Application Amendment to Renew Air Quality Operating Permit No. AQ0316TVP02, Revision 1

University of Alaska Fairbanks Campus

August 2020

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Application Amendment to Renew Air Quality Operating Permit No. AQ0316TVP02, Revision 1

Prepared for:

University of Alaska Fairbanks

P.O. Box 757900
Fairbanks, AK, 99775

prepared by

SLR INTERNATIONAL CORPORATION

543 Third Avenue, Suite 235
Fairbanks, Alaska 99701
(907) 452-2252

August 2020

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Attachment A

Revisions to the Application to Renew Permit AQ0316TVP02, Revision 1

A Forms

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FORM A1
Stationary Source (General Information)

GENERAL INFORMATION

1. Permittee:

Permittee Name: University of Alaska Fairbanks

Mailing Address Line 1: P.O. Box 757920

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

2. Stationary Source Name: University of Alaska Fairbanks Campus

3. Stationary Source Physical Address:

Physical Address Line 1: 802 Alumni Drive

Physical Address Line 2

City: Fairbanks State: AK Zip Code: 99775

4. Location: Latitude: 64° 51' North Longitude: 147° 51' West

5. Primary SIC Code: 8221 **SIC Code Description**: Colleges, University and Professional Schools ***Primary NAICS Code:*** 6113 – Colleges, Universities, and Professional Schools

6. Current/Previous Title V Air Permit No.: AQ0316TVP02 Revision 1 Expiration Date: December 3, 2012

7. Does this application contain confidential data? ☐ Yes ☒ No

8. APPLICATION IS BEING MADE FOR:

☐ Initial Title V Permit for this Stationary Source ☐ Modify Title V Permit (currently permitted) ☒ Title V Permit Renewal

9. CONTACT INFORMATION (Attach additional sheets if needed)

Owner:

Name/Title: University of Alaska Fairbanks

Mailing Address Line 1: P.O. Box 757920

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

Operator:

Name/Title: University of Alaska Fairbanks

Mailing Address Line 1: P.O. Box 757920

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

Permittee's Responsible Official:

Name/Title: Jennifer Campbell/Acting Associate Vice Chancellor for Facilities Services

Mailing Address Line 1: 803 Alumni Drive

Mailing Address Line 2 P.O. Box 757380

City: Fairbanks State: AK Zip Code: 99775

Designated Agent:

Name/Title: Jennifer Campbell/Acting Associate Vice Chancellor for Facilities Services

Mailing Address Line 1: 803 Alumni Drive

Mailing Address Line 2 P.O. Box 757380

City: Fairbanks State: AK Zip Code: 99775

Stationary Source and Building Contact

Name/Title: Russ Steiger

Mailing Address Line 1: P.O. Box 758145

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

Phone: (907) 474-5812 Email: rhsteiger@alaska.edu

Fee Contact:

Name/Title: Accounts Payable, Administrative Service Center

Mailing Address Line 1: P.O. Box 757920

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

Phone: Email:

Permit Contact:

Name/Title: Russ Steiger

Mailing Address Line 1: P.O. Box 758145

Mailing Address Line 2

City: Fairbanks State: AK Zip Code: 99775

Phone: (907) 474-5812 Email: rhsteiger@alaska.edu

Person or Firm that Prepared Application:

Name/Title: SLR International Corporation

Mailing Address Line 1: 2700 Gambell Street, Suite 200

Mailing Address Line 2

City: Anchorage State: AK Zip Code: 99503

Phone: (907) 222-1112 Email: jbrena@slrconsulting.com

10. STATEMENT OF 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.

Name of Responsible Official (typed): Jennifer Campbell Title: Acting Associate Vice Chancellor for Facilities Services

X Signature (blue ink): DocuSigned by: Jennifer Campbell 9154516DEE9D481... Date: August 13, 2020

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FORM A1-R

Stationary Source Supplemental Information or Application Revision

Permit Number: AQ0316TVP02, Revision 1

Permit Contact:	Name	Russ Steiger
	Title	Environmental Compliance Officer
	Mailing Address Line 1	P.O. Box 758145
	Mailing Address Line 2	Fairbanks, AK, 99775
	Phone Number	(907) 474-5812
	Email	rhsteiger@alaska.edu

Brief Description of Supplemental Information or Application Revision:

The University of Alaska Fairbanks (UAF) is submitting a revision to the original application for renewal of Permit No. AQ0316TVP02, Revision 1 submitted on June 22, 2012 for the University of Alaska Fairbanks Campus. This revision updates the stationary source contact list and emissions unit inventory, and incorporates three Owner Requested Limits (ORLs) for EU IDs 17, 18, and 22 requested in the minor permit application submitted concurrently with this revision. UAF is rescinding certain requests for ORLs included in the June 2012 initial application and the revision to the initial application submitted on August 13, 2013. A summary of ORLs is provided in Table 1. As a result of updates to ORLs, applicable requirements for EU ID 26 have been updated. B forms for those emissions units are included in this revision. This revision also incorporates two Off-Permit Change notifications submitted to ADEC in January 2015 (amended in July 2015) and June 2019. The updated forms included with this revision are:

- Table 1 - Summary of ORLs from 2012, 2013, and current permit renewal application amendments
- Form A1 - Stationary Source General Information
- Form B - Emissions Unit Listing
- Forms B1 - Emissions Unit Detail Forms - EU IDs 3, 4, and 17 through 22
- Forms B2 - Emissions Unit Detail Forms - EU IDs 26, 34, and 35

Statement of 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.

Jennifer Campbell
Name of Responsible Official

Acting Associate Vice Chancellor for Facilities Services
Title

DocuSigned by:
Jennifer Campbell
9154516DEE9D481...
Signature (blue ink)

August 13, 2020
Date

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Table 1. Summary of Owner Requested Limits

This table provides a list of Owner Requested Limits (ORLs) included in previous permit applications that have not been incorporated into any air quality permits.
Cells in gray denote previously requested ORLs that are no longer needed. The requests for these ORLs are being rescinded as an element of this application revision.

EU ID	Previously Requested Limit	2012 Application	2013 Amendment	Other	Currently Requested
12 through 14, 26, 27, 29, and 30	N/A	Fuel restriction of only ULSD	N/A	N/A	UAF does not wish to apply a limit requiring only ULSD combustion in EU IDs 12 through 14, 26, 27, 29, and 30.
12 through 18	N/A	N/A	Fuel restriction of only ULSD	N/A	UAF does not wish to apply a limit requiring only ULSD combustion in EU IDs 12 through 16.
17 and 18	500 hour limit	Not requested	Not requested	N/A	UAF does not wish to apply an operating hour limit to EU IDs 17 and 18.
17 and 18	N/A	N/A	N/A	N/A	UAF is requesting an ORL for a fuel sulfur content restriction of combusting only ULSD in EU IDs 17 and 18.
22	N/A	N/A	Fuel restriction of only ULSD	N/A	UAF is requesting an ORL for a fuel sulfur content restriction of combusting only ULSD in EU ID 22.
23	N/A	4,380 hours per year limit	4,380 hours per year limit	N/A	UAF does not wish to apply an operating hour limit to EU ID 23.
24 and 28	N/A	N/A	Fuel restriction of only ULSD	N/A	UAF does not wish to apply a limit requiring only ULSD combustion in EU IDs 24 and 28.
25	N/A	N/A	100 hour per year limit	N/A	UAF does not wish to apply an operating hour limit to EU ID 25.
26	N/A	N/A	99 hour per year limit	N/A	UAF does not wish to apply an operating hour limit to EU ID 26.[1]
28	N/A	100 hour per year limit	100 hour per year limit	N/A	UAF does not wish to apply an operating hour limit for EU ID 28.
30	N/A	100 hour per year limit	100 hour per year limit	N/A	UAF does not wish to apply an operating hour limit for EU ID 30.
31 through 33	N/A	N/A	N/A	Fuel restriction of only ULSD	UAF does not wish to apply a limit requiring only ULSD combustion in EU IDs 31 through 33.

[1] Because UAF no longer wishes to limit the operation of EU ID 26 to 99 hours per year, the unit is no longer a limited-use engine under 40 CFR 63 Subpart ZZZZ. Please see Form B2 for EU ID 26 for the updated applicable requirements under 40 CFR 63 Subpart ZZZZ.

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Off Permit Change Notification Letter for EU ID 35

Butrovich Administrative Building Emergency Generator Engine

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Hand Delivered

ORIGINAL

Scott Bell, Associate Vice Chancellor
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(907) 474-7284 fax
svbell2@alaska.edu
www.uaf.edu/fs

803 Alumni Drive, PO Box 757380, Fairbanks, Alaska 99775-7380

January 9, 2015

Alaska Department of Environmental Conservation
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643

EPA Region 10
Director, Office of Air Quality
1200 Sixth Avenue (OAQ–107)
Seattle, WA 98101

Re: Off-Permit Change Notification; AQ0316TVP02 Revision 1

Pursuant to Condition 82.2 of the above Title V permit and 40 Code of Federal Regulations, (CFR) 71.6(a)(12), University of Alaska Fairbanks (UAF) is submitting this Off-Permit Change Notification.

The required notification elements under Condition 82.2 of Permit No. AQ0316TVP02 Revision 1 are provided below:

Description of change

UAF is installing two emergency stationary reciprocating internal combustion engines which are significant emission units under 18 AAC 50.326(d)(1)(A). The generators will be used to supply emergency power to the Biological Research and Diagnostics building and the State Virology Lab in the event of a power outage. The generator set to be installed includes twin 200 kW Cummins QSB7-G5 NR3 units. Both units are to function as emergency units, with one functioning as a primary emergency generator and the second providing backup to that unit. Each unit contains a 324 horsepower engine.

Date

Installation of these emission units is occurring on January 9, 2014. These emergency units are subject to requirements under 40 CFR 60 Subpart IIII according to section 60.4200(a)(2)(i) because they are emergency stationary CI ICE, rated at 242 kilowatt-mechanical gross engine output; have a displacement of 1.1 liters per cylinder (calculated from Cummins QSB7-G5 specification sheet); are Model Year 2011 or newer; and commenced construction in 2013. The

engines are also subject to 40 CFR 63 Subpart ZZZZ, but compliance with 40 CFR 63 Subpart ZZZZ is demonstrated by complying with 40 CFR 60 Subpart IIII, per section 63.6590(c)(1).

Change in emissions

The change in emissions is summarized in the attached Emissions Calculations table. The potential emissions of this engine are below any Prevention of Significant Deterioration (PSD) and minor permitting thresholds.

Pollutants emitted

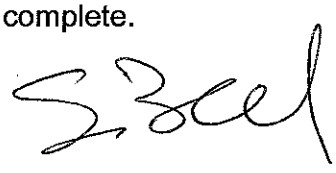
The pollutants expected to be emitted are those typical of a diesel-fired reciprocating internal combustion engine and are quantified in the attached Emissions Calculations table.

Any applicable requirement that would apply as a result of the change

Requirements applicable to this engine are in 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ.

Please contact Elizabeth Kerin at Elizabeth.kerin@alaska.edu or (907) 474-5812 or Frances Isgrigg at fisgrigg@alaska.edu or (907) 474-5487 if you have any questions regarding this notification.

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.



Scott Bell
Associate Vice Chancellor for Facilities Services

Attachment: Emissions Calculations Table
Cummins QSB7-G5 Specification Sheet

Table 1. UAF BiRD Emergency Generator Engine
Potential Emissions, Per Unit, 500 Operating Hours per Year

Pollutant	Engine Rating (hp)	Emission Factors		Maximum Operation	Potential Emissions
			Reference		
NO_X	324	4.0 g/kW-hr	EPA Tier 3	500 hr/yr	0.53 tpy
CO	324	3.5 g/kW-hr	EPA Tier 3	500 hr/yr	0.47 tpy
PM	324	0.2 g/kW-hr	EPA Tier 3	500 hr/yr	2.7E-02 tpy
PM_{10}	324	2.20E-03 lb/hp-hr	AP-42, Table 3.3-1	500 hr/yr	0.2 tpy
$PM_{2.5}$	324	2.20E-03 lb/hp-hr	Assume $PM_{2.5} = PM_{10}$	500 hr/yr	0.2 tpy
VOC	324	2.51E-03 lb/hp-hr	AP-42, Table 3.3-1	500 hr/yr	0.2 tpy
SO_2	324	2.1E-04 lb/gal	Mass Balance	500 hr/yr	7.8E-04 tpy
CH_4	324	3.0E-03 kg/MMBtu	Table C-2, 40 CFR 98	500 hr/yr	3.7E-03 tpy
N_2O	324	6.0E-04 kg/MMBtu	Table C-2, 40 CFR 98	500 hr/yr	7.5E-04 tpy
CO_2	324	73.96 kg/MMBtu	Table C-1, 40 CFR 98	500 hr/yr	92 tpy
CO_2e	324	N/A	N/A	500 hr/yr	93 tpy

Notes:

1. Fuel information:
   - Fuel sulfur content: 0.0015 percent by weight
   - Fuel density: 7.05 pounds per gallon (AP-42, Page A-7)
2. CO_2e emissions = CO_2 emissions + (21 * CH_4 emissions) + (310 * N_2O emissions)
3. Engine heat rate: 7,000 Btu/hp-hr (AP-42, Table 3.3-1)
4. Conversions:
   - 2.2 pounds per kilogram
   - 2,000 pounds per ton
   - 454 grams per pound
   - 1.341 horsepower per kilowatt
5. EPA Tier 3 NO_X emission factor conservatively assumes NMHC + NOx standard is all emitted as NOx for the purpose of this calculation.
6. Maximum fuel consumption of Cummins DSGAE engine:
   - 15 gallons per hour, per specification sheet

Table 2. UAF PTE and Assessable Emissions Calculations
Tons Per Year, Per Unit

Pollutant	Current UAF PTE[1]	Change in PTE	New PTE
NO_x	646.4	0.5	646.9
PM_{10}	83.1	0.2	83.3
CO	399.4	0.5	399.9
SO_2	913.4	7.8E-04	913.4
VOC	20.6	0.2	20.8
Total	2,063	1.4	2,064
Assessable Emissions[2]	2,063		2,064

[1]Current PTE data from Table 2-1 of Amendment to Operating Permit Renewal Application, August 2013.

[2]Assessable emissions fees apply to pollutants with projected emissions greater than 10 tons per year, per AAC 50.410.

Table 3. UAF BiRD Emergency Generator Engine
PSD Applicability Determination, Per Unit

Pollutant	Baseline Actual Emissions	Future Potential Emissions	Change	PSD Major Modification Threshold	Major Modification?
NO_X	0.0 tpy	0.5 tpy	0.5 tpy	40 tpy	No
CO	0.0 tpy	0.5 tpy	0.5 tpy	100 tpy	No
PM	0.0 tpy	2.7E-02 tpy	2.7E-02 tpy	25 tpy	No
PM_{10}	0.0 tpy	0.2 tpy	0.2 tpy	15 tpy	No
VOC	0.0 tpy	0.2 tpy	0.2 tpy	40 tpy	No
SO_2	0.0 tpy	7.8E-04 tpy	7.8E-04 tpy	40 tpy	No
GHG	0.0 tpy	93 tpy	93 tpy	75,000 tpy	No

Table 4. UAF BiRD Emergency Generator Engine Nonattainment New Source Review Applicability Determination, Per Unit

Pollutant	Baseline Actual Emissions	Future Potential Emissions	Change	NA NSR Threshold	NA NSR Permit?
$PM_{2.5}$	0.0 tpy $PM_{2.5}$	0.2 tpy $PM_{2.5}$	0.2 tpy $PM_{2.5}$	10 tpy $PM_{2.5}$	No
	0.0 tpy NO_X	0.5 tpy NO_X	0.5 tpy NO_X	40 tpy NO_X	No
	0.0 tpy SO_2	7.8E-04 tpy SO_2	7.8E-04 tpy SO_2	40 tpy SO_2	No

Table 5. UAF BiRD Emergency Generator Engine Minor Permit Applicability Determination, Per Unit

Pollutant	Potential Emissions Increase	Minor Permitting Threshold	Minor Permit Required?
NO_X	0.5 tpy	10 tpy	No
CO	0.5 tpy	N/A	N/A
PM	2.7E-02 tpy	N/A	N/A
PM_{10}	0.2 tpy	10 tpy	No
$PM_{2.5}$	0.2 tpy	10 tpy	No
VOC	0.2 tpy	N/A	N/A
SO_2	7.8E-04 tpy	10 tpy	No
GHG	93 tpy	N/A	N/A

UAF BiRD Generator Engines – Combined Emissions Calculations

Table A – PSD Applicability Determination, Twin 200 kW Units

Pollutant	Baseline Actual Emissions (tpy)	Change in PTE Due to Project (tpy)	PSD Significant Emission Increase Threshold (tpy)	PSD Significant Emission Increase Threshold Triggered
NO_X	0.0	1.0	40	No
CO	0.0	0.4	100	No
PM	0.0	0.054	25	No
PM_{10}	0.0	1.0	15	No
SO_2	0.0	1.56E-03	40	No
VOC	0.0	0.4	40	No
CO_2e	0.0	186	75,000	No

Table B – Non-Attainment NSR Applicability Determination, Twin 200 kW Units

Pollutant	Baseline Actual Emissions (tpy)	Change in PTE Due to Project (tpy)	PSD Significant Emission Increase Threshold (tpy)	PSD Significant Emission Increase Threshold Triggered
Direct $PM_{2.5}$	0.0	0.4	10	No
NO_X (Indirect $PM_{2.5}$)	0.0	1	40	No
SO_2 (Indirect $PM_{2.5}$)	0.0	1.56E-03	40	No

Table C – Minor Permit Applicability Determination, Twin 200 kW Combined Units

Pollutant	New Engine PTE (tpy)	Change in PTE (tpy)	18 AAC 50.502(c)(3)(A) Threshold	18 AAC 50.502(c)(3)(A) Minor Permit Threshold Reached?
NO_X	1.0	1.0	10 tpy	No
CO	0.4	0.4	N/A	N/A
PM	0.054	0.054	N/A	N/A
PM_{10}	1.0	1.0	10 tpy	No
$PM_{2.5}$	0.4	0.4	10 tpy	No
SO_2	1.56E-03	1.56E-03	10 tpy	No
VOC	0.4	0.4	N/A	N/A
CO_2e	186	186	N/A	N/A

Model: DSGAE
Frequency: 60
Fuel type: Diesel
KW rating: 200 standby
180 prime
Emissions level: EPA NSPS Stationary Emergency Tier 3

> Generator set data sheet

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Exhaust emission data sheet:	**EDS-1124**
Exhaust emission compliance sheet:	**EPA-1173**
Sound performance data sheet:	**MSP-1102**
Cooling performance data sheet:	**MCP-210**
Prototype test summary data sheet:	**PTS-285**
Standard set-mounted radiator cooling outline:	**A035C611**
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	

Fuel consumption	**Standby kW (kVA)**				**Prime kW (kVA)**				**Continuous kW (kVA)**
Ratings	200 (250)				180 (225)				
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**Full**
US gph	5.20	8.67	11.63	14.79	4.79	8.16	10.81	13.36	
L/hr	19.7	32.8	44.0	56.0	18.1	30.9	40.9	50.6	

Engine	**Standby rating**	**Prime rating**	**Continuous rating**
Engine manufacturer	Cummins		
Engine model	QSB7-G5 NR3		
Configuration	Cast iron, in-line, 6 cylinder		
Aspiration	Turbocharged and air-to-air aftercooled		
Gross engine power output, kWm (bhp)	242 (324)	208 (279)	
BMEP at set rated load, kPa (psi)	2255 (327)	2033 (295)	
Bore, mm (in)	107 (4.21)		
Stroke, mm (in)	124 (4.88)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	7.4 (1464)		
Compression ratio	17.2:1		
Lube oil capacity, L (qt)	17.5 (18.5)		
Overspeed limit, rpm	2100		
Regenerative power, kW	19		

Fuel flow		
Maximum fuel flow, L/hr (US gph)	106 (28)	
Maximum fuel flow with C174, L/hr (US gph)		
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5)	
Maximum return restriction, mm Hg (in Hg)	152 (6)	

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Air	Standby rating	Prime rating	Continuous rating
Combustion air, m^3/min (scfm)	15.8 (557)	15.3 (539)	
Maximum air cleaner restriction with clean filter, kPa (in H_2O)	3.7 (15)		
Alternator cooling air, m^3/min (cfm)	41.3 (1460)		

Exhaust			
Exhaust flow at set rated load, m^3/min (cfm)	40.5 (1428)	37.7 (1332)	
Exhaust temperature, ° C (° F)	510 (949)	484 (903)	
Maximum back pressure, kPa (in H_2O)	10 (40)	10 (40)	

Standard set-mounted radiator cooling			
Ambient design, ° C (° F)	50 (122)		
Fan load, kW_m (HP)	9.7 (13.0)		
Coolant capacity (with radiator), L (US Gal)	23 (6.1)	23 (6.1)	
Cooling system air flow, m^3/min (scfm)	351 (12400)		
Total heat rejection, MJ/min (Btu/min)	9.90 (9376)	8.95 (8481)	
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		

Optional set-mounted radiator cooling			
Ambient design, °C (°F)			
Fan load, kW_m (HP)			
Coolant capacity (with radiator), L (US Gal.)			
Cooling system air flow, m^3/min (scfm)			
Total heat rejection, MJ/min (Btu/min)			
Maximum cooling air flow static restriction, kPa (in. H_2O)			

Optional heat exchanger cooling			
Set coolant capacity, L (US Gal.)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum raw water pressure, jacket water circuit, kPa (psi)			
Maximum raw water pressure, aftercooler circuit, kPa (psi)			
Maximum raw water pressure, fuel circuit, kPa (psi)			
Maximum raw water flow, jacket water circuit, L/min (US Gal/min)			
Maximum raw water flow, aftercooler circuit, L/min (US Gal/min)			
Maximum raw water flow, fuel circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, jacket water circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, aftercooler circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, fuel circuit, L/min (US Gal/min)			
Raw water delta P at min flow, jacket water circuit, kPa (psi)			
Raw water delta P at min flow, aftercooler circuit, kPa (psi)			
Raw water delta P at min flow, fuel circuit, kPa (psi)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			

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Cummins Power Generation

Optional remote radiator cooling[1]	Standby rating	Prime rating	Continuous rating
Set coolant capacity, L (US gal)			
Max flow rate at max friction head, jacket water circuit, L/min (US gal/min)			
Max flow rate at max friction head, aftercooler circuit, L/min (US gal/min)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum friction head, jacket water circuit, kPa (psi)			
Maximum friction head, aftercooler circuit, kPa (psi)			
Maximum static head, jacket water circuit, m (ft)			
Maximum static head, aftercooler circuit, m (ft)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)			

Weights[2]	
Unit dry weight kgs (lbs.)	
Unit wet weight kgs (lbs.)	1361 (3000)

Notes:

[1] For non-standard remote installations contact your local Cummins Power Generation representative.

[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors	
Standby	Engine power available up to 1707 m (5600 ft) at ambient temperature up to 40° C (104° F) and 732 m (2400 ft) at 50° C (122° F). Consult your Cummins Power Generation distributor for temperature and ambient requirements outside these parameters.
Prime	Engine power available up to 1707 m (5600 ft) at ambient temperature up to 40° C (104° F) and 732 m (2400 ft) at 50° C (122° F). Consult your Cummins Power Generation distributor for temperature and ambient requirements outside these parameters.
Continuous	

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

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Power Generation

Alternator data

Three Phase Table[1]		105° C	105° C	105° C	125° C	125° C	125° C	150° C	150° C	150° C			
Feature Code		B418	B415	B304	B417	B414	B303	B416	B413	B419			
Alternator Data Sheet Number		212	212	212	212	212	212	211	211	211			
Voltage Ranges		110/190 Thru 120/208 220/380 Thru 240/416	120/208 Thru 139/240 240/416 Thru 277/480	347/600	110/190 Thru 120/208 220/380 Thru 240/416	120/208 Thru 139/240 240/416 Thru 277/480	347/600	110/190 Thru 120/208 220/380 Thru 240/416	120/208 Thru 139/240 240/416 Thru 277/480	347/600			
Surge kW		212	212	215	212	212	215	212	205	214			
Motor Starting kVA (at 90% sustained voltage)	Shunt	770	770	770	770	770	770	672	672	672			
	PMG	920	920	920	920	920	920	791	791	791			

Full Load Current - Amps at Standby Rating	120/208	127/220	139/240	220/380	240/416	254/440	277/480	347/600
	694	656	602	380	347	328	301	241

[1] Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor.

Formulas for calculating full load currents:

Three phase output	Single phase output
kW x 1000	kW x Single Phase Factor x 1000
Voltage x 1.73 x 0.8	Voltage

Cummins Power Generation
1400 73rd Avenue N.E.
Minneapolis, MN 55432 USA
Telephone: 763 574 5000
Fax: 763 574 5298

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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www.cumminspower.com

D-3517 (8/11)

Power Generation

Scott Bell, Associate Vice Chancellor
(907) 474-6265
(907) 474-2661 fax
svbell2@alaska.edu
www.uaf.edu/fs

803 Alumni Drive, PO Box 757380, Fairbanks, Alaska 99775-7380

July 13, 2015

Alaska Department of Environmental Conservation
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643

EPA Region 10
Director, Office of Air Quality
1200 Sixth Avenue (OAQ-107)
Seattle, WA 98101

Re: Amendment of Off-Permit Change Notification Submitted January 9, 2015; Permit No. AQ0316TVP02, Revision 1

The University of Alaska Fairbanks (UAF) submitted an off-permit change notification on January 9, 2015, which stated that UAF was installing two emergency generator engines at the Biological Research and Diagnostics (BiRD) building and the State Virology Lab (SVL). This letter amends that notification because only one of those two engines belongs to the UAF stationary source.

Pursuant to Condition 82.2 of the above Title V permit and 40 Code of Federal Regulations (CFR) 71.6(a)(12), UAF amends the January 9, 2015 off-permit change notification to (1) document the reason the engine installed at the SVL is not part of the UAF stationary source, and (2) provide the correct off-permit change information regarding the installation of the engine at the BiRD building.

State Virology Lab Engine

In addition to installing one emergency generator engine at the BiRD building, UAF installed a second emergency engine as part of a generator set which provides emergency power to the SVL in the event of a power outage. The SVL is on a part of the UAF campus that is leased to the Alaska Department of Health and Social Services (DHSS), which operates the SVL. The SVL emergency generator engine is owned by DHSS and was installed because the SVL must be fully operational to support public health in the event of an emergency. The DHSS paid for the purchase and installation of the generator set. The SVL emergency generator engine and the BiRD emergency generator engine are located in the same building but do not share a fuel source and are each dedicated to their respective facilities.

As defined in 40 CFR 52.21(b)(5) and (6), pollutant-emitting activities which belong to the same industrial grouping (have the same first two digit code as described in the SIC Manual), are located on one or more contiguous or adjacent properties, and are under control of the same person (or persons under common control) comprise a stationary source. The SVL emergency generator engine is not part of the UAF stationary source for two reasons:

1. UAF and the SVL are in different Standard Industrial Classification (SIC) groupings. The SIC code for UAF is 611310. The SIC code for the SVL is 621511. As a result, UAF and the SVL do not belong to the same industrial grouping.

2. The emergency generator engine which supports the SVL is not controlled by UAF. The engine is owned by the DHSS. The engine is activated automatically during a power outage through an automatic transfer switch. Although UAF conducts the maintenance on the engine in accordance with the lease contract between UAF and DHSS, UAF does not control the engine or operation of the engine.

Because UAF does not share the same two-digit SIC code group with the SVL, and does not have control of the SVL emergency generator engine, that engine is not part of the UAF stationary source.

Amended Off-Permit Change Notification

1. Description of change – UAF installed one emergency stationary reciprocating internal combustion engine which is a significant emission unit under 18 Alaska Administrative Code (AAC) 50.326(d)(1)(A). The generator engine is used to supply emergency power to the BiRD building in the event of a power outage. The generator set is a 200-kilowatt Cummins, model DSGAE. The engine in this generator set is a diesel-fired, Cummins model QSB7-G5 NR3 unit with a gross power output of 324 horsepower.

2. Date – The engine was installed on January 9, 2015. (The original notification listed the date as January 9, 2014, which is a typographical error.)

3. Change in emissions – Table 1 of the original notification provided the correct potential emissions for the new emergency generator engine at the BiRD building. The potential emissions are listed in Table A for completeness.

4. Applicable requirements – The emergency engine at the BiRD building is subject to requirements in 40 CFR 60 Subpart IIII and must comply with 40 CFR 63 Subpart ZZZZ by complying with 40 CFR 60 Subpart IIII.

Table A – Potential Emissions of Emergency Engine at BiRD Building

Pollutant	Potential Emissions, tons per year
Oxides of Nitrogen (NO_X)	0.53
Carbon Monoxide (CO)	0.47
Particulate Matter (PM)	2.7E-02
PM_{10}	0.2
$PM_{2.5}$	0.2
Volatile Organic Compounds (VOC)	0.2
Sulfur Dioxide (SO_2)	7.8E-04
Carbon Dioxide equivalent (CO_2e)	93

Please contact Frances Isgrigg at fisgrigg@alaska.edu or (907) 474-5487 if you have any questions regarding this notification.

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

Scott Bell
Associate Vice Chancellor for Facilities Services

cc: Frances M. Isgrigg, UAF
Courtney Kimball, SLR Fairbanks

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Jennifer Campbell, Interim Associate Vice Chancellor

(907) 474-6265

(907) 474-7284 fax

jlcampbell@alaska.edu

803 Alumni Drive, PO Box 757380, Fairbanks, Alaska 99775-7380

June 8, 2020

Alaska Department of Environmental Conservation
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643 (Certified Mail 7018 1130 0002 0657 3617)

United States Environmental Protection Agency Region 10
Director, Office of Air Quality
1200 Sixth Avenue (OAQ-107)
Seattle, WA 98101 (Certified Mail 7018 1130 0002 0657 3600)

SUBJECT: Off-Permit Change Notification; AQ0316TVP02 Revision 1
University of Alaska Fairbanks

Pursuant to Condition 82.2 of Permit No. AQ0316TVP02 Revision 1 and 40 Code of Federal Regulations (CFR) 71.6(a)(12), University of Alaska (UA) is submitting this Off-Permit Change Notification for the Fairbanks Campus stationary source.

The required notification elements under Condition 82.2 of Permit No. AQ0316TVP02 Revision 1 are provided below:

- Description of change
  UA is installing an emergency generator engine in the Butrovich Administrative Building which is a significant emission unit under 18 AAC 50.326(d)(1)(A). The engine drives a generator that provides emergency electrical power to the Butrovich Building in the event of a power outage. The emission unit is a 1,220 horsepower (hp) Cummins QSK23-G7 NR2, diesel-fired engine that powers a Cummins DQCC Generator rated 800 kilowatts (kW). The engine is rated as a U.S. Environmental Protection Agency (EPA) Tier 2 engine.

- Date of change
  The engine will commence operatiion no earlier than July 17, 2020.

- Change in emissions
  The change in emissions is summarized in the attached Emissions Calculations table. The potential emissions of this engine are below any Prevention of Significant Deterioration (PSD) and minor permitting thresholds.

- Pollutants emitted
  The pollutants expected to be emitted are those typical of a diesel-fired reciprocating internal combustion engine and are quantified in the attached Emissions Calculations table.

- Any applicable requirement that would apply as a result of the change
  Requirements applicable to this engine are in 40 Code of Federal Regulation (CFR) 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ.

Please contact Russ Steiger at rhsteiger@alaska.edu or (907) 474-5812 if you have any questions regarding this notification.

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.

Sincerely,

DocuSigned by:
Jennifer Campbell
9154516DEE9D481...

Jennifer Campbell
Interim Associate Vice Chancellor for Facilities Services

Attachment: Emissions Calculation Table

Attachment B

Revisions to the Application to Renew Permit AQ0316TVP02, Revision 1

B Forms

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FORM B
Emission Unit Listing For This Application

Permit Number: AQ0316TVP02 Revision 1

EMISSIONs UNIT LISTING: New, Modified, Previously Unpermitted, Replaced, Deleted					
Emissions Unit ID Number	Emissions Unit Name	Brief Emissions Unit Description	Rating/Size	Construction Date	Notes
Emissions Units To Be ADDED By This Application (New, Previously Unpermitted, or Replacement)					
10	AFES Boiler No. 1	Burnham V9OGA Boiler	1.08 MMBtu/hr	2000	These emissions units were self-disclosed by UAF as not having been previously permitted in the June 22, 2012 application for renewal of Permit AQ0316TVP02 Revision 1.
11	AFES Boiler No. 2	Burnham V9OGA Boiler	1.08 MMBtu/hr	2000	
12	Harper Boiler No. 1	Weil McLain BL776-S-W Boiler	0.64 MMBtu/hr	1985	
13	Harper Boiler No. 2	Weil McLain BL776-S-W Boiler	0.64 MMBtu/hr	1985	
16	Copper Lane (Honor's House) Boiler	Weil McLain P-WGO-5 Boiler	0.233 MMBtu/hr	2005	
17	West Ridge Research Building Boiler No. 1	Weil McLain BL 1688w-GPr10 Boiler	4.93 MMBtu/hr	2003	
18	West Ridge Research Building Boiler No. 2	Weil McLain BL 1688w-GPr10 Boiler	4.93 MMBtu/hr	2003	
19	BiRD RM 100 U3 Boiler No. 1	Weil McLain 2094W Boiler	6.13 MMBtu/hr	2004	
20	BiRD RM 100 U3 Boiler No. 2	Weil McLain 2094W Boiler	6.13 MMBtu/hr	2004	
21	BiRD RM 100 U3 Boiler No. 3	Weil McLain 2094W Boiler	6.13 MMBtu/hr	2004	
22	BiRD RM 100 U3 Boiler No. 4	Bryan EB200-S-150-FDGO Boiler	8.5 MMBtu/hr	2005	
23	Alaska Center for Energy and Power Generator Engine No. 1	Detroit Diesel 6043-TK35 Engine	235 kW	2003	
24	Old University Park Emergency Generator Engine	Cummins 4B3.9-G2 Engine	72 hp	2001	
25	AFES Grain Dryer	Unknown	2.43 MMBtu/hr	1988	
26	Duckering Classroom Engine	Mitsubishi-Bosch Engine	64 hp	1987	
27	Alaska Center for Energy and Power Generator Engine No. 2	Caterpillar C-15 Engine	500 hp	2013	
28	Alaska Earthquake Information Center Emergency Generator Engine	Detroit Diesel Engine	120 hp	1998	
29	Arctic Health Research Emergency Generator Engine	Cummins/QSB7-G6 Engine	314 hp	2013	
34	BiRD Emergency Generator Engine No. 1	Cummins QSB7-G5 NR3 Engine	324 hp	2015	EU ID 34 was added per an Off Permit Change Notification submitted in

					January 2015.
35	Butrovich Administrative Building Emergency Generator Engine	Cummins QSK23-G7 NR2 Engine	1,220 hp	2019	EU ID 35 was added per an Off Permit Change Notification submitted in June 2019
105	Limestone Handling System for Boiler No. 1	N/A	1,200 acfm	TBD	Added in Permit AQ0316MSS06
107	Sand Handling System	N/A	1,600 acfm	TBD	
109	Ash Handling System	N/A	1,000 acfm	TBD	
110	Ash Handling System Vacuum	N/A	2,000 acfm	TBD	
111	Ash Loadout to Truck	N/A	N/A	TBD	
113	Dual Fuel-Fired CFB Boiler	N/A	296 MMBtu/hr	TBD	
114	Dry Sorbent Handling Vent Filter Exhaust	N/A	5 acfm	TBD	
115	Unloading Hopper with Grizzly	N/A	N/A	TBD	
116	Conveyor CNV-001	N/A	N/A	TBD	
117	Magnetic Separator	N/A	N/A	TBD	
118	Conveyor CNV-002	N/A	N/A	TBD	
119	Surge Bin	N/A	N/A	TBD	
120	Vibratory Feeder	N/A	N/A	TBD	
121	Hammermill Crusher	N/A	N/A	TBD	
122	Conveyor CNV-003	N/A	N/A	TBD	
123	Diverter	N/A	N/A	TBD	
124	Bucket Elevator CNV-004	N/A	N/A	TBD	
125	Bucket Elevator CNV-005	N/A	N/A	TBD	
126	Gate Chute	N/A	N/A	TBD	
127	En-masse Drag Conveyor CNV-006	N/A	N/A	TBD	
128	Coal Silo No. 1 with bin vent	N/A	1,650 acfm	TBD	
129	Coal Silo No. 2 with bin vent	N/A	1,650 acfm	TBD	
130	Coal Silo No. 3 with bin vent	N/A	1,650 acfm	TBD	
131	Feed Chute No. 1	N/A	N/A	TBD	
132	Feed Chute No. 2	N/A	N/A	TBD	
133	Feed Chute No. 3	N/A	N/A	TBD	
134	Gravimetric Feeder No. 1	N/A	N/A	TBD	
135	Gravimetric Feeder No. 2	N/A	N/A	TBD	
136	Gravimetric Feeder No. 3	N/A	N/A	TBD	

Emission Units To Be MODIFIED By This Application					
9A	BiRD Incinerator	Therm-Tec/G-30P-1H Incinerator	83 lb/hr	2006	The rating of the incinerator is listed incorrectly in AQ0316TVP02 Revision 1. Please update the rating as provided here.
Emission Units To Be DELETED By This Application					
1	Coal-Fired Boiler No. 1	Erie City Boiler	84.5 MMBtu/hr	1962	This unit has been permanently removed from service.
2	Coal-Fired Boiler No. 2	Erie City Boiler	84.5 MMBtu/hr	1962	This unit has been permanently removed from service.
5A	Oil-Fired Boiler	Scotch #S2-Ps-50-150 Boiler	2.09 MMBtu/hr	2003	This unit has been permanently removed.
6	Old Backup Diesel Generator No. 1	Cummins Engine	125 kW	1968	This unit has been permanently removed.
7	Old Backup Diesel Generator No. 2	Cummins Engine	125 kW	1968	This unit has been permanently removed.
14	Copper Lane Boiler No. 1	Energy Kinetics System 2000 Boiler	0.136 MMBtu/hr	1985	These units were requested to be added in the original 2012 application for renewal of Permit AQ0316TVP02 Revision 1. The Copper Lane buildings housing these units were torn down in 2019. These units are permanently out of service.
15	Copper Lane Boiler No. 2	Energy Kinetics System 2000 Boiler	0.136 MMBtu/hr	1985	
31	Copper Lane Furnace	Matzger Furnace	0.08 MMBtu/hr	2001	

FORM B
Emission Unit Listing For This Application

SIGNIFICANT EMISSIONS UNIT LISTING: Title V permitted emissions units that have not been modified				
Emissions Unit ID Number	Emissions Unit Name	Brief Emissions Unit Description	Rating/Size	Construction Date
3	Dual Fuel-Fired Boiler No. 1	Zurn Boiler	180.9 MMBtu/hr	1970
4	Dual Fuel-Fired Boiler No. 2	Zurn Boiler	180.9 MMBtu/hr	1987
8	Backup Diesel Generator	Morse Colt-Pielstick PC2.6 Engine	13,266 hp	1999

INSIGNIFICANT EMISSIONS UNIT LISTING: Insignificant Title V permitted emission units that have not been modified				
Emissions Unit Name	Brief Emissions Unit Description	Rating/Size	Construction Date	Basis for Insignificant Status
AFES Greenhouse Furnace	Sunderman L02OUF Furnace	0.209 MMBtu/hr	1991	18 AAC 50.326(g)(7)
Skarland Cabin Furnace	Rheem/ROBC-084QPEB Furnace	0.140 MMBtu/hr	2001 (est.)	18 AAC 50.326(g)(7)
Harper Hot Water Heater	Bock Water Heater	0.236 MMBtu/hr	1985 (est.)	18 AAC 50.326(g)(7)
Coal Handling/Crushing Facility	American Pulverizer	50 tons/hr	1964	18 AAC 50.326(e)
Fine Arts/ Arts Wing Rm302 Kiln	Alpine Kilns and Equipment/SBF-40	1.81 MMBtu/hr	2009	18 AAC 50.326(g)(5)
Fine Arts/Arts Wing Ceramic Rm 413 Kiln	Kilnmaster/constructed on-site	0.53 MMBtu/hr	2009	18 AAC 50.326(g)(5)
Fine Arts/Arts Wing Ceramic Rm 413 Kiln	Geil Kilns/DLB2	0.23 MMBtu/hr	2009	18 AAC 50.326(g)(5)
Wooded Area Kiln(s)	Hand-built	Unknown	Various	18 AAC 50.326(e)
Facilities Services Paint Booth Exhaust Fan	Unknown	12,500 cfm	2001	18 AAC 50.326(e)
Museum Paint Booth Exhaust Fan	Greenheck/TAB-42-030T3	5,480 cfm	2006	18 AAC 50.326(e)
Laboratory Fume Hoods (campus wide)	N/A	N/A	Various	18 AAC 50.326(e)
Duckering Classroom Turbine	Cussons Two Shaft Gas Turbine Unit	0.33 MMBtu/hr	1970 (est.)	18 AAC 50.326(e)
Power Plant Field-Erected Tank	Vertical Fixed Roof Tank	212,120 gallons	1969	18 AAC 50.326(e)
Graduation Flame	Custom-built	5.0E-3 MMBtu/hr	1975 (est.)	18 AAC 50.326(e)
Ash Bin Vent Filter	N/A	N/A	1962	18 AAC 50.326(e)
Ash Vacuum Pump Filter	N/A	N/A	1962	18 AAC 50.326(e)
Ash Loadout to Truck	N/A	N/A	1962	18 AAC 50.326(e)
SRC Pellet Stove	Avalon/AGP Stove	5 lb/hr	2012	18 AAC 50.326(g)(6)

FORM B1

Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	3 // Base
2.	Date installation/construction commenced	1970
3.	Date installed	1970
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer	Zurn
7.	Description of emission unit, including type of boiler/heater and firing method: Zurn Dual Fuel Fired Power Plant Boiler	
8.	Rated design capacity (heat input, MMBtu/hr)	180.9 MMBtu/hr
9.	Maximum steam production rate (lbs/hr)	Unknown
10.	Maximum steam pressure (psi)	Unknown
11.	Maximum steam temperature (°F)	Unknown

12. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	1,320 gal/hr
Natural Gas	180.9 Mscf/hr

13.	Is waste heat utilized for any purpose? If yes, describe: No.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316TVP02 Revision 1, Condition 1	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with Conditions 2 through 4.
AQ0316TVP02 Revision 1, Condition 5	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 5.3, 9, 11, and 12.
AQ0316TVP02 Revision 1, Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 13.1 through 13.7.
AQ0316MSS05, Condition 3.1	N/A	State PSD Avoidance Requirements	Install a low NOx burner on EU 3 prior to operating with natural gas fuel.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 37	40 CFR 60.12, Subpart A	NSPS Subpart A Concealment of Emissions	The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of a standard set forth in Conditions 40 or 41. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11201(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Work Practice Standards	Comply with each work practice standard that applies to your boiler. For EU ID 3, an energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11205(a), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Good Air Pollution Control Practices	At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11210(i), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Initial Compliance.	For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within Subpart JJJJJJ or the boiler becoming subject to Subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change.	Yes	Submit a notification of such changes according to 63.11225(g).

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11223(a), (b), and (c) Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct tune-ups once every five years, no more than 61 months after the previous tune-up. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11223(b) and (c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct boiler tune-ups as follows: - As applicable, inspect the burner, and clean or replace any components of the burner as necessary. You may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 72 months. - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, but you must inspect each system controlling the air-to-fuel ratio at least once every 72 months. - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available. - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.	Yes	Maintain on-site and submit, if requested by the Administrator, a report containing the information below: - The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. - A description of any corrective actions taken as part of the tune-up of the boiler.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	Prepare by March 1, once every five years, and submit to the delegated authority upon request a compliance certification report for the previous 5 years containing the information specified below. You must submit the report by March 15 if there were any deviations from the applicable requirements. - Company name and address - Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable and signed by a responsible official: o "This facility complies with the requirements in §63.11223 to conduct a 5-year tune-up of each boiler." o "No secondary materials that are solid waste were combusted in any affected unit." - If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Maintain records of each notification and report submitted to comply with this subpart, all documentation supporting any Initial Notification or Notification of Compliance Status, and records to document conformance with the work practices and management practices, as follows: - Records must identify each boiler, the date of tune-up, the procedures followed for tune-up and the manufacturer's specifications to which the boiler was tuned. - For EU ID 3, required to conduct an energy assessment, keep a copy of the energy assessment report. - Records of the occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment. - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11225(d), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(g), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of a gas-fired boiler, as defined in 40 CFR 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made a physical change, or took a permit limit within 30 days of the change. The notification must identify: - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. - The date upon which the fuel switch, physical change, or permit limit occurred.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11235, Subpart JJJJJJ	NESHAP Subpart JJJJJJ General Compliance Requirements	Comply with 40 CFR 63 Subpart A in accordance with Table 8 of 40 CFR 63 Subpart JJJJJJ.	Yes	Annual Compliance Audit.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.11201(a), (c) and (d), 63.11205(b)-(c), 63.11210(a)-(h), and (j) –(k), 63.11211, 63.11212, 63.11213, 63.11214(a), (c), and (d), 63.11220, 63.11221, 63.11222, 63.11223(g), 63.11224, Table 1, and Table 3 - 8, Subpart JJJJJJ	EU ID 3 is an existing oil-fired boiler with a rating of greater than 10 MMBtu/hr equipped with an oxygen trim system that maintains an optimum air-to-fuel ratio located at an area source of HAP emissions. No emissions or operating limits apply.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

FORM B1

Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	4 // Base
2.	Date installation/construction commenced	1987
3.	Date installed	1987
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer	Zurn
7.	Description of emission unit, including type of boiler/heater and firing method: Zurn Dual Fuel Fired Power Plant Boiler This boiler may or may not be operated within the constraints of a 10 percent annual capacity factor limit. The applicable 40 CFR 60 Subpart Db requirements for both options have been included in Applicable Requirements Specific to Emissions Unit, below.	
8.	Rated design capacity (heat input, MMBtu/hr)	180.9 MMBtu/hr
9.	Maximum steam production rate (lbs/hr)	Unknown
10.	Maximum steam pressure (psi)	Unknown
11.	Maximum steam temperature (°F)	Unknown

12. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	1,320 gal/hr
Natural Gas	180.9 Mscf/hr

13.	Is waste heat utilized for any purpose? If yes, describe: No.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316TVP02 Revision 1, Condition 1	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with Conditions 2 through 4.
AQ0316TVP02 Revision 1, Condition 5	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 5.3, 9, 11, and 12.
AQ0316TVP02 Revision 1, Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 13.1 through 13.7.
AQ0316MSS05, Condition 2	N/A	State PSD Avoidance Requirements	The Permittee shall limit the combined sulfur dioxide (SO_2) emissions from EUs 4 and 8 to less than 40 tons per year.	Yes.	Monitor, record, and report in accordance with AQ0316MSS05 Conditions 2.1 through 2.4.
AQ0316MSS05, Condition 3	N/A	State PSD Avoidance Requirements	The Permittee shall limit the combined NOx emissions from EUs 4 and 8 to less than 40 tons per year.	Yes.	Monitor, record, and report in accordance with Conditions 3.2 through 3.6.
AQ0316MSS05, Condition 3.1	N/A	State PSD Avoidance Requirements	Install a low NOx burner on EU 4 prior to operating with natural gas fuel.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316TVP02 Revision 1, Condition 17	40 CFR 60.44b(j)(2) and (k)	Fuel Limit for Unit ID 4	The Permittee is allowed, but not required, to limit the annual capacity factor to 10% by not exceeding the heat input of 158,468 MMBtu/yr in Boiler ID 4 in any 12 consecutive months.	Yes.	Monitor, record, and report in accordance with Conditions 17.1 through 17.4.
AQ0316TVP02 Revision 1, Condition 32	40 CFR 60.7(b), Subpart A	NSPS Subpart A Startup, Shutdown, and Malfunction Requirements	The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of EU ID 4, any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU ID 4 is inoperative.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 33	40 CFR 60.7(c), Subpart A	NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report	Except as provided for in Condition 34, the Permittee shall submit to the Department and to EPA a written "excess emissions and monitoring systems performance report" (EEMSP) any time a limit in Conditions 40 or 41 has been exceeded, as described in this condition. The Permittee shall submit the EEMSP reports to EPA quarterly, postmarked no later than 30 days after the end of the last quarter.	Yes.	Report in accordance with Conditions 33.1 through 33.4.
AQ0316TVP02 Revision 1, Condition 34	40 CFR 60.7(d), Subpart A	NSPS Subpart A Summary Report Form	The Permittee shall submit to the Department and to EPA one "summary report form" in the format shown in Figure 1 of 40 CFR 60.7 for each pollutant monitored for EU ID 4.	Yes	Report in accordance with Conditions 34.1 through 34.2.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316TVP02 Revision 1, Condition 35	40 CFR 60.11(d), Subpart A	NSPS Subpart A Good Air Pollution Control Practice	At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU ID 4 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Department will determine whether acceptable operating and maintenance procedures are being used based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU ID 4.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 36	40 CFR 60.11(g), Subpart A	NSPS Subpart A Credible Evidence	For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in Conditions 40 or 41, nothing in 40 CFR Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU ID 4 would have been in compliance with applicable requirements of 40 CFR Part 60 if the appropriate performance or compliance test or procedure had been performed.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 37	40 CFR 60.12, Subpart A	NSPS Subpart A Concealment of Emissions	The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of a standard set forth in Conditions 40 or 41. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 38	40 CFR 60.13(a), Subpart A	NSPS Subpart A Monitoring	For a Continuous Monitoring System (CMS) required under Condition 41, the Permittee shall:	Yes.	Monitor, record, and report in accordance with Conditions 38.1 through 38.5.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316TVP02 Revision 1, Condition 39	40 CFR 60.49b(d) & (i), Subpart Db	NSPS Subpart Db Fuel Consumption	For EU ID 4, the Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for distillate oil and for natural gas for the reporting period. The annual capacity factor is calculated at the end of each calendar month.	Yes.	Reasonable Inquiry.
AQ0316TVP02 Revision 1, Condition 40	40 CFR 60.42b(a), Subpart Db	NSPS Subpart Db Sulfur Standards	At all times, including periods of startup, shutdown, and malfunction, for EU ID 4, the Permittee shall not cause to be discharged into the atmosphere, any gases that contain sulfur dioxide in excess of 10% (0.10) of the potential sulfur dioxide emission rate (90% reduction) and that contain sulfur dioxide in excess of the emission limit determined according to Equation 5.	Yes.	Monitor, record, and report in accordance with Conditions 40.1 and 40.2.
AQ0316TVP02 Revision 1, Condition 41	40 CFR 60.43b(f), 60.44b(a), 60.44b(c), and 60.48b(a), Subpart Db	NSPS Subpart Db PM and Nitrogen Oxides Standards	At all times, except during periods of startup, shutdown, and malfunction, the Permittee shall not cause to be discharged into the atmosphere from EU ID 4 any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. If the Permittee choses not to limit the operation of EU ID 4 to a 10 percent annual capacity factor, then the Permittee shall not cause to be discharged into the atmosphere from EU ID 4 any gases that contain NO_X emissions in excess of 0.20 lb/MMBtu.	Yes.	Monitor, record, and report in accordance with Conditions 41.1 through 41.5.
N/A	40 CFR 63.11201(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Work Practice Standards	Comply with each work practice standard that applies to your boiler.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11205(a), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Good Air Pollution Control Practices	At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11210(i), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Initial Compliance.	For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within Subpart JJJJJJ or the boiler becoming subject to Subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change.	Yes	Submit a notification of such changes according to 63.11225(g).
N/A	40 CFR 63.11223(a), (b), and (f) Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct tune-ups once every five years, no more than 61 months after the previous tune-up. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11223(b) and (c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct boiler tune-ups as follows: - As applicable, inspect the burner, and clean or replace any components of the burner as necessary. You may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 72 months. - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, but you must inspect each system controlling the air-to-fuel ratio at least once every 72 months. - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available. - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.	Yes	Maintain on-site and submit, if requested by the Administrator, a report containing the information below: - The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. - A description of any corrective actions taken as part of the tune-up of the boiler.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	Prepare by March 1, once every five years, and submit to the delegated authority upon request a compliance certification report for the previous 5 years containing the information specified below. You must submit the report by March 15 if there were any deviations from the applicable requirements. - Company name and address - Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable and signed by a responsible official: o "This facility complies with the requirements in §63.11223 to conduct a 5-year tune-up of each boiler." o "No secondary materials that are solid waste were combusted in any affected unit." - If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Maintain records of each notification and report submitted to comply with this subpart, all documentation supporting any Initial Notification or Notification of Compliance Status, and records to document conformance with the work practices and management practices, as follows: - Records must identify each boiler, the date of tune-up, the procedures followed for tune-up and the manufacturer's specifications to which the boiler was tuned. - For EU ID 4, which meets the definition of a limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating. - Records of the occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment. - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11225(d), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(g), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of a gas-fired boiler, as defined in 40 CFR 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made a physical change, or took a permit limit within 30 days of the change. The notification must identify: - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. - The date upon which the fuel switch, physical change, or permit limit occurred.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11235, Subpart JJJJJJ	NESHAP Subpart JJJJJJ General Compliance Requirements	Comply with 40 CFR 63 Subpart A in accordance with Table 8 of 40 CFR 63 Subpart JJJJJJ.	Yes	Annual Compliance Audit.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.11201(a), (c) and (d), 63.11205(b)-(c), 63.11210(a)-(h), and (j) –(k), 63.11211, 63.11212, 63.11213, 63.11214(a), (c), and (d), 63.11220, 63.11221, 63.11222, 63.11223(g), 63.11224, Table 1, and Table 3 - 8, Subpart JJJJJJ	EU ID 4 is an existing oil-fired limited-use boiler with a rating of greater than 10 MMBtu/hr equipped with an oxygen trim system that maintains an optimum air-to-fuel ratio located at an area source of HAP emissions. No emissions or operating limits apply.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

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FORM B1

Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	17 and 18 // Base
2.	Date installation/construction commenced	2003
3.	Date installed	2003
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer	Weil McLain
7.	Description of emission unit, including type of boiler/heater and firing method: Weil McLain BL-1688w-GPr10 West Ridge Research Building diesel-fired boiler	
8.	Rated design capacity (heat input, MMBtu/hr)	4.93 MMBtu/hr, each
9.	Maximum steam production rate (lbs/hr)	Unknown
10.	Maximum steam pressure (psi)	Unknown
11.	Maximum steam temperature (°F)	Unknown

12. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	36 gal/hr, each

13.	Is waste heat utilized for any purpose? If yes, describe: No.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 2.2 through 2.4, 3 and 4.
N/A	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 9, 11, and 12.
N/A	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 13.1 through 13.4.
N/A	ORL Minor Permit Application	Sulfur ORL	Do not burn any fuel with sulfur content greater than 15 ppmw.	Yes	Obtain test results showing the sulfur content of the fuel from the supplier or refinery and maintain copies of sulfur content and diesel fuel tickets. Report as a permit deviation if any fuel is burned in this unit exceeding the sulfur content limit of 15 ppm.
N/A	40 CFR 63.11201(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Work Practice Standards	Comply with each work practice standard that applies to your boiler.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11205(a), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Good Air Pollution Control Practices	At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11210(i), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Initial Compliance.	For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within Subpart JJJJJJ or the boiler becoming subject to Subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change.	Yes	Submit a notification of such changes according to 63.11225(g).
N/A	40 CFR 63.11223(a), (b), and (e) Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct tune-ups once every five years, no more than 61 months after the previous tune-up. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11223(b) and (e), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct boiler tune-ups as follows: - As applicable, inspect the burner, and clean or replace any components of the burner as necessary. You may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 72 months. - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, but you must inspect each system controlling the air-to-fuel ratio at least once every 72 months. - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available. - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.	Yes	Maintain on-site and submit, if requested by the Administrator, a report containing the information below: - The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. - A description of any corrective actions taken as part of the tune-up of the boiler.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	Prepare by March 1, once every five years, and submit to the delegated authority upon request a compliance certification report for the previous 5 years containing the information specified below. You must submit the report by March 15 if there were any deviations from the applicable requirements. - Company name and address - Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable and signed by a responsible official: o "This facility complies with the requirements in §63.11223 to conduct a 5-year tune-up of each boiler." o "No secondary materials that are solid waste were combusted in any affected unit." - If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective actions taken.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Maintain records of each notification and report submitted to comply with this subpart, all documentation supporting any Initial Notification or Notification of Compliance Status, and records to document conformance with the work practices and management practices, as follows: - Records must identify each boiler, the date of tune-up, the procedures followed for tune-up and the manufacturer's specifications to which the boiler was tuned. - Records of the occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment. - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11225(d), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(g), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of a gas-fired boiler, as defined in 40 CFR 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made a physical change, or took a permit limit within 30 days of the change. The notification must identify: - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. - The date upon which the fuel switch, physical change, or permit limit occurred.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11235, Subpart JJJJJJ	NESHAP Subpart JJJJJJ General Compliance Requirements	Comply with 40 CFR 63 Subpart A in accordance with Table 8 of 40 CFR 63 Subpart JJJJJJ.	Yes	Annual Compliance Audit.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.11201(a), (c) and (d), 63.11205(b)-(c), 63.11210(a)-(h), and (j) –(k), 63.11211, 63.11212, 63.11213, 63.11214(a), (c), and (d), 63.11220, 63.11221, 63.11222, 63.11223(g), 63.11224, Table 1, and Table 3 - 8, Subpart JJJJJJ	EU IDs 17 and 18 are existing oil-fired boilers with ratings of less than 5 MMBtu/hr located at an area source of HAP emissions. No emissions or operating limits apply.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

FORM B1

Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	19 - 21 // Base
2.	Date installation/construction commenced	2004
3.	Date installed	2004
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer	Weil McLain
7.	Description of emission unit, including type of boiler/heater and firing method: Weil McLain 2049W BiRD Rm 100U3 Boilers.	
8.	Rated design capacity (heat input, MMBtu/hr)	6.13 MMBtu/hr, each
9.	Maximum steam production rate (lbs/hr)	Unknown
10.	Maximum steam pressure (psi)	Unknown
11.	Maximum steam temperature (°F)	Unknown

12. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	45 gal/hr, each

13.	Is waste heat utilized for any purpose? If yes, describe: No.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0316MSS04, Condition 5	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 2.2 through 2.4, 3 and 4.
AQ0316MSS04, Condition 6	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 9, 11, and 12.
AQ0316MSS04, Condition 7	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 13.1 through 13.4.
AQ0316MSS04, Condition 9	ORL to Avoid PSD Review	Sulfur ORL	For EU IDs 19-21, the Permittee shall use ultra-low sulfur diesel (ULSD) and must ensure the fuel sulfur content of the liquid fuel consumed does not exceed 0.0015 percent sulfur by weight (wt %S).	Yes	Monitor, record, and report in accordance with AQ0316MSS04 Conditions 9.1 through 9.2.
AQ0316MSS04, Condition 10	ORL to Avoid Minor Permitting	NOx ORL	For EUs 19-21, the Permittee shall limit the hours of operation to no more than 19,650 hours combined per rolling 12-month period.	Yes.	Monitor, record, and report in accordance with AQ0316MSS04 Conditions 10.1 through 10.3.
AQ0316MSS04, Condition 11	N/A	Good Air Pollution Control Practice	Maintain and operate EU IDs 19-21 according to the manufacturer recommendations or the operator's operation and maintenance procedures. Keep a copy of either the manufacturer's or the operator's procedures on-site.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11201(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Work Practice Standards	Comply with each work practice standard that applies to your boiler.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11205(a), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Good Air Pollution Control Practices	At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11210(i), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Initial Compliance.	For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within Subpart JJJJJJ or the boiler becoming subject to Subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change.	Yes	Submit a notification of such changes according to 63.11225(g).
N/A	40 CFR 63.11223(a), (b), and (c) Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct tune-ups once every five years, no more than 61 months after the previous tune-up. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11223(b) and (c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct boiler tune-ups as follows: - As applicable, inspect the burner, and clean or replace any components of the burner as necessary. You may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 72 months. - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, but you must inspect each system controlling the air-to-fuel ratio at least once every 72 months. - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available. - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.	Yes	Maintain on-site and submit, if requested by the Administrator, a report containing the information below: - The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. - A description of any corrective actions taken as part of the tune-up of the boiler.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	Prepare by March 1, once every five years, and submit to the delegated authority upon request a compliance certification report for the previous 5 years containing the information specified below. You must submit the report by March 15 if there were any deviations from the applicable requirements. - Company name and address - Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable and signed by a responsible official: o "This facility complies with the requirements in §63.11223 to conduct a 5-year tune-up of each boiler." o "No secondary materials that are solid waste were combusted in any affected unit." - If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective actions taken.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Maintain records of each notification and report submitted to comply with this subpart, all documentation supporting any Initial Notification or Notification of Compliance Status, and records to document conformance with the work practices and management practices, as follows: - Records must identify each boiler, the date of tune-up, the procedures followed for tune-up and the manufacturer's specifications to which the boiler was tuned. - Records of the occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment. - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11225(d), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(g), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of a gas-fired boiler, as defined in 40 CFR 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made a physical change, or took a permit limit within 30 days of the change. The notification must identify: - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. - The date upon which the fuel switch, physical change, or permit limit occurred.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11235, Subpart JJJJJJ	NESHAP Subpart JJJJJJ General Compliance Requirements	Comply with 40 CFR 63 Subpart A in accordance with Table 8 of 40 CFR 63 Subpart JJJJJJ.	Yes	Annual Compliance Audit.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.11201(a), (c) and (d), 63.11205(b)-(c), 63.11210(a)-(h), and (j) –(k), 63.11211, 63.11212, 63.11213, 63.11214(a), (c), and (d), 63.11220, 63.11221, 63.11222, 63.11223(g), 63.11224, Table 1, and Table 3 - 8, Subpart JJJJJJ	EU IDs 19-21 are existing oil-fired boilers with a rating of less than 10 MMBtu/hr equipped with oxygen trim systems that maintains an optimum air-to-fuel ratio located at an area source of HAP emissions. No emissions or operating limits apply.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

FORM B1

Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	22 // Base
2.	Date installation/construction commenced	2005
3.	Date installed	2005
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer	Bryan
7.	Description of emission unit, including type of boiler/heater and firing method: Bryan EB200-S-150-FDGO BiRD Rm 100U3 Diesel-Fired Boiler #4	
8.	Rated design capacity (heat input, MMBtu/hr)	8.5 MMBtu/hr
9.	Maximum steam production rate (lbs/hr)	Unknown
10.	Maximum steam pressure (psi)	Unknown
11.	Maximum steam temperature (°F)	Unknown

12. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	6.2 gal/hr

13.	Is waste heat utilized for any purpose? If yes, describe: No.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 2.2 through 2.4, 3 and 4.
N/A	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 9, 11, and 12.
N/A	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1 Conditions 13.1 through 13.4.
N/A	ORL Minor Permit Application	Sulfur ORL	Do not burn any fuel with sulfur content greater than 15 ppm.	Yes	Obtain test results showing the sulfur content of the fuel from the supplier or refinery and maintain copies of sulfur content and diesel fuel tickets. Report as a permit deviation if any fuel is burned at this unit exceeding the sulfur content limit of 15 ppm.
N/A	40 CFR 63.11201(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Work Practice Standards	Comply with each work practice standard that applies to your boiler.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11205(a), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Good Air Pollution Control Practices	At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11210(i), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Initial Compliance.	For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within Subpart JJJJJJ or the boiler becoming subject to Subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change.	Yes	Submit a notification of such changes according to 63.11225(g).
N/A	40 CFR 63.11223(a), (b), and (c) Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct tune-ups once every five years, no more than 61 months after the previous tune-up. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11223(b) and (c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Continuous Compliance	Conduct boiler tune-ups as follows: - As applicable, inspect the burner, and clean or replace any components of the burner as necessary. You may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 72 months. - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, but you must inspect each system controlling the air-to-fuel ratio at least once every 72 months. - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available. - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.	Yes	Maintain on-site and submit, if requested by the Administrator, a report containing the information below: - The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. - A description of any corrective actions taken as part of the tune-up of the boiler.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(b), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	Prepare by March 1, once every five years, and submit to the delegated authority upon request a compliance certification report for the previous 5 years containing the information specified below. You must submit the report by March 15 if there were any deviations from the applicable requirements. - Company name and address - Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable and signed by a responsible official: o "This facility complies with the requirements in §63.11223 to conduct a 5-year tune-up of each boiler." o "No secondary materials that are solid waste were combusted in any affected unit." - If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective actions taken.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(c), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Maintain records of each notification and report submitted to comply with this subpart, all documentation supporting any Initial Notification or Notification of Compliance Status, and records to document conformance with the work practices and management practices, as follows: - Records must identify each boiler, the date of tune-up, the procedures followed for tune-up and the manufacturer's specifications to which the boiler was tuned. - Records of the occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment. - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11225(d), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.	Yes	Annual Compliance Audit.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.11225(g), Subpart JJJJJJ	NESHAP Subpart JJJJJJ Reporting	If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of a gas-fired boiler, as defined in 40 CFR 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made a physical change, or took a permit limit within 30 days of the change. The notification must identify: - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. - The date upon which the fuel switch, physical change, or permit limit occurred.	Yes	Annual Compliance Audit.
N/A	40 CFR 63.11235, Subpart JJJJJJ	NESHAP Subpart JJJJJJ General Compliance Requirements	Comply with 40 CFR 63 Subpart A in accordance with Table 8 of 40 CFR 63 Subpart JJJJJJ.	Yes	Annual Compliance Audit.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.11201(a), (c) and (d), 63.11205(b)-(c), 63.11210(a)-(h), and (j) –(k), 63.11211, 63.11212, 63.11213, 63.11214(a), (c), and (d), 63.11220, 63.11221, 63.11222, 63.11223(g), 63.11224, Table 1, and Table 3 - 8, Subpart JJJJJJ	EU ID 22 is an existing oil-fired boiler with a rating of less than 10 MMBtu/hr equipped with an oxygen trim system that maintains an optimum air-to-fuel ratio located at an area source of HAP emissions. No emissions or operating limits apply.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

FORM B2

Emission Unit Detail Form - Internal Combustion Equipment (Engines and Turbines)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	26// Base
2.	Date installation/construction commenced[1]	1987
3.	Date installed	1987
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer and model number	Mitsubishi-Bosch
7.	Type of combustion device	Compression Ignition Engine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	45 kW

1. See page 2 of the Form B instructions regarding installation/construction date and consult regulations under 40 C.F.R. 60 (NSPS) and 40 C.F.R. 63 (NESHAP) for applicability dates, e.g.,
- NSPS Subparts IIII and JJJJ, and NESHAP Subpart ZZZZ for engines, and
- NSPS Subparts GG and KKKK, and NESHAP Subpart YYYY for turbines.
Note that other regulations may apply in addition to the regulations cited.

11. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	3.1 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: This engine is no longer classified as a limited-use engine under 40 CFR 63 Subpart ZZZZ. Please update the requirements as indicated in this form.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 2.2 through 2.4, 3 and 4.
N/A	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 9, 11, and 12.
N/A	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 13.1 through 13.4.
N/A	40 CFR 63.6665 & Table 8, and 63.6640(e), 63.6650(f), Subpart ZZZZ	NESHAP Subpart A Requirements	The Permittee shall comply with the applicable requirements of 40 CFR 63 Subpart A in accordance with the provisions for applicability of Subpart A in Table 8 to NESHAP Subpart ZZZZ.	Yes.	Report each instance in which you did not meet the requirements in Table 8 to NESHAP Subpart ZZZZ in the semiannual monitoring report.
N/A	40 CFR 63.6585, 63.6590 & 63.6590(a), Subpart ZZZZ	Engines Subject to Federal NESHAP Subpart ZZZZ	The Permittee shall comply with all applicable requirements of 40 CFR 63 Subpart ZZZZ for stationary reciprocating internal combustion engines (RICE) located at an area source of hazardous air pollutant (HAP) emissions.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.6603(a), and Table 2d Item 1, Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Emission Limitations, Operating Limitations, and Other Requirements	You must meet the following requirements, except during periods of startup: (i) Change oil and filter every 1,000 hours of operation or annually, whichever comes first; (ii) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; (iii) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6625(h), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Emission Limitations, Operating Limitations, and Other Requirements	During periods of startup, you must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6625(i)	40 CFR 63 Subpart ZZZZ Emission Limitations, Operating Limitations, and Other Requirements	Sources have the option to utilize an oil analysis program as described in 40 CFR 63.66625(i) in order to extend the specified oil change requirement in 40 CFR 63 Table 2d Item 1.	Yes.	Keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be a part of the maintenance plan for the engine.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.6605(a), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ General Requirements	You must be in compliance with the emission limitations, operating limitations, and other requirements in 40 CFR 63 Subpart ZZZZ that apply to you at all times.	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6605(b), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ General Requirements	At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.6625(e)(4), 63.6640(a), 63.6655(e) & (e)(3), Table 6, Item 9, Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Requirements for Demonstration of Continuous Compliance with Emission Limitations, Operating Limitations, and Other Requirements	You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements as follows: (i) Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or (ii) Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.	Yes.	Keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.
N/A	40 CFR 63.6660(a), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Recordkeeping	Your records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6660(b), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Recordkeeping	As specified in 40 CFR 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 63.6660(c), Subpart ZZZZ	40 CFR 63 Subpart ZZZZ Recordkeeping	You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1).	Yes.	Reasonable Inquiry.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63.6585(a), 63.6590(a)(1)(ii), 63.6590(b), 63.6600, 63.6601, 63.6602, 63.6610, 63.6611, 63.6625(e)(1) – (2), 63.6625(f), 63.6645(b) – (e), Tables 1a, 1b, 2a, 2b, 2c, Subpart ZZZZ	University of Alaska Fairbanks Campus Power Plant is not a major source of HAP emissions.
40 CFR 63.6585(f), 63.6625(d), 63.66625(e)(3), 63.6625(f), 63.6640(f), 63.6650(h), 63.6655(f), Table 2d Items 4 and 5, Subpart ZZZZ	EU ID 26 is not a black start or emergency engine.
40 CFR 63.6590(a)(2), 63.6590(a)(3), 63.6590(c), 63.6595(a)(2) – (7), 63.6640(d), Subpart ZZZZ	EU ID 26 was installed in 1987 and is an existing engine. EU ID 26 has not been reconstructed.
40 CFR 63.6590(a)(1)(i), 63.6603(b) – (e), 63.6604(a) – (c), 63.6625(g), 63.6645(i), Table 2b, Table 2d Items 2, 3, and 5, Subpart ZZZZ	EU ID 26 has a rating of less than 100 hp.
40 CFR 63.6603(f), 63.6625(c), 63.6625(e)(5) – (10), 63.6625(j), 63.6640(c), 63.6650(g), 63.6655(c), Table 2d Items 6 – 13, Subpart ZZZZ	EU ID 26 is a diesel-fired CI RICE. EU ID 26 does not fire landfill or digester gas.
40 CFR 63.6604(d), Subpart ZZZZ	EU ID 26 is not in a remote location in Alaska.
40 CFR 63.6612(a) – (b), 63.6615, 63.6620, 63.6625(a) – (b), 63.6630(b) – (e), 63.6635, 63.6645(g) – (h), 63.6655(b), Table 3, 4, 5, Table 6 Items 1 – 8, and 10 – 15, Subpart ZZZZ	EU ID 26 is not subject to any performance testing requirements under 40 CFR 63 Subpart ZZZZ and is not required to install a CEMS or CPMS. EU ID 26 is not subject to any emissions or operating limitations.
40 CFR 63.6645(a), Subpart ZZZZ	EU ID 26 is not required to submit the notifications in 40 CFR 63.6645 per 40 CFR 63.6645(a)(5) which indicates the requirement does not apply in the case of existing stationary RICE with no numerical emission standards.
40 CFR 63.6650(a) – (e), Table 7, Subpart ZZZZ	EU ID 26 is not required to submit reports according to Table 7 of Subpart ZZZZ.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

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FORM B2

Emission Unit Detail Form - Internal Combustion Equipment (Engines and Turbines)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	34// Base
2.	Date installation/construction commenced[1]	2015
3.	Date installed	2015
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer and model number	Cummins QSB7-G5 NR3
7.	Type of combustion device	Emergency Generator Engine
8.	Rated design capacity (horsepower rating for engines)	324 hp
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	200 kW

1. See page 2 of the Form B instructions regarding installation/construction date and consult regulations under 40 C.F.R. 60 (NSPS) and 40 C.F.R. 63 (NESHAP) for applicability dates, e.g.,
- NSPS Subparts IIII and JJJJ, and NESHAP Subpart ZZZZ for engines, and
- NSPS Subparts GG and KKKK, and NESHAP Subpart YYYY for turbines.
Note that other regulations may apply in addition to the regulations cited.

11. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	15 gallons per hour

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: Incorporate this engine as a significant emissions unit into the Title V permit. Although potential emissions are less than the thresholds in 18 AAC 50.326(e), the unit is subject to a federal requirement, so is not insignificant.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 2.2 through 2.4, 3 and 4.
N/A	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 9, 11, and 12.
N/A	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 13.1 through 13.4.
N/A	40 CFR 60.4218 & Table 8, 40 CFR 60 Subpart IIII	40 CFR 60 Subpart IIII Requirements	Comply with the applicable provisions of Subpart A as specified in Table 8 to Subpart IIII.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4205(b), Subpart IIII	40 CFR 60 Subpart IIII Emission Standards	Comply with the emission standards in 40 CFR 89.112 and 89.113 for the same model year and maximum engine power of the engine.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4207(b), Subpart IIII	40 CFR 60 Subpart IIII Fuel Requirements	Use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010 may be used until depleted.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4206, Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements for CI ICE	The Permittee shall operate and maintain stationary CI ICE over the entire life of the engine.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4211(a), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements for CI ICE	Operate and maintain the stationary CI ICE according to the manufacturer's written instructions. Only change those emission-related settings that are permitted by the manufacturer. Install and configure the engine according to the manufacturer's emission-related specifications.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4211(g)(2), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:	Yes.	Keep a maintenance plan and records of conducted maintenance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
N/A	40 CFR 60.4211(b)(1), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Demonstrate compliance by purchasing an engine certified according to 40 CFR Part 89 for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications, except as permitted under 40 CFR 60.4211(g)(2).	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4211(f), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Operate the emergency stationary ICE according to the requirements according to the requirements in 40 CFR 60.4211(f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3) is prohibited. If you do not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under the subpart and must meet all requirements for non-emergency engines.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4209(a), 60.421(b), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Install a non-resettable hour meter prior to startup of the engine.	Yes.	Keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4214(d)	Subpart IIII Reporting Requirements	If EU ID 34 operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), submit an annual report according to the requirements of 40 CFR 60.4214d(1) through (3).	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6590(c)(1), Subpart ZZZZ	Stationary RICE subject to 40 CFR 63 Subpart ZZZZ	For EU ID 34, new stationary RICE located at an area source of HAP emissions, meet the requirements of this part by meeting the requirements of 40 CFR 60 Subpart IIII.	Yes.	Reasonable Inquiry.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63 Subpart A and Subpart ZZZZ	EU ID 34 meets the criteria per 40 CFR 63.6590(c)(1) as a new emergency stationary RICE located at an area source of HAP emissions. This engine does not have to meet the requirements of Subpart ZZZZ and Subpart A of 40 CFR 63.
40 CFR 60.7, Subpart A	EU ID 34 has no requirements under 40 CFR 60.4214(a). Per Table 8 to Subpart IIII, 40 CFR 60.7 only applies as specified in 40 CFR 60.4214(a).
40 CFR 60.4200(a)(1), 60.4201, 60.4202, 60.4203, and 60.4210, Subpart IIII	University of Alaska Fairbanks is not a manufacturer of engines.
40 CFR 60.4204, Subpart IIII	EU ID 34 is an emergency engine.
40 CFR 60.4205(c), Table 3, Table 4 and Table 6, Subpart IIII	EU ID 34 is not a fire-pump engine.
40 CFR 60.4205(a), 4211(b), and Table 1, Subpart IIII	EU ID 34 was manufactured after 2010.
40 CFR 60.4205(d), 4207(d), 60.4211(d), 60.4213, 60.4214(a), and Table 7 Subpart IIII	EU ID 34 has a displacement of less than 10 L per cylinder.
40 CFR 60.4205(f), and 4211(e), Subpart IIII	EU ID 34 is not a modified or reconstructed engine.
40 CFR 60.4211(g)(1) and (3) Subpart IIII	EU ID 34 has a rating of between 100 and 500 hp.
40 CFR 60.4212, Subpart IIII	EU ID 34 is not required to conduct an emission testing under 40 CFR 60 Subpart IIII
40 CFR 60.4217, Subpart IIII	EU ID 34 does not use any special fuels.
40 CFR 60 Subpart IIII Table 2	EU ID 34 has a rating of greater than 50 hp.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

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FORM B2

Emission Unit Detail Form - Internal Combustion Equipment (Engines and Turbines)

Permit Number: AQ0316TVP02, Revision 1

1.	Emission Unit ID Number // Operating Scenario	35// Base
2.	Date installation/construction commenced[1]	2019
3.	Date installed	2019
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No.
6.	Manufacturer and model number	Cummins QSK23-G7 NR2
7.	Type of combustion device	Emergency generator engine
8.	Rated design capacity (horsepower rating for engines)	1,220 hp
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	800 kW

1. See page 2 of the Form B instructions regarding installation/construction date and consult regulations under 40 C.F.R. 60 (NSPS) and 40 C.F.R. 63 (NESHAP) for applicability dates, e.g.,
- NSPS Subparts IIII and JJJJ, and NESHAP Subpart ZZZZ for engines, and
- NSPS Subparts GG and KKKK, and NESHAP Subpart YYYY for turbines.
Note that other regulations may apply in addition to the regulations cited.

11. Fuel usage: [for EACH fuel, enter]:

Fuel	Maximum hourly firing rate (specify units)
Diesel	181 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: Incorporate this engine as a significant emissions unit into the Title V permit.

Applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Applicable Requirements*):

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	18 AAC 50.055(a)(1)	Industrial Process and Fuel-Burning Equipment Visible Emissions	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 2.2 through 2.4, 3 and 4.
N/A	18 AAC 50.055(b)(1)	Industrial Process and Fuel-Burning Equipment Particulate Matter	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 9, 11, and 12.
N/A	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions, expressed as SO_2 to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with AQ0316TVP02 Rev. 1, Conditions 13.1 through 13.4.
N/A	40 CFR 60.4218 & Table 8, 40 CFR 60 Subpart IIII	40 CFR 60 Subpart IIII Requirements	Comply with the applicable provisions of Subpart A as specified in Table 8 to Subpart IIII.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4205(b), Subpart IIII	40 CFR 60 Subpart IIII Emission Standards	Comply with the emission standards in 40 CFR 89.112 and 89.113 for the same model year and maximum engine power of the engine.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4207(b), Subpart IIII	40 CFR 60 Subpart IIII Fuel Requirements	Use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010 may be used until depleted.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4206, Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements for CI ICE	The Permittee shall operate and maintain stationary CI ICE over the entire life of the engine.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4211(a), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements for CI ICE	Operate and maintain the stationary CI ICE according to the manufacturer's written instructions. Only change those emission-related settings that are permitted by the manufacturer. Install and configure the engine according to the manufacturer's emission-related specifications.	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4211(g)(3), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:	Yes.	Keep a maintenance plan and records of conducted maintenance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with applicable emission standards.
N/A	40 CFR 60.4211(b)(1), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Demonstrate compliance by purchasing an engine certified according to 40 CFR Part 89 for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications, except as permitted under 40 CFR 60.4211(g)(3).	Yes.	Reasonable Inquiry.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4211(f), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Operate the emergency stationary ICE according to the requirements according to the requirements in 40 CFR 60.4211(f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3) is prohibited. If you do not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under the subpart and must meet all requirements for non-emergency engines.	Yes.	Reasonable Inquiry.
N/A	40 CFR 60.4209(a), 60.421(b), Subpart IIII	40 CFR 60 Subpart IIII Compliance Requirements	Install a non-resettable hour meter prior to startup of the engine.	Yes.	Keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time.

Permit and Condition Number	Applicable Requirement Citation[1]	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
N/A	40 CFR 60.4214(d)	Subpart IIII Reporting Requirements	If EU ID 35 operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), submit an annual report according to the requirements of 40 CFR 60.4214d(1) through (3).	Yes.	Reasonable Inquiry.
N/A	40 CFR 63.6590(c)(1), Subpart ZZZZ	Stationary RICE subject to 40 CFR 63 Subpart ZZZZ	For EU ID 35, new stationary RICE located at an area source of HAP emissions, meet the requirements of this part by meeting the requirements of 40 CFR 60 Subpart IIII.	Yes.	Reasonable Inquiry.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]

Non-applicable Requirements Specific to Emission Unit (*attach additional sheets as needed. Form B Supplement - Emission Unit-Specific Permit Shield Request*):

Non-Applicable Requirements[1]	Reason for non-applicability and citation/basis
40 CFR 63 Subpart A and Subpart ZZZZ	EU ID 35 meets the criteria per 40 CFR 63.6590(c)(1) as a new emergency stationary RICE located at an area source of HAP emissions. This engine does not have to meet the requirements of Subpart ZZZZ and Subpart A of 40 CFR 63.
40 CFR 60.7, Subpart A	EU ID 35 has no requirements under 40 CFR 60.4214(a). Per Table 8 to Subpart IIII, 40 CFR 60.7 only applies as specified in 40 CFR 60.4214(a).
40 CFR 60.4200(a)(1), 60.4201, 60.4202, 60.4203, and 60.4210, Subpart IIII	University of Alaska Fairbanks is not a manufacturer of engines.
40 CFR 60.4204, Subpart IIII	EU ID 35 is an emergency engine.
40 CFR 60.4205(c), Table 3, Table 4 and Table 6, Subpart IIII	EU ID 35 is not a fire-pump engine.
40 CFR 60.4205(a), 4211(b), and Table 1, Subpart IIII	EU ID 35 was manufactured after 2010.
40 CFR 60.4205(d), 4207(d), 60.4211(d), 60.4213, 60.4214(a), and Table 7 Subpart IIII	EU ID 35 has a displacement of less than 10 L per cylinder.

40 CFR 60.4205(f), and 4211(e), Subpart IIII	EU ID 35 is not a modified or reconstructed engine.
40 CFR 60.4211(g)(1) and (2) Subpart IIII	EU ID 35 has a rating of greater than 500 hp.
40 CFR 60.4212, Subpart IIII	EU ID 35 is not required to conduct an emission testing under 40 CFR 60 Subpart IIII
40 CFR 60.4217, Subpart IIII	EU ID 35 does not use any special fuels.
40 CFR 60 Subpart IIII Table 2	EU ID 35 has a rating of greater than 50 hp.

[1] Citations must be specific. Include sub-paragraph level detail [e.g. 18 AAC 50.055(a)(1), or 40 C.F.R. 60.332(a)(2).]