine model;
 - b. have an identical generator size that they are driving;
 - c. have the same configuration.
- 10.3. Unless the Department provides a written objection within 30 days of receiving the request, the groupings are considered effective.
11. The following emission unit groupings are established for the NO_x PAL:
 - 11.1. EU IDs 11 through 13,
 - 11.2. EU IDs 14 and 15, and
 - 11.3. EU IDs 17 and 18.
12. All emissions units that are not contained in a grouping established under Condition 10 or 11 shall be tested individually.

Calculation Methodology

13. For each of EU IDs 10 through 18, comply with the following to calculate the average monthly engine load:
 - 13.1. At the same time each month, record total monthly energy production (kWh) and operating time (hours).
 - 13.2. Divide the total monthly energy production by the number of hours the emission unit operated during the month (hr/month) to determine the average power (kW) for the month.
 - 13.3. Divide the average power for the month by the emission unit's maximum power rating (kW) and multiply by 100 to determine the average monthly load.
14. Within 30 calendar days from the start of the first day of a calendar month, the Permittee shall calculate the NO_x emissions for each emissions unit subject to the NO_x PAL, for the previous calendar month, using Equation 1 and as follows:

$$\text{Equation 1} \quad NO_x = EF \times kWh \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right)$$

- Where: *NO_x* = NO_x emissions in tons per month for one emissions unit
- kWh* = A given emissions unit's monthly kilowatt-hours for a given operating mode. The Permittee must use maximum rated capacity for any period of operating time that there is no monitoring data.
- EF* = Department approved emission factor as described in Conditions 16, 17, 18.1.c, 19, and 20 for a given

emissions unit based on average monthly load and for a given operating mode. The Permittee must use the maximum emission factor for a given emissions unit and operating mode if average monthly load is less than 50 percent. The Permittee, at their discretion, may use the maximum emission factor for a given emissions unit and operating mode for any other emission calculations.

- 14.1. Sum the monthly NO_x emissions for each operating mode to obtain the total monthly NO_x emissions for each emissions unit subject to the NO_x PAL.
15. For each month during the NO_x PAL effective period, add the sum of the previous month's NO_x emissions from all emissions units subject to the NO_x PAL to the sum of the preceding 11 months of NO_x emissions from all emissions units subject to the NO_x PAL to get the rolling 12-month plantwide NO_x emissions total. If the NO_x value calculated exceeds the NO_x limit contained in Condition 7, the Permittee shall report in accordance with Conditions 104 and 118.

NO_x Emission Factors

16. Prior to implementing new emission factors under Condition 17.2, use the Department approved NO_x emission factors contained in Table B to calculate NO_x emissions under Condition 14.
17. Within 90 days after completing a required re-validation source test under Condition 9 or initial source test under Condition 19, the Permittee shall submit the resulting load- and operating-mode-specific NO_x emission factors for Department approval. In addition to the new NO_x emission factors, the Permittee shall submit updated tables of all currently approved load and operating mode-specific emission factors for all PAL pollutants and indicate the month and year source testing was conducted to produce each set of emission factors. The Permittee shall also submit an updated table indicating the current operating mode configuration (Fuel Efficiency or Low-NO_x Mode) for each emission unit.
 - 17.1. If the Department does not object within 30 days of the Department's receipt of the submittal, then the emission factor will be considered accepted.
 - 17.2. If the emission factor obtained from source testing is accepted, it shall:
 - a. rescind and replace the NO_x emission factor that is currently in place to demonstrate compliance with the NO_x PAL;
 - b. be used by the Permittee to demonstrate compliance with the NO_x PAL under Condition 14 for the full calendar month of the approval forward; and
 - c. remain in effect until it is rescinded and replaced by a site specific NO_x emission factor that is established through source testing.

17.3. If the Department rejects the submitted emission factor, the Department will provide to the Permittee its findings and the required actions prior to resubmittal. The Permittee shall continue to use the last Department approved emission factor when performing the calculations under Condition 14, for the monthly compliance demonstration.

Table B – Department Approved NOx Emission Factors

EU ID	Operating Mode	NOx Emission Factor (lb/kW-hr)	Load Range (% of Full Load)	Test Date
10	Fuel Efficiency	0.0400	50	Sep 2017
		0.0375	> 50 and < 75	
		0.0350	75	
		0.0330	> 75 and < 100	
	0.0310	100		
	Low NOx	-	-	-
11, 12, 13	Low NOx	0.0210	50	May 2018
		0.0225	> 50 and < 75	
		0.0240	75	
		0.0235	> 75 and < 100	
	0.0230	100		
14, 15	Fuel Efficiency	0.0110	50	Sep 2017
		0.0120	> 50 and < 75	
		0.0130	75	
		0.0145	> 75 and < 100	
	0.0160	100		
	Low NOx	-	-	-
16	Fuel Efficiency	0.0280	50	May 2020
		0.0255	> 50 and < 67	
		0.0230	67	
		0.0215	> 67 and < 83	
		0.0200	83	
		0.0185	> 83 and < 100	
	0.0170	100		
	Low NOx	-	-	-
17, 18	Fuel Efficiency	0.0440	50	Aug 2019
		0.0435	> 50 and < 67	
		0.0430	67	
		0.0410	> 67 and < 83	
		0.0390	83	
		0.0370	> 83 and < 100	
	0.0350	100		
	Low NOx	-	-	-

Emissions Unit or Related Equipment Addition or Replacement Requirements

- 18.** If the Permittee adds a new emissions unit, replaces an emissions unit, or replaces an emissions unit's generator, the Permittee shall:
- 18.1. no less than seven days in advance of the change under Condition 18, notify the Department of the:
 - a. make, model and size of the replacement emissions unit and of the emissions unit being replaced or of the new emissions unit being added to the stationary source;
 - b. make, model and size of the replacement generator and the replaced generator; and
 - c. interim emission factors for NO_x, in pounds per kilowatt hour for a new emissions unit. Interim emission factors for a new emissions unit shall be provided by or derived from the equipment vendor or other generally accepted source.
 - 18.2. use the interim emission factors provided under Condition 18.1.c for the compliance demonstration calculation under Condition 14, until new emission factors are obtained from source testing under Condition 19.
- 19.** For all new emissions units or replacement emissions units the Permittee shall:
- 19.1. source test each emissions unit, or a representative emissions unit for a group of emissions units established under Condition 10, within 90 days of initial startup of the emissions unit or the first unit of a grouping;
 - 19.2. perform a source test within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 19.3. use methods contained in Section 14 to conduct the source test;
 - 19.4. use the results of the source test to revise the NO_x emission factor in lbs/kWh, used in Condition 14, by the methods contained in Condition 17; and
 - 19.5. perform subsequent ongoing validation source testing in accordance with Condition 9.
- 20.** If the Permittee replaces a generator driven by an emissions unit subject to the NO_x PAL, and the replacement generator is not the same make, model, and rating as the replaced generator, the Permittee shall comply with Conditions 19.1 through 19.5.

Monitoring

21. For each emissions unit that is subject to the NO_x PAL, the Permittee shall monitor the kilowatt-hours of electricity produced for each operating mode with a meter accurate to within plus or minus one percent. This shall be accomplished monthly (calendar) for the full effective period of this NO_x PAL. The kilowatt-hours shall be read on the last day of each calendar month, within 3 hours of changing operating mode, and within 3 hours of the end of the effective period of the PAL.

Recordkeeping

22. For each emissions unit subject to the NO_x PAL, the Permittee shall retain records of the monthly kilowatt-hours of electricity produced for each operating mode, for five calendar years beyond the effective period of this NO_x PAL.
23. The Permittee shall retain records of the monthly and rolling 12-month NO_x emissions calculated in Conditions 14 and 15 for the full effective period of the NO_x PAL and for an additional five calendar years beyond the effective period of this NO_x PAL.
24. If there is a gap in the data records maintained by the Permittee for NO_x emissions or for the kilowatt-hours produced for any emissions unit, the Permittee shall report as a permit deviation per Conditions 104 and 118.

Reporting

25. The Permittee shall report the:
 - 25.1. monthly and rolling 12-month kilowatt-hours produced for each operating mode, in the operating report required by Condition 119; and
 - 25.2. monthly NO_x emissions calculated by Condition 14 in the operating report required by Condition 119.

General PAL Permit Terms and Conditions

26. The Permittee shall comply with Conditions 101 through 111.

Section 6 CO PAL

PAL Limit

27. The Permittee shall limit stationary source-wide CO emissions to less than 160.8 tons for each rolling 12-month period.

Emissions from Startup, Shutdown and Malfunction

28. The Permittee shall include all emissions from startup, shutdown and malfunctions in the emissions calculations for showing compliance with the CO PAL limit established in Condition 27. In addition to including the emissions in the calculations the Permittee shall:
- 28.1. record the date and duration of the deviation from normal operation; and
 - 28.2. report in the operating report, required by Condition 119, the date and duration of the deviation from normal operation.

Ongoing Emission Factor Re-Validation Requirements

29. The Permittee shall:
- 29.1. source test each emissions unit subject to the CO PAL or a representative emissions unit for a group of emissions units established under Condition 30, or 31 no later than five years from the date the most recent source tests were completed for PAL emission factor re-validation for the operating mode (Fuel Efficiency or Low-NOx).
 - a. For the groupings established under Condition 30 and groupings under Condition 31, source test an emissions unit that was not source tested in the previous test unless otherwise directed or approved by the Department.
 - 29.2. perform the source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 29.3. use methods contained in Section 14 to conduct the source test; and
 - 29.4. use the results of the source tests to revise the CO emission factor in lbs/kWh, used in Condition 34, by the methods contained in Condition 37.

Emissions unit Groupings

30. If the Permittee wishes to establish groupings or multiple groupings of emissions units with a representative emissions unit for each grouping, the Permittee shall comply with Conditions 30.1 and 30.2:
- 30.1. submit a request to the Department no later than 90 days prior to the required source testing under Condition 29. The request shall identify the requested groupings and their representative emissions unit; and

- 30.2. submit a certification from a company official, with the request under Condition 30.1, that each grouping and representative emissions unit:
- a. have the same horsepower rating and engine model;
 - b. have an identical generator size that they are driving;
 - c. have the same configuration.
- 30.3. Unless the Department provides a written objection within 30 days of receiving the request, the groupings are considered effective.
- 31.** The following emissions unit groupings are established for the CO PAL:
- 31.1. EU IDs 11 through 13,
 - 31.2. EU IDs 14 and 15, and
 - 31.3. EU IDs 17 and 18.
- 32.** All emissions units that are not contained in a grouping established under Condition 30 or 31 shall be tested individually.

Calculation Methodology

- 33.** Calculate average monthly load in accordance with Condition 13.
- 34.** Within 30 calendar days from the start of the first day of a calendar month, the Permittee shall calculate the CO emissions for each emissions unit subject to the CO PAL, for the previous calendar month, using Equation 2 and as follows:

$$\text{Equation 2} \quad CO = EF \times kWh \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right)$$

- Where: CO = CO emissions in tons per month for one emissions unit
- kWh = A given emissions unit's monthly kilowatt-hours for a given operating mode. The Permittee must use maximum rated capacity for any period of operating time that there is no monitoring data.
- EF = Department approved emission factor as described in Conditions 36, 37, 38.1.c, 39 and 40 for a given emissions unit based on average monthly load and for a given operating mode. The Permittee must use the maximum emission factor for a given emissions unit and operating mode if average monthly load is less than 50 percent. The Permittee, at their discretion, may use the maximum emission factor for a given emissions unit and operating mode for any other emission calculations.

- 34.1. Sum the monthly CO emissions for each operating mode to obtain the total monthly CO emissions for each emissions unit subject to the CO PAL.

- 35.** For each month during the CO PAL effective period, add the sum of the previous month's CO emissions from all emissions units subject to the CO PAL to the sum of the preceding 11 months of CO emissions from all emissions units subject to the CO PAL to get the rolling 12-month plantwide CO emissions total. If the CO value calculated exceeds the CO limit contained in Condition 27, the Permittee shall report in accordance with Conditions 104 and 118.

CO Emission Factors

- 36.** Prior to implementing new emission factors under Condition 37.2, use the Department approved CO emission factors contained in Table C to calculate CO emissions under Condition 34.
- 37.** Within 90 days after completing a required re-validation source test under Condition 29 or initial source test under Condition 39, the Permittee shall submit the resulting load- and operating-mode-specific emission factors for Department approval. In addition to the new CO emission factors, the Permittee shall submit updated tables of all currently approved load and operating mode-specific emission factors for all PAL pollutants and indicate the month and year source testing was conducted to produce each set of emission factors. The Permittee shall also submit an updated table indicating the current operating mode configuration (Fuel Efficiency or Low-NO_x Mode) for each emission unit.
- 37.1. If the Department does not object within 30 days of the Departments receipt of the submittal, then the emission factor will be considered accepted.
- 37.2. If the emission factor obtained from source testing is accepted, it shall:
- a. rescind and replace the CO emission factor that is currently in place to demonstrate compliance with the CO PAL;
 - b. be used by the Permittee to demonstrate compliance with the CO PAL under Condition 34 for the full calendar month of the approval forward; and
 - c. remain in effect until it is rescinded and replaced by a site specific CO emission factor that is established through source testing.
- 37.3. If the Department rejects the submitted emission factor, the Department will provide to the Permittee its findings and the required actions prior to resubmittal. The Permittee shall continue to use the last Department approved emission factor when performing the calculations under Condition 34, for the monthly compliance demonstration.

Table C – Department Approved CO Emission Factors

EU ID	Operating Mode	CO Emission Factor (lb/kW-hr)	Load Range (% of Full Load)	Test Date
10	Fuel Efficiency	0.0010	50	Sep 2017
		0.0010	> 50 and < 75	
		0.0009	75	
		0.0010	> 75 and < 100	
		0.0010	100	
	Low NOx	-	-	-
11, 12, 13	Low NOx	0.0005	50	May 2018
		0.0008	> 50 and < 75	
		0.0010	75	
		0.0015	> 75 and < 100	
		0.0019	100	
14, 15	Fuel Efficiency	0.0015	50	Sep 2017
		0.0010	> 50 and < 75	
		0.0005	75	
		0.0004	> 75 and < 100	
		0.0003	100	
	Low NOx	-	-	-
16	Fuel Efficiency	0.0010	50	May 2020
		0.0010	> 50 and < 67	
		0.0010	67	
		0.0010	> 67 and < 83	
		0.0010	83	
		0.0015	> 83 and < 100	
		0.0020	100	
	Low NOx	-	-	-
17, 18	Fuel Efficiency	0.0023	50	Aug 2019
		0.0020	> 50 and < 67	
		0.0016	67	
		0.0016	> 67 and < 83	
		0.0015	83	
		0.0016	> 83 and < 100	
		0.0017	100	
	Low NOx	-	-	-

Emissions Unit or Related Equipment Addition or Replacement Requirements

38. If the Permittee adds a new emissions unit, replaces an emissions unit, or replaces an emissions unit’s generator, the Permittee shall:

38.1. No less than seven days in advance of the change under Condition 38, notify the Department of the:

- a. make, model and size of the replacement emissions unit and of the emissions unit being replaced or of the new emissions unit being added to the stationary source;
 - b. make, model and size of the replacement generator and the replaced generator; and
 - c. interim emission factors for CO, in pounds per kilowatt hour for a new emissions unit. Interim emission factors for a new emissions unit shall be provided by or derived from the equipment vendor or other generally accepted source.
- 38.2. use the interim emission factors provided under Condition 38.1.c for the compliance demonstration calculation under Condition 34, until new emission factors are obtained from source testing under Condition 39.
- 39.** For all new emissions units or replacement emissions units the Permittee shall:
- 39.1. source test each emissions unit, or a representative emissions unit for a group of emissions units established under Condition 30, within 90 days of initial startup of the emissions unit or the first unit of a grouping;
 - 39.2. perform a source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 39.3. use methods contained in Section 14 to conduct the source test;
 - 39.4. use the results of the source test to revise the CO emission factor in lbs/kWh, used in Condition 34, by the methods contained in Condition 37; and
 - 39.5. perform subsequent ongoing validation source testing in accordance with Condition 29.
- 40.** If the Permittee replaces a generator driven by an emissions unit subject to the CO PAL, and the replacement generator is not the same make, model, and rating as the replaced generator, the Permittee shall comply with Conditions 39.1 through 39.5:

Monitoring

- 41.** For each emissions unit that is subject to the CO PAL, the Permittee shall monitor the kilowatt-hours of electricity produced for each operating mode with a meter accurate to within plus or minus one percent. This shall be accomplished monthly (calendar) for the full effective period of this CO PAL. The kilowatt-hours shall be read on the last day of each calendar month, within 3 hours of changing operating mode, and within 3 hours of the end of the effective period of the PAL.

Recordkeeping

42. For each emissions unit subject to the CO PAL, the Permittee shall retain records of the monthly kilowatt-hours of electricity produced for each operating mode, for five calendar years beyond the effective period of this CO PAL.
43. The Permittee shall retain records of the monthly and rolling 12-month CO emissions calculated in Conditions 34 and 35 for the full effective period of the CO PAL and for an additional five calendar years beyond the effective period of this CO PAL.
44. If there is a gap in the data records maintained by the Permittee for CO emissions or for the kilowatt-hours produced for any emissions unit, the Permittee shall report as a permit deviation per Conditions 104 and 118.

Reporting

45. The Permittee shall report the:
 - 45.1. monthly and rolling 12-month kilowatt-hours produced for each operating mode, in the operating report required by Condition 119; and
 - 45.2. monthly CO emissions calculated by Condition 34 in the operating report required by Condition 119.

General PAL Permit Terms and Conditions

46. The Permittee shall comply with Conditions 101 through 111.

Section 7 PM-10 PAL

PAL Limit

- 47.** The Permittee shall limit stationary source-wide PM-10 emissions to less than 12.8 tons for each rolling 12-month period.

Emissions from Startup, Shutdown and Malfunction

- 48.** The Permittee shall include all emissions from startup, shutdown and malfunctions in the emissions calculations for showing compliance with the PM-10 PAL limit established in Condition 47. In addition to including the emissions in the calculations the Permittee shall:
- 48.1. record the date and duration of the deviation from normal operation; and
 - 48.2. report in the operating report, required by Condition 119, the date and duration of the deviation from normal operation.

Ongoing Emission Factor Re-Validation Requirements

- 49.** The Permittee shall:
- 49.1. source test each emissions unit subject to the PM-10 PAL or a representative emissions unit for a group of emissions units established under Condition 50 or 51 no later than five years from the date the most recent source tests were completed for PAL emission factor re-validation for the operating mode (Fuel Efficiency or Low-NOx).
 - a. For the groupings established under Condition 50 and groupings under Condition 51, source test an emissions unit that was not source tested in the previous test unless otherwise directed or approved by the Department.
 - 49.2. perform the source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 49.3. use methods contained in Section 14 to conduct the source test; and
 - 49.4. use the results of the source tests to revise the PM-10 emission factor in lbs/kWh, used in Condition 54, by the methods contained in Condition 57.

Emissions unit Groupings

- 50.** If the Permittee wishes to establish groupings or multiple groupings of emissions units with a representative emissions unit for each grouping, the Permittee shall comply with Conditions 50.1 and 50.2:
- 50.1. submit a request to the Department no later than 90 days prior to the required source testing under Condition 49. The request shall identify the requested groupings and their representative emissions unit; and

- 50.2. submit a certification from a company official, with the request under Condition 50.1, that each grouping and representative emissions unit:
- a. have the same horsepower rating and engine model;
 - b. have an identical generator size that they are driving;
 - c. have the same configuration.
- 50.3. Unless the Department provides a written objection within 30 days of receiving the request, the groupings are considered effective.
- 51.** The following emissions unit groupings are established for the PM-10 PAL:
- 51.1. EU IDs 11 through 13,
 - 51.2. EU IDs 14 and 15, and
 - 51.3. EU IDs 17 and 18.
- 52.** All emissions units that are not contained in a grouping, established under Condition 50 or 51 shall be tested individually.

Calculation Methodology

- 53.** Calculate average monthly load in accordance with Condition 13.
- 54.** Within 30 calendar days from the start of the first day of a calendar month, the Permittee shall calculate the PM-10 emissions for each emissions unit subject to the PM-10 PAL, for the previous calendar month, using Equation 3 and as follows:

$$\text{Equation 3} \quad PM - 10 = EF \times kWh \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right)$$

- Where: *PM-10* = PM-10 emissions in tons per month for one emissions unit
- kWh* = A given emissions unit's monthly kilowatt-hours for a given operating mode. The Permittee must use maximum rated capacity for any period of operating time that there is no monitoring data.
- EF* = Department approved emission factor as described in Conditions 56, 57, 58.1.c, 59, and 60 for a given emissions unit based on average monthly load and for a given operating mode. The Permittee must use the maximum emission factor for a given emissions unit and operating mode if average monthly load is less than 50 percent. The Permittee, at their discretion, may use the maximum emission factor for a given emissions unit and operating mode for any other emission calculations.

- 54.1. Sum the monthly PM-10 emissions for each operating mode to obtain the total monthly PM-10 emissions for each emissions unit subject to the PM-10 PAL.

- 55.** For each month during the PM-10 PAL effective period, add the sum of the previous month's PM-10 emissions from all emissions units subject to the PM-10 PAL to the sum of the preceding 11 months of PM-10 emissions from all emissions units subject to the PM-10 PAL to get the rolling 12-month plantwide PM-10 emissions total. If the PM-10 value calculated exceeds the PM-10 limit contained in Condition 47, the Permittee shall report in accordance with Conditions 104 and 118.

PM-10 Emission Factors

- 56.** Prior to implementing new emission factors under Condition 57.2, use the Department approved PM-10 emission factors contained in Table to calculate PM-10 emissions under Condition 54.
- 57.** Within 90 days after completing a required re-validation source test under Condition 49 or initial source test under Condition 59, the Permittee shall submit the resulting load- and operating-mode-specific emission factors for Department approval. In addition to the new PM-10 emission factors, the Permittee shall submit updated tables of all currently approved load and operating mode-specific emission factors for all PAL pollutants and indicate the month and year source testing was conducted to produce each set of emission factors. The Permittee shall also submit an updated table indicating the current operating mode configuration (Fuel Efficiency or Low-NO_x Mode) for each emission unit.
- 57.1. If the Department does not object within 30 days of the Departments receipt of the submittal, then the emission factor will be considered accepted.
- 57.2. If the emission factor obtained from source testing is accepted, it shall:
- a. rescind and replace the PM-10 emission factor that is currently in place to demonstrate compliance with the PM-10 PAL;
 - b. be used by the Permittee to demonstrate compliance with the PM-10 PAL under Condition 54 for the full calendar month of the approval forward; and
 - c. remain in effect until it is rescinded and replaced by a site specific PM-10 emission factor that is established through source testing.
- 57.3. If the Department rejects the submitted emission factor, the Department will provide to the Permittee its findings and the required actions prior to resubmittal. The Permittee shall continue to use the last Department approved emission factor when performing the calculations under Condition 54, for the monthly compliance demonstration.

Table D – Department Approved PM-10 & PM-2.5 Emission Factors

EU ID	Operating Mode	PM-10 & PM-2.5 Emission Factor (lb/kW-hr)	Load Range (% of Full Load)	Test Date
10	Fuel Efficiency	0.00014	50	Sep 2017
		0.0001	> 50 and < 75	
		0.00007	75	
		0.0001	> 75 and < 100	
		0.00012	100	
	Low NOx	-	-	-
11, 12, 13	Low NOx	0.00010	50	May 2018
		0.0001	> 50 and < 75	
		0.00005	75	
		0.0001	> 75 and < 100	
		0.00011	100	
14, 15	Fuel Efficiency	0.00011	50	Sep 2017
		0.0001	> 50 and < 75	
		0.00018	75	
		0.0001	> 75 and < 100	
		0.00010	100	
	Low NOx	-	-	-
16	Fuel Efficiency	0.0002	50	May 2020
		0.0002	> 50 and < 67	
		0.0001	67	
		0.0002	> 67 and < 83	
		0.0002	83	
		0.0003	> 83 and < 100	
		0.00040	100	
	Low NOx	-	-	-
17, 18	Fuel Efficiency	0.00040	50	Aug 2019
		0.0004	> 50 and < 67	
		0.00040	67	
		0.0004	> 67 and < 83	
		0.00030	83	
		0.0004	> 83 and < 100	
		0.00050	100	
	Low NOx	-	-	-

Emissions unit or Related Equipment Addition or Replacement Requirements

58. If the Permittee adds a new emissions unit, replaces an emissions unit, or replaces an emissions unit’s generator, the Permittee shall:

-
- 58.1. No less than seven days in advance of the change under Condition 58, notify the Department of the:
- a. make, model and size of the replacement emissions unit and of the emissions unit being replaced or of the new emissions unit being added to the stationary source;
 - b. make, model and size of the replacement generator and the replaced generator; and
 - c. interim emission factors for PM-10, in pounds per kilowatt hour for a new emissions unit. Interim emission factors for a new emissions unit shall be provided by or derived from the equipment vendor or other generally accepted source.
- 58.2. use the interim emission factors provided under Condition 58.1.c for the compliance demonstration calculation under Condition 54, until new emission factors are obtained from source testing under Condition 59.
- 59.** For all new emissions units or replacement emissions units the Permittee shall:
- 59.1. source test each emissions unit, or a representative emissions unit for a group of emissions units established under Condition 50 within 90 days of initial startup of the emissions unit or the first unit of a grouping;
 - 59.2. perform a source test within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 59.3. use methods contained in Section 14 to conduct the source test;
 - 59.4. use the results of the source test to revise the PM-10 emission factor in lbs/kWh, used in Condition 54, by the methods contained in Condition 57; and
 - 59.5. perform subsequent ongoing validation source testing in accordance with Condition 49.
- 60.** If the Permittee replaces a generator driven by an emissions unit subject to the PM-10 PAL, and the replacement generator is not the same make, model, and rating as the replaced generator, the Permittee shall comply with Conditions 59.1 through 59.5.

Monitoring

- 61.** For each emissions unit that is subject to the PM-10 PAL, the Permittee shall monitor the kilowatt-hours of electricity produced for each operating mode with a meter accurate to within plus or minus one percent. This shall be accomplished monthly (calendar) for the full effective period of this PM-10 PAL. The kilowatt-hours shall be read on the last day of each calendar month, within 3 hours of changing operating mode, and within 3 hours of the end of the effective period of the PAL.

Recordkeeping

- 62.** For each emissions unit subject to the PM-10 PAL, the Permittee shall retain records of the monthly kilowatt-hours of electricity produced for each operating mode, for five calendar years beyond the effective period of this PM-10 PAL.
- 63.** The Permittee shall retain records of the monthly and rolling 12-month PM-10 emissions calculated in Conditions 54 and 55 for the full effective period of the PM-10 PAL and for an additional five calendar years beyond the effective period of this PM-10 PAL.
- 64.** If there is a gap in the data records maintained by the Permittee for PM-10 emissions or for the kilowatt-hours produced for any emissions unit, the Permittee shall report as a permit deviation per Conditions 104 and 118.

Reporting

- 65.** The Permittee shall report the:
 - 65.1. monthly and rolling 12-month kilowatt-hours produced for each operating mode, in the operating report required by Condition 119; and
 - 65.2. monthly PM-10 emissions calculated by Condition 54 in the operating report required by Condition 119.

General PAL Permit Terms and Conditions

- 66.** The Permittee shall comply with Conditions 101 through 111.

Section 8 SO₂ PAL

PAL Limit

67. The Permittee shall limit stationary source-wide SO₂ emissions to less than 67.8 tons for each rolling 12-month period.

Emission Factors

68. The Permittee shall calculate the SO₂ emissions using a mass balance in accordance with Condition 70, assuming 100 percent of the fuel oil based sulfur is converted into SO₂.

Emissions from Startup, Shutdown and Malfunction

69. The Permittee shall include all emissions from startup, shutdown and malfunctions in the emissions calculations for showing compliance with the SO₂ PAL limit established in Condition 67. In addition to including the emissions in the calculations the Permittee shall:
- 69.1. record the date and duration of the deviation from normal operation; and
 - 69.2. report in the operating report, required by Condition 119, the date and duration of the deviation from normal operation.

Calculation Methodology

70. The Permittee shall, within 30 calendar days from the start of the first day of a calendar month, calculate the SO₂ emissions for each emissions unit subject to the SO₂ PAL, for the previous calendar month, as follows:

- 70.1. Convert the sulfur percentage on a weight basis in the fuel to pounds of sulfur dioxide per gallon of fuel using Equation 4.

$$\text{Equation 4} \quad EFSO_2 = \left(\frac{lbSO_2}{Gallon(fuel)} \right) = \left(\frac{wt\%S}{100lb(fuel)} \right) \times \left(\frac{7.1lb}{Gallon(fuel)} \right) \times \left(\frac{2lbSO_2}{1lbS} \right)$$

Where: wt% S = Sulfur content of the fuel oil on a weight basis obtained by the methods in Condition 75.

- 70.2. Calculate monthly SO₂ emissions using Equation 5.

$$\text{Equation 5} \quad SO_2 = EFSO_2 \times Gal \left(\frac{1 ton}{2000lb} \right)$$

Where: SO₂ = SO₂ emissions in tons per month;

Gal = Gallons of fuel oil burned

EFSO₂ = Sulfur dioxide emission factor obtained by Equation 4

71. For each month during the SO₂ PAL effective period, add the previous month's total plantwide SO₂ emissions to the preceding 11 months of total plantwide SO₂ emissions to get the rolling 12-month total. If the SO₂ value calculated exceeds the SO₂ limit contained in Condition 67, the Permittee shall report in accordance with Conditions 104 and 118.

Emissions Unit or Related Equipment Addition or Replacement Requirements

- 72.** If the Permittee adds a new emissions unit, replaces an emissions unit, or replaces an emissions unit's generator, the Permittee shall notify the Department of the:
- 72.1. make, model and size of the replacement emissions unit and of the emissions unit being replaced or of the new emissions unit being added to the stationary source; and
 - 72.2. the make, model and size of the replacement generator and the replaced generator.

Monitoring

- 73.** The Permittee shall:
- 73.1. accurately monitor the fuel oil consumption for all the emissions units subject to the SO₂ PAL by installing flow meters, with a minimum accuracy of plus or minus five percent.
 - 73.2. monitor and record the monthly fuel oil consumption, for all emissions units contained in Table A, their replacements and any additional emissions units brought on to the stationary source after the issuance of this permit.
 - 73.3. record the fuel oil consumption on the last day of the calendar month for each month of the effective period of the SO₂ PAL.
 - 73.4. read and record the last fuel oil consumption reading under this SO₂ PAL on the expiration date of the SO₂ PAL.
- 74.** The Permittee shall:
- 74.1. obtain a statement or receipt from the fuel supplier certifying the maximum sulfur content (by weight) of the fuel oil for each shipment of fuel oil delivered to the stationary source. If a statement or receipt is not available from the supplier, analyze a representative sample of the fuel oil to determine the sulfur content using ASTM method D-129, D 4294, D-1266, D-1522, D-2622, D-4045.
- 75.** The Permittee shall, for each new shipment of fuel oil received, calculate the new fuel oil sulfur content for each tank in which the shipment is dispensed using Equation 6.

$$\text{Equation 6} \quad \text{wt \% } S_t = \frac{(V_i \times SC_i) + (V_d \times SC_d)}{(V_i + V_d)}$$

- Where: wt % St = Fuel sulfur content of the tank (wt %)
- V_i = Initial tank volume (gal)
 - SC_i = Initial fuel sulfur content in the tank (wt %)
 - V_d = Volume of delivered fuel (gal)
 - SC_d = Fuel sulfur content of delivered fuel (wt %)

- 75.1. A strapping tape and a strapping tank chart appropriate for each tank shall be used to estimate the initial (pre-delivery) volume of fuel oil in each tank.

76. The fuel oil sulfur content, on a percentage weight basis shall be used to calculate emissions and show compliance with the SO₂ PAL, as described in Condition 68.
77. If the Permittee has no records for the fuel oil sulfur content of the fuel tank and if the Permittee has not received any fuel shipments during the period of time missing data, then the Permittee shall sample the fuel to obtain the sulfur content. The sulfur content shall be determined by using either ASTM method D-129, D 4294, D-1266, D-1522, D-2622, D-4045.
78. The Permittee shall maintain records of the:
 - 78.1. combined monthly and rolling 12-month gallons of fuel oil burned, for the full effective period of the SO₂ PAL plus an additional five calendar years beyond the effective period of this SO₂ PAL;
 - 78.2. monthly and rolling 12-month SO₂ emissions calculated in Condition 70 for five calendar years beyond the effective period of this SO₂ PAL;
 - 78.3. monthly average of the fuel oil sulfur content of all storage tanks supplying fuel to the fuel burning equipment for each month during the effective period of the SO₂ PAL; and
 - 78.4. emissions calculations for showing compliance with the SO₂ PAL limit established in Condition 67, the Permittee shall include emissions from startup, shutdown and malfunctions.

Reporting

79. The Permittee shall report:
 - 79.1. monthly and rolling 12-month gallons of fuel oil burned, in the operating report required by Condition 119;
 - 79.2. monthly and rolling 12-month SO₂ emissions calculated by Condition 70, in the operating report required by Condition 119; and
 - 79.3. monthly fuel sulfur content of the fuel oil being burned, and any updated fuel sulfur content that occurred during the reporting period.
 - 79.4. any gap in the fuel sulfur monitoring, as a permit deviation per Conditions 104 and 118.
 - 79.5. If there is a gap in the data records maintained by the Permittee for SO₂ emissions or for the sulfur content, the Permittee shall report as a permit deviation per Conditions 104 and 118.

General PAL Terms

80. The Permittee shall comply with Conditions 101 through 111.

Section 9 PM-2.5 PAL

PAL Limit

- 81.** The Permittee shall limit stationary source-wide PM-2.5 emissions to less than 12.3 tons for each rolling 12-month period.

Emissions from Startup, Shutdown and Malfunction

- 82.** The Permittee shall include all emissions from startup, shutdown and malfunctions in the emissions calculations for showing compliance with the PM-2.5 PAL limit established in Condition 81. In addition to including the emissions in the calculations the Permittee shall:
- 82.1. record the date and duration of the deviation from normal operation; and
 - 82.2. report in the operating report, required by Condition 119, the date and duration of the deviation from normal operation.

Ongoing Emission Factor Re-Validation Requirements

- 83.** The Permittee shall:
- 83.1. source test each emissions unit subject to the PM-2.5 PAL or a representative emissions unit for a group of emissions units established under Condition 84 or 85 no later than five years from the date the most recent source tests were completed for PAL emission factor re-validation for the operating mode (Fuel Efficiency or Low-NOx).
 - a. For the groupings established under Condition 84 and groupings under Condition 85, source test an emissions unit that was not source tested in the previous test unless otherwise directed or approved by the Department.
 - 83.2. perform the source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
 - 83.3. use methods contained in Section 14 to conduct the source test; and
 - 83.4. use the results of the source tests to revise the PM-2.5 emission factor in lbs/kWh, used in Condition 88, by the methods contained in Condition 91.

Emissions Unit Groupings

- 84.** If the Permittee wishes to establish groupings or multiple groupings of emissions units with a representative emissions unit for each grouping, the Permittee shall comply with Conditions 84.1 and 84.2:
- 84.1. submit a request to the Department no later than 90 days prior to the required source testing under Condition 83. The request shall identify the requested groupings and their representative emissions unit; and

- 84.2. submit a certification from a company official, with the request under Condition 84.1, that each grouping and representative emissions unit:
- a. have the same horsepower rating and engine model;
 - b. have an identical generator size that they are driving;
 - c. have the same configuration.
- 84.3. Unless the Department provides a written objection within 30 days of receiving the request, the groupings are considered effective.
- 85.** The following emissions unit groupings are established for the PM-2.5 PAL:
- 85.1. EU IDs 11 through 13,
 - 85.2. EU IDs 14 and 15, and
 - 85.3. EU IDs 17 and 18.
- 86.** All emissions units that are not contained in a grouping, established under Condition 84 or 85 shall be tested individually.

Calculation Methodology

- 87.** Calculate average monthly load in accordance with Condition 13.
- 88.** Within 30 calendar days from the start of the first day of a calendar month, the Permittee shall calculate the PM-2.5 emissions for each emissions unit subject to the PM-2.5 PAL, for the previous calendar month, using Equation 7 and as follows:

$$\text{Equation 7} \quad PM - 2.5 = EF \times kWh \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right)$$

Where: $PM-2.5$ = PM-2.5 emissions in tons per month for one emissions unit

kWh = A given emissions unit's monthly kilowatt-hours for a given operating mode. The Permittee must use maximum rated capacity for any period of operating time that there is no monitoring data.

EF = Department approved emission factor as described in Conditions 90, 91, 92.1.c, 93, and 94 for a given emissions unit based on average monthly load and for a given operating mode. The Permittee must use the maximum emission factor for a given emissions unit and operating mode if average monthly load is less than 50 percent. The Permittee, at their discretion, may use the maximum emission factor for a given emissions unit and operating mode for any other emission calculations.

- 88.1. Sum the monthly PM-2.5 emissions for each operating mode to obtain the total monthly PM-2.5 emissions for each emissions unit subject to the PM-2.5 PAL.

89. For each month

- 89.1. during the first 12 months of the PM-2.5 PAL effective period, add the sum of the previous month's PM-2.5 emissions from all emissions units subject to the PM-2.5 PAL to the sum of all previous PM-2.5 emissions from all emissions units subject to the PM-2.5 PAL since the effective date to get the plantwide PM-2.5 emissions total. If the PM-2.5 value calculated exceeds the PM-2.5 limit contained in Condition 81, the Permittee shall report in accordance with Conditions 104 and 118.
- 89.2. after the first 12 months of the PM-2.5 PAL effective period, add the sum of the previous month's PM-2.5 emissions from all emissions units subject to the PM-2.5 PAL to the sum of the preceding 11 months of PM-2.5 emissions from all emissions units subject to the PM-2.5 PAL to get the rolling 12-month plantwide PM-2.5 emissions total. If the PM-2.5 value calculated exceeds the PM-2.5 limit contained in Condition 81, the Permittee shall report in accordance with Conditions 104 and 118.

PM-2.5 Emission Factors

90. Prior to implementing new emission factors under Condition 91.2, use the Department approved PM-2.5 emission factors contained in Table D to calculate PM-2.5 emissions under Condition 88.
91. Within 90 days after completing a required re-validation source test under Condition 83 or initial source test under Condition 93, the Permittee shall submit the resulting load- and operating-mode-specific emission factors for Department approval. In addition to the new PM-2.5 emission factors, the Permittee shall submit updated tables of all currently approved load and operating mode-specific emission factors for all PAL pollutants and indicate the month and year source testing was conducted to produce each set of emission factors. The Permittee shall also submit an updated table indicating the current operating mode configuration (Fuel Efficiency or Low-NO_x Mode) for each emission unit.
 - 91.1. If the Department does not object within 30 days of the Departments receipt of the submittal, then the emission factor will be considered accepted.
 - 91.2. If the emission factor obtained from source testing is accepted, it shall:
 - a. rescind and replace the PM-2.5 emission factor that is currently in place to demonstrate compliance with the PM-2.5 PAL;
 - b. be used by the Permittee to demonstrate compliance with the PM-2.5 PAL under Condition 88 for the full calendar month of the approval forward; and
 - c. remain in effect until it is rescinded and replaced by a site specific PM-2.5 emission factor that is established through source testing.

- 91.3. If the Department rejects the submitted emission factor, the Department will provide to the Permittee its findings and the required actions prior to resubmittal. The Permittee shall continue to use the last Department approved emission factor when performing the calculations under Condition 88, for the monthly compliance demonstration.

Emissions unit or Related Equipment Addition or Replacement Requirements

- 92.** If the Permittee adds a new emissions unit, replaces an emissions unit, or replaces an emissions unit's generator, the Permittee shall:
- 92.1. No less than seven days in advance of the change under Condition 92, notify the Department of the:
- a. make, model and size of the replacement emissions unit and of the emissions unit being replaced or of the new emissions unit being added to the stationary source;
 - b. make, model and size of the replacement generator and the replaced generator; and
 - c. interim emission factors for PM-2.5, in pounds per kilowatt hour for a new emissions unit. Interim emission factors for a new emissions unit shall be provided by or derived from the equipment vendor or other generally accepted source.
- 92.2. use the interim emission factors provided under Condition 92.1.c for the compliance demonstration calculation under Condition 88, until new emission factors are obtained from source testing under Condition 93.
- 93.** For all new emissions units or replacement emissions units the Permittee shall:
- 93.1. source test each emissions unit, or a representative emissions unit for a group of emissions units established under Condition 84, within 90 days of initial startup of the emissions unit or the first unit of a grouping;
- 93.2. perform a source test within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load;
- 93.3. use methods contained in Section 14 to conduct the source test;
- 93.4. use the results of the source test to revise the PM-2.5 emission factor in lbs/kWh, used in Condition 88, by the methods contained in Condition 91; and
- 93.5. perform subsequent ongoing validation source testing in accordance with Condition 83.
- 94.** If the Permittee replaces a generator driven by an emissions unit subject to the PM-2.5 PAL, and the replacement generator is not the same make, model, and rating as the replaced generator, the Permittee shall comply with Conditions 93.1 through 93.5.

Monitoring

- 95.** For each emissions unit that is subject to the PM-2.5 PAL, the Permittee shall monitor the kilowatt-hours of electricity produced for each operating mode with a meter accurate to within plus or minus one percent. This shall be accomplished monthly (calendar) for the full effective period of this PM-2.5 PAL. The kilowatt-hours shall be read on the last day of each calendar month, within 3 hours of changing operating mode, and within 3 hours of the end of the effective period of the PAL.

Recordkeeping

- 96.** For each emissions unit subject to the PM-2.5 PAL, the Permittee shall retain records of the monthly kilowatt-hours of electricity produced for each operating mode, for five calendar years beyond the effective period of this PM-2.5 PAL.
- 97.** The Permittee shall retain records of the monthly and rolling 12-month PM-2.5 emissions calculated in Conditions 88 and 89 for the full effective period of the PM-2.5 PAL and for an additional five calendar years beyond the effective period of this PM-2.5 PAL.
- 98.** If there is a gap in the data records maintained by the Permittee for PM-2.5 emissions or for the kilowatt-hours produced for any emissions unit, the Permittee shall report as a permit deviation per Conditions 104 and 118.

Reporting

- 99.** The Permittee shall report the:
- 99.1. monthly and rolling 12-month kilowatt-hours produced for each operating mode, in the operating report required by Condition 119; and
 - 99.2. monthly PM-2.5 emissions calculated by Condition 88 in the operating report required by Condition 119.

General PAL Permit Terms and Conditions

- 100.** The Permittee shall comply with Conditions 101 through 111.

Section 10 General PAL Requirements

Recordkeeping

- 101.** The Permittee shall retain a copy of the following records for the duration of the PAL effective period plus 5 years:
- 101.1. A copy of the PAL permit application and any applications for revisions to the PAL; and
 - 101.2. Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.
- 102.** The Permittee must retain the records required in Condition 101 and Section 5 through Section 9 on site. These records may be retained in an electronic format.

Semi-Annual Operating Report

- 103.** In addition to any other information required by this permit, each semi-annual operating report required by Condition 119 shall also contain
- 103.1. the identification of the owner, operator and permit number;
 - 103.2. the total annual emissions in tons per year, on a rolling 12-month total for each month in the reporting period;
 - 103.3. all data relied upon, including, but not limited to, any quality assurance or quality control data, in calculating the monthly and annual PAL pollutant emissions;
 - 103.4. a list of any emissions units modified or added to the major stationary source during the preceding six-month period;
 - 103.5. the number, duration and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective actions taken; and
 - 103.6. a notification of shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions units monitored by the system continued to operate, and the calculation of the emissions of the pollutant or the number determined by method included in the permit, as provided under 40 CFR 52.21(aa)(12)(vii).

Excess Emissions and Permit Deviation Reports

- 104.** In addition to any other information required by this permit, each excess emissions and permit deviation report required by Condition 118 shall also contain
- 104.1. the identification of owner, operator and permit number;
 - 104.2. the PAL requirement that experienced the deviation or that was exceeded; and

104.3. emissions resulting from the deviation or the exceedance.

Operating Mode

105. No less than seven days in advance of reconfiguring an engine to operate in a different operating mode (Fuel Efficiency or Low-NO_x mode), the Permittee shall provide written notification to the Department that includes:

105.1. the expected date the change will be made; and

105.2. the emission factors that, per Condition 106 or 108 will be used to calculate monthly emissions in accordance with Conditions 14, 34, 54, and 88.

106. The Permittee shall comply with Conditions 106.1 through 106.3 after an emission unit subject to the PALs in this permit changes operating mode, if unexpired, approved emission factors for the new operating mode do not exist for the emission unit or for a representative emission unit in a grouping to which the reconfigured emission unit belongs.

106.1. Submit, with the notification required by Condition 105, interim emission factors for NO_x, CO, PM-10, and PM-2.5 in units of pounds of emissions per kilowatt-hour that are either

- a. provided by or derived from the equipment vendor or other generally accepted source, or
- b. derived from source testing the reconfigured emission unit or a representative emission unit in a grouping to which the reconfigured emission unit belongs, and which source testing was conducted more than 5 years previous to the date of reconstruction.

106.2. Use the interim PAL pollutant emission factors submitted under Condition 106.1 to calculate monthly average emissions per Conditions 14, 34, 54, and 88 until source testing is performed, as required by Condition 106.3, and the Department approves the resultant emission factors per Condition 107.

106.3. Conduct source testing as follows on the reconfigured emission unit and submit resultant emission factors in units of pounds of emissions per kilowatt-hour for approval in accordance with Condition 107.

- a. Within 120 days of restarting the emission unit or units in the new operating mode, source test NO_x, CO, PM-10, and PM-2.5 emissions from the unit.
- b. Perform the source tests within 5 percent of 50, 75, and 95 percent of peak load or at a minimum of three evenly-spaced load points in the normal operating range of the unit, including the minimum point in the normal operating range and 90-to-100 percent of peak load.

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- 107.** Within 90 days after completing an initial mode-switch source test required under Condition 106.3, the Permittee shall submit the resulting load-specific emission factors for Department approval. In addition to the new emission factors, the Permittee shall submit updated tables of all currently approved load and operating mode-specific emission factors for all PAL pollutants and indicate the month and year source testing was conducted to produce each set of emission factors. The Permittee shall also submit an updated table indicating the current operating mode configuration (Fuel Efficiency or Low-NOx Mode) for each emission unit.
- 107.1. If the Department does not object within 30 days of the Department’s receipt of the submittal, then the emission factors will be considered accepted.
- 107.2. If the emission factors obtained from source testing under Condition 106.3 are accepted, they shall:
- a. be used by the Permittee to demonstrate compliance with the PALs in this permit under Conditions 14, 34, 54, and 88 for the full calendar month of the approval forward; and
 - b. remain in effect until rescinded and replaced by site-specific emission factors that are established through source testing, provided such time period is less than five years; and
 - c. expire if not revalidated or revised by source testing within 5 years of completing the most recent source test.
- 107.3. If the Department rejects the emission factors submitted under Condition 107, the Department will provide to the Permittee its findings and the required actions prior to resubmittal. The Permittee shall continue to use the last Department approved emission factors when performing the calculations under Conditions 14, 34, 54, and 88 for the monthly compliance demonstrations.
- 108.** The Permittee shall comply with Conditions 108.1 and 108.2 after an emission unit subject to the PALs in this permit changes operating mode, if emission factors for the new configuration are available for the emission unit or for a representative emission unit in a grouping to which the reconfigured emission unit belongs and the existing emission factors are approved and unexpired.
- 108.1. Submit, with the notification required by Condition 105, the existing approved and unexpired emission factors for NOx, CO, PM-10, and PM-2.5 in units of pounds of emissions per kilowatt-hour. Include in the notice the date or dates source testing was performed to produce the emission factors and the date or dates that the emission factors were accepted.
- 108.2. Use the approved PAL pollutant emission factors submitted per Condition 108.1 to calculate monthly emissions per Conditions 14, 34, 54, and 88 as long as the existing emission factors remain valid (see Condition 107.2).

PAL Renewal

109. To request renewal of a PAL, the Permittee must submit a timely application to the Department. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of the PAL expiration. If the Permittee submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued. The application to renew a PAL permit shall contain the information required in 40 CFR 52.21(AA)(10)(iii)(a) through (d). The dates to submit a renewal application for each PAL are as follows:

- 109.1. To renew the NO_x PAL contained in Section 5, the Permittee shall submit an application no sooner than Month XX, 20XX, but no later than Month XX, 20XX.
- 109.2. To renew the CO PAL contained in Section 6, the Permittee shall submit an application no sooner than Month XX, 20XX, but no later than Month XX, 20XX.
- 109.3. To renew the PM-10 PAL contained in Section 7, the Permittee shall submit an application no sooner than Month XX, 20XX, but no later than Month XX, 20XX.
- 109.4. To renew the SO₂ PAL contained in Section 8, the Permittee shall submit an application no sooner than Month XX, 20XX, but no later than Month XX, 20XX.
- 109.5. To renew the PM-2.5 PAL contained in Section 9, the Permittee shall submit an application no sooner than Month XX, 20XX, but no later than Month XX, 20XX.

PAL Expiration

110. Any PAL that is not renewed in accordance with Condition 109 shall expire at the end of the PAL effective period, and the requirements in 40 CFR 52.21(aa)(9)(i) through (v) shall apply.

Increasing a PAL During the PAL Effective Period

111. A PAL emission limitation may be increased during the PAL effective period in accordance with the requirements of 40 CFR 52.21(aa)(11).

Section 11 Fees

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

- 112.1. the stationary source's assessable potential to emit of 651 tpy; or
- 112.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon credible evidence of actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by the most representative of one or more of the following methods:
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035;
 - d. other methods and calculations approved by the Department, including appropriate vendor-provided emissions factors when sufficient documentation is provided.

113. Assessable Emission Estimates. Emission fees will be assessed as follows:

- 113.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Suite 303, 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
- 113.2. 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 out in Condition 112.1.

Section 12 General Recordkeeping, Reporting, and Certification Requirements

114. 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 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.

114.1. 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 114.1.a that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

115. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall submit reports, compliance certifications, and/or other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee shall submit the documents either by hard copy or electronically.

115.1. Provide electronic submittals, either by:

- a. E-mail under a cover letter using dec.aq.airreports@alaska.gov; or
- b. using the Department’s Air Online Services at <http://dec.alaska.gov/applications/air/airtoolsweb/>.

116. 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.

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

117.1. copies of all reports and certifications submitted pursuant to this section of the permit; and

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- 117.2. records of all monitoring required by this permit, and information about the monitoring including (if applicable):
- a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
 - b. sampling dates and times of sampling or measurements;
 - c. the operating conditions that existed at the time of sampling or measurement;
 - d. the date analyses were performed;
 - e. the location where samples were taken;
 - f. the company or entity that performed the sampling and analyses;
 - g. the analytical techniques or methods used in the analyses; and
 - h. the results of the analyses.

118. Excess Emissions and Permit Deviation Reports.

- 118.1. Except as provided in Condition 120 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 caused emissions in excess of a technology based emissions standard;
 - c. report all other excess emissions and permit deviations
 - (i) within 30 days after the end of the month during which the emissions or deviation occurred, except as provided in Condition 118.1.c(iii); or
 - (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 118.1.c(i); and
 - (iii) for failure to monitor, as required in other applicable conditions of this permit.

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- 118.2. When reporting either excess emissions or permit deviations, the Permittee shall 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 <http://dec.alaska.gov/applications/air/airtoolsweb>, or, if the Permittee prefers, the form contained in Attachment 1 of this permit. The Permittee must provide all information called for by the form that is used.
- 118.3. If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.
- 119. Operating Reports.** The Permittee shall submit an operating report by August 1 for the period January 1 through June 30 of the current year and by February 1 for the period July 1 through December 31 of the previous year.
- 119.1. The operating report must include all information required to be in operating reports by other conditions of this permit, for the period covered by the report.
- 119.2. When excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 119.1, the Permittee shall identify
- a. the date of the deviation;
 - b. the equipment involved;
 - c. the permit condition affected;
 - d. a description of the excess emissions or permit deviation; and
 - e. any corrective action or preventative measures taken and the date of such actions; or
- 119.3. When excess emissions or permit deviations have already been reported under Condition 118 the Permittee shall cite the date or dates of those reports.
- 120. Air Pollution Prohibited.** No person may permit any emissions 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.
- 120.1. If emissions present a potential threat to health or safety, the Permittee shall report any such emissions according to Condition 118.
- 120.2. 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 120.
- 120.3. 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 investigation because of complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 120 or

- b. the Department notifies the Permittee that it has found a violation of Condition 120.
- 120.4. The Permittee shall keep records of
- a. the date and 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 120; and
 - d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.
- 120.5. With each operating report under Condition 119 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.
- 120.6. 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.

Section 13 Standard Permit Conditions

- 121.** The Permittee must comply with each permit term and condition. Non-compliance 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
- 121.1. an enforcement action; or
 - 121.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
- 122.** 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.
- 123.** 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.
- 124.** 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.
- 125.** The permit does not convey any property rights of any sort, nor any exclusive privilege.
- 126.** 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
- 126.1. enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;
 - 126.2. have access to and copy any records required by this permit;
 - 126.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 126.4. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 14 General Source Test Requirements

- 127. Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.
- 128. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing
- 128.1. at a point or points that characterize the actual discharge into the ambient air; and
 - 128.2. 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.
- 129. Reference Test Methods.** The Permittee shall use the following references for test methods when conducting source testing for compliance with this permit:
- 129.1. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 CFR 60, Appendix A, Reference Method 9. The Permittee may use the form in Attachment 2 of this permit to record data.
 - 129.2. 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 CFR 60, Appendix A.
 - 129.3. Source testing for emissions of PM-2.5 and PM-10 must be conducted in accordance with the procedures specified in 40 CFR 51, Appendix M, Methods 201 or 201A and 202. For testing required in Section 7 and Section 9, the Permittee may conduct source testing in accordance with the procedures at 40 CFR 60, Appendix A, Method 5 and 40 CFR 51, Appendix M, Method 202 if conditions for testing under 40 CFR 51, Appendix M, Methods 201 and 201A cannot be met.
 - 129.4. Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 CFR 63 Appendix A, Method 301.
- 130. 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.

- 131. Test Plans.** Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the emissions unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete test plan at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.
- 132. Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and time the source test will begin.
- 133. Test Reports.** Within 60 days after completing a source test, the Permittee shall submit one certified copy of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results as set out in Condition 114. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.
- 134. Test Exemption.** The Permittee is not required to comply with Conditions 131, 132 and 133 when the exhaust is observed for visible emissions by Method 9 Plan or Smoke/No Smoke Plan.

Section 15 Permit Documentation

<u>Date</u>	<u>Document Details</u>
June 16, 2017	Application received.
September 25, 2017	Application addendum received.
March 28, 2018	Application addendum received.
July 12, 2019	Application addendum received.
March 27, 2020	Email received with responses to Department questions.

Attachment 1 – 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.)

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 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) Emissions unit(s) Involved:

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

<u>EU ID</u>	<u>Emissions unit Name</u>	<u>Permit Condition Exceeded/Limit/Potential Exceedance</u>

(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)

- Emissions 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 Emissions unit
- Stationary Source-Wide
- Other Section: (title of section and section # of your permit)

(b) Emissions unit(s) Involved:

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

<u>EU ID</u>	<u>Emissions unit Name</u>	<u>Permit Condition /Potential Deviation</u>

(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/Applications/Air/airtoolsweb/Home/Index>

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

Attachment 2 – 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.

