DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Minor Permit: AQ0316MSS08 Revision 1 Preliminary Date - September 23, 2024
Rescinds Permit: AQ0316MSS08

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ0316MSS08 Revision 1 to the Permittee listed below.

Permittee:	**University of Alaska Fairbanks (UAF)** PO Box 757920 Fairbanks, AK 99775
Stationary Source:	**University of Alaska Fairbanks Campus (UAF Campus)**
Location:	802 Alumni Drive, Fairbanks, Alaska 99709 Latitude: 64° 51' North; Longitude: 147° 51' West
Project:	Serious PM-2.5 State Implementation Plan (SIP)
Permit Contact:	Russ Steiger Phone No.: 907-474-5812 email: rsteiger@alaska.edu

The Permittee submitted an application for Minor Permit AQ0316MSS08 under AS 46.14.130(c)(2) because the Department finds that public health or air quality effects provide a reasonable basis to regulate the stationary source. This finding is contained in the State Air Quality Control Plan adopted on November 19, 2019.

With the issuance of AQ0316MSS08 Revision 1, The Department finds that public health or air quality effects still provide a reasonable basis to regulate the stationary source under AS 46.14.130(c)(2). This finding is contained in the State Air Quality Control Plan adopted on November 19, 2019, for the $PM_{2.5}$ Serious Nonattainment area.

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

The Department's Standard Permit Condition XIII – Coal Fired Boilers (as adopted July 22, 2020) and the Department's Default COMs Audit Procedures (as adopted August 20, 2008), have both been adopted into this minor permit.

The following conditions have been adopted into this minor permit: 3 through 3.6 of Minor Permit AQ0316MSS05 issued on August 4, 2016, 7.1 through 7.2 of Minor Permit AQ0316MSS07 issued on August 10, 2021, and 4 through 4.1 of Minor Permit AQ0316MSS03 issued on January 16, 2013.

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James R. Plosay, Manager
Air Permits Program

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List of Abbreviations and Acronyms

AAAQS..... Alaska Ambient Air Quality Standards
ADEC.....Alaska Department of Environmental Conservation
AS ..... Alaska Statutes
AAC ..... Alaska Administrative Code
ACEP ..... Alaska Center for Energy and Power
BiRD ..... Biological Research and Diagnostics Facility
BACM..... Best Available Control Measures
BACT..... Best Available Control Technology
C.F.R. ..... Code of Federal Regulations
CEMS..... Continuous Emission Monitoring System
Department..... Alaska Department of Environmental Conservation
EF..... Emission Factor
EU ..... Emission Unit
FG ..... Fuel Gas
FNSB ..... Fairbanks North Star Borough
GHG..... Greenhouse gas
LPG..... Liquefied Petroleum Gas
NA..... not applicable
NESHAP..... National Emissions Standards for Hazardous Air Pollutants
NG..... natural gas
NSPS..... New Source Performance Standards
ORL ..... owner requested limit
PSD ..... Prevention of Significant Deterioration
PTE ..... Potential to Emit
SIP..... State Implementation Plan
SER ..... significant emissions rate
TAR ..... Technical Analysis Report
ULSD..... Ultra-Low Sulfur Diesel

Units and Measures

acfm ..... actual cubic feet per minute
dscf..... dry standard cubic foot
gal/hr ..... gallons per hour
gal/yr ..... gallons per year
gr/dscm..... grains per dry standard cubic meter
hp ..... horsepower
hr/yr..... hours per year
lb/gal ..... pounds per gallon
lb/kgal ..... pounds per kilogallon
kW..... kilowatts
lb/hr..... pounds per hour
MMBtu/hr ..... million British thermal units per hour
ppm ..... parts per million
ppmw ..... parts per million by weight
scf..... standard cubic foot
TPY ..... tons per year
% ..... percent
wt%S_{fuel} ..... weight percent of sulfur in Fuel

Pollutants and Chemical Symbols

CO ..... Carbon Monoxide
HAP ..... hazardous air pollutant
NO_x ..... Oxides of Nitrogen
O_2 ..... Oxygen
PM..... Particulate Matter
PM_{10} ..... Particulate Matter with an aerodynamic diameter not exceeding 10 microns
$PM_{2.5}$..... Particulate Matter with an aerodynamic diameter not exceeding 2.5 microns
SO_2 ..... Sulfur Dioxide
VOC ..... Volatile Organic Compound

Section 1. Emissions Unit Inventory

Emissions Unit (EU) Authorization. Unless otherwise noted in this permit, the information in Table 1 is for identification purposes only. The specific EU descriptions do not restrict the Permittee from replacing an EU identified in Table 1.

Table 1 – Emissions Unit Inventory[1]

EU ID	Building No.	Emissions Unit Description	Rating/Size	Fuel Type	Installation or Construction Date
Dual Fuel-Fired and Fuel Oil-Fired Boilers					
3	FS802	Dual-Fired Boiler (Zurn)	180.9 MMBtu/hr	Dual Fuel (Gas/Diesel)	1970
4	FS802	Dual-Fired Boiler (Zurn)	180.9 MMBtu/hr	Dual Fuel (Gas/Diesel)	1987
17	FS909	West Ridge Research Bld. Diesel Boiler #1 (Weil McLain/BL1688w-GPr10)	4.93 MMBtu/hr	Diesel	2003
18	FS909	West Ridge Research Bld. Diesel Boiler #2 (Weil McLain/BL1688w-GPr10)	4.93 MMBtu/hr	Diesel	2003
19	FS919	BiRD Rm 100U3 Boiler #1 (Weil McLain/2094W)	6.13 MMBtu/hr	ULSD	2004
20	FS919	BiRD Rm 100U3 Boiler #2 (Weil McLain/2094W)	6.13 MMBtu/hr	ULSD	2004
21	FS919	BiRD Rm 100U3 Boiler #3 (Weil McLain/2094W)	6.13 MMBtu/hr	ULSD	2004
22	FS919	BiRD Rm 100U3 Boiler #4 (Bryan/EB200-S-150-FDGO)	8.5 MMBtu/hr	Diesel	2005
Diesel-Fired Engines					
8	FS817	Peaking/Backup Generator (Morse Colt-Pielstick)	13,266 Hp	Diesel	1999
24	FS423	Old University Park Emergency Generator Engine (Cummins/4B3.9-G2)	72 Hp[2]	#2 Diesel	2001
26	FS103	Duckering Classroom Engine (Mitsubishi-Bosh)	64 Hp[2]	#2 Diesel	1987
27	FS814	Alaska Center for Energy and Power Generator Engine No. 2 (Caterpillar C-15)	500 Hp	ULSD	2013
29	FS901	Arctic Health Research Emergency Generator Engine (Cummins/QSB7-G6)	314 Hp	ULSD	2013
34	FS919	BiRD Emergency Diesel Generator Engine No. 1 (Cummins QSB7-G5 NR3 Engine, EPA Tier 3, Model Year 2011)	324 Hp	Diesel	2015
35	SW910	Butrovich Adm. Building Emergency Generator Engine (Cummins QSK23-G7 NR2 Engine, EPA Tier 2, Model Year 2018)	1,220 Hp	ULSD	2019
Pathogenic Waste Incinerator					

EU ID	Building No.	Emissions Unit Description	Rating/Size	Fuel Type	Installation or Construction Date
9A	FS919	BiRD Incinerator (Therm-Tec/G-30P-1H)	83 lb/hr	Medical/ Infectious Waste	2006
Dual Fuel-Fired CFB Boiler (EU ID 113) and Associated Coal and Ash Handling Equipment					
105	FS840	Limestone Handling System for Boiler No. 1	1,200 acfm	NA	2018
107	FS840	Sand Handling System	1,600 acfm	NA	2018
109	FS840	Ash Handling System	1,000 acfm	NA	2018
110	FS840	Ash Handling System Vacuum	2,000 acfm	NA	2018
111	FS840	Ash Loadout to Truck	NA	NA	2018
113	FS840	Dual Fuel-Fired Circulating Fluidized Bed (CFB) Boiler	295.6 MMBtu/hr	Coal/Woody Biomass	2018
114	FS840	Dry Sorbent Handling Vent Filter Exhaust	5 acfm	NA	2018
128	FS840	Coal Silo No. 1 with Bin Vent	1,650 acfm	NA	2018
129	FS840	Coal Silo No. 2 with Bin Vent	1,650 acfm	NA	2018
130	FS840	Coal Silo No. 3 with Bin Vent	1,650 acfm	NA	2018

Table Notes:

[1] Only the EUs with new operating limits and conditions due to this permit appear in Table 1.
[2] Engine rating in Hp is calculated from the electrical output assuming 95 pct. efficiency (i.e., Hp = kW * 1.341/0.95).

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

Section 2. Fee Requirements

2. Fee Requirements. The Permittee shall pay to the Department all assessed permit fees. Fee rates are set out in 18 AAC 50.400-499.

3. Assessable Emissions. For each period from July 1 through the following June 30, the Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions, as determined by the Department under 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit. The quantity for which fees will be assessed is the lesser of the stationary source's

3.1 potential to emit of 1,715.8 TPY; or

3.2 projected annual rate of emissions, in TPY, based upon actual annual emissions for the most recent calendar year, or another 12-month period approved in writing by the Department, when demonstrated by credible evidence of actual emissions, based upon the most representative information available from one or more of the following methods:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

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

4. Assessable Emission Estimates. The Permittee shall comply with the following:

4.1 No later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions as determined in Condition 3.2. Submit actual emissions estimates in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-condition-i-submission-instructions/.

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

4.3 If no estimate or waiver letter is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 3.1.

Section 3. State Implementation Plan (SIP) Requirements

Fairbanks $PM_{2.5}$ Serious Nonattainment Area SIP Requirements

5. Dual Fuel-Fired Boiler Emissions Limits. The Permittee shall limit the emissions from the dual fuel-fired boiler EU ID 113 as specified in ified in Table 2.

Table 2 - EU ID 13 SIP BACT Limits

Pollutant	BACT Control	BACT Emissions Limit
$PM_{2.5}$	Good Combustion Practices Fabric Filters	0.012 lb/MMBtu (3-hour average) State Visible Emissions Standards 18 AAC 50.055(a)(1)

5.1 For EU ID 113 the Permittee shall

a. Conduct a a one-time source test on EU ID 113, after the control device, in accordance with Section 6, within 180 days of permit issuance, or by June of the year following the date of permit issuance, whichever comes later, to demonstrate compliance with the $PM_{2.5}$ emissions limit listed in Table 2.

(i) Conduct the source test at the maximum achieveable load of the boiler using EPA Methods 201A and 202.

(ii) Emission results shall be reported as the arithmetic 3-hour average of all valid test runs and shall be in units of lb/MMBtu.

(iii) The Permittee shall report the results of the source test in accordance with Condition 33.

(iv) Include a summary of the source test results in the next operating report that is due after the submittal date of the source test report in accordance with Condition 18.

b. Report the compliance status with the $PM_{2.5}$ emissions limits in Table 2 in accordance with each annual compliance certification described in Condition 19.

c. Operate the EU with fabric filters and maintain good good combustion practices at all times of operation.

(i) Keep records of the date and time identifying each time-period that the EU is operated without a fabric filter.

(ii) Perform regular maintenance regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(iii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format

(iv) Keep a copy of the manufacturer's and the operator's maintenance procedures.

(v) Operate the EU consistent with manufacturer's recommended combustion settings (e.g., maximum CO, excess air in flue gas, and other relevant parameters) or those established during the source test conducted to demonstrate compliance with the BACT emissions limit in Table 2.

d. Monitor visible emissions to ensure compliance with the State Visible Emissions Standard in Table 2 using a Continuous Opacity Monitoring System (COMS).

(i) The Permittee shall demonstrate compliance with Condition 5.1d by following the Department's Standard Permit Condition XIII – Coal Fired Boilers (as adopted July 22, 2020), as well as the Department's Default COMs Audit Procedures (as adopted August 20, 2008), both of which are available on the following website: https://dec.alaska.gov/air/air-permit/standard-conditions/; and

e. Report in accordance with Condition 18

(i) a summary of the maintenance records collected under Condition 5.1c(iii); and

(ii) the highest 6-minute average opacity measured by the COMs during the reporting period under Condition 5.1d.

f. Report in accordance with Conditon 17, whenever

(i) an emissions rate determined by the source test required by Condition 5.1a exceeds the limit in Table 2;

(ii) a boiler is operated without a fabric filter as recorded in Condition 5.1c(i); or

(iii) any of Conditions 5.1a through 5.1e are not met.

6. Mid-Sized Diesel-Fired Boilers. The Permittee shall limit the emissions from the mid-sized diesel-fired boilers EU IDs 3 and 4 as specified in Table 3.

Table 3 - EU IDs 3 and 4 SIP BACT Limits

EU ID	Pollutant	BACT Control	Fuel Type	BACT Emissions Limit
3	$PM_{2.5}$	Good Combustion Practices and Limited Operation	Diesel Fuel	0.012 lb/MMBtu
4			Diesel Fuel	0.012 lb/MMBtu
			Natural Gas	0.0075 lb/MMBtu

6.1 For EU IDs 3 and 4, the Permittee shall:

a. Conduct a one-time source test on EU IDs 3 or 4 on diesel fuel and EU ID 4 on natural gas, in accordance with Section 6, within 180 days of permit issuance, or by June of the year following the date of permit issuance, whichever comes later, to demonstrate compliance with the $PM_{2.5}$ emissions limit listed in Table 3.

(i) Conduct the source test at the maximum achieveable load of the boiler using EPA Methods 201A and 202.

(ii) Emission results shall be reported as the arithmetic 3-hour average of all valid test runs and shall be in units of lb/MMBtu.

(iii) The Permittee shall report the results of the source test in accordance with Condition 33.

(iv) Include the the following in the next operating report in accordance with Condition 18, that is due after the submittal date of the source test report:

(A) a summary of the source test results; and

(B) relevant combustion settings (including but not limited to average CO and O_2 concentrations in the flue gas) established during the source test that demonstrates compliance with the BACT $PM_{2.5}$ emissions limit in Table 3.

b. Report the compliance status with the $PM_{2.5}$ emissions limits in Table 3 in accordance with each annual compliance certification described in Condition 19.

c. Maintain good good combustion practices at all time the EUs are in operation.

(i) Perform regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(ii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iii) Keep a copy of the manufacturer's and the operator's maintenance procedures.

(iv) Report in accordance with Condition 18, a summary of the maintenance records collected under Condition 6.1c(ii).

(v) Operate the EUs consistent with manufacturer's recommended combustion settings (e.g., maximum CO, excess air in flue gas, and other relevant parameters) or those established during the source test conducted to demonstrate compliance with the BACT emissions limit in Table 3.

(A) For each of EU IDs 1 and 2, measure and record the CO and O_2 concentrations in the exhaust stream using a portable handheld combustion analyzer during or within 30 days after the end of a calendar quarter that the EU operates.[1]

(B) Include copies of the records required by Condition 6.1c(v)(A) for the reporting period, in each operating report required by Condition Condition 18.

d. Report in accordance with Conditon 17, whenever

(i) an emissions rate determined by the source test required by Condition 6.1a exceeds the limit in Table 3; or

[1] It is not the Department's intention to require the Permittee to start up an EU just to perform the CO and O_2 concentration measurements.

(ii) any of Conditions 6.1a through 6.1c are not met.

6.2 For EU IDs 4 and 8, the Permittee shall comply with Conditions 3 through 3.6 of Minor Permit AQ0316MSS05, issued August 4, 2016.

7. Diesel-Fired Boilers Emissions Limits. The Permittee shall limit the emissions from the diesel-fired boilers, EU IDs 17 through 22, as specified in Table 4**.**

Table 4 - EU IDs 17 through 22 SIP BACT Limits

Pollutant	BACT Control	Fuel Type	BACT Emissions Limit
$PM_{2.5}$	Good Combustion Practices and Limited Operation	Diesel	0.016 lb/MMBtu (3-hour average)

7.1 For EU IDs 17 through 22, the Permittee shall demonstrate compliance with the $PM_{2.5}$ BACT emissions limit contained in Table 4 as follows:

a. Maintain good combustion practices at all times the EUs are in operation.

(i) Perform regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(ii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iii) Keep a copy of the manufacturer's and the operator's maintenance procedures.

b. Report the compliance status with the $PM_{2.5}$ emissions limit in Table 4 in accordance with each annual compliance certification described in Condition 19.

c. Report under Condition 18, a summary of the maintenance records collected under Condition 7.1a(ii).

d. Report in accordance with Condition 17, whenever

(i) an emissions rate exceeds the limit in Table 4; or

(ii) any of Conditions 7.1a through 7.1c are not met.

7.2 For EU IDs 19 through 22, the Permittee shall comply with Conditions 7.1 through 7.2 of Minor Permit AQ0316MSS07, issued August 10, 2021.

8. Large Diesel-Fired Engines Emissions Limits. The Permittee shall limit the emissions from the large diesel-fired engines, EU IDs 8 and 35, as specified in Table 5.

Table 5 - EU IDs 8 and 35 SIP BACT Limits

EU ID	Pollutant	BACT Control	BACT Emissions Limit

8	$PM_{2.5}$	Good Combustion Practices, Positive Crankcase Ventilation, Limited Operation, and Combust ULSD	0.32 g/hp-hr (3-hour average)
35			0.05 g/hp-hr (3-hour average)

8.1 For EU IDs 8 and 35, the Permittee shall demonstrate compliance with the $PM_{2.5}$ BACT emissions limits contained in Table 5 as follows:

a. Maintain good combustion practices at all times the EUs are in operation.

(i) Perform regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(ii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iii) Keep a copy of the manufacturer's and the operator's maintenance procedures.

b. Combust only ULSD (fuel sulfur limit of 15 ppmw). Monitor, record, and report as follows:

(i) For each shipment of fuel, keep receipts that specify fuel grade and amount.

c. Maintain a positive crankcase ventilation (PCV) system at all times the EUs operate in accordance with the manufacturer's and operator's recommended operating and maintenance procedures.

(i) Submit an initial certification that the PCV systems listed in Table 5 has been installed or is an inherent design to the EUs, in the first operating report due after permit issuance, as required by Condition 18.

d. Limit the maintenance checks, readiness testing, and non-emergency operation of each EU to 100 hours per calendar year.

(i) For EU IDs 8 and 35, monitor, record, and report as follows:

(A) Maintain and operate a non-resettable hour meter, capable of recording the total hours of operation.

(B) By the end of each calendar month, record the total operating hours of the EU

(1) for the previous calendar month; and

(2) for the previous 12 consecutive months, as calculated using the records obtained under Condition 8.1d(i)(B)(1).

e. Report the compliance status with the $PM_{2.5}$ emissions limits in Table 5 in accordance with each annual compliance certification described in Condition 19.

f. Report in accordance with Condition 18

(i) a summary of the maintenance records collected under Condition 8.1a(ii);

(ii) the fuel receipt records required by Condition 8.1b(i); and

(iii) the operating hour records for each engine collected under Condition 8.1d(i)(B)(2).

g. Report in accordance with Condition 17, whenever

(i) an emissions rate exceeds the limit in Table 5; or

(ii) any of Conditions 8.1a through 8.1f are not met.

8.2 For EU ID 8, the Permittee shall comply with Condition 6.2.

9. Small Diesel-Fired Engines Emissions Limits. The Permittee shall limit the emissions from the large diesel-fired engines, EU IDs 24, 26, 27, 29, and 34, as specified in Table 6.

Table 6 - EU IDs 24, 26, 27, 29, and 34 SIP BACT Limits

EU ID	Pollutant	BACT Control	BACT Emissions Limit
26	$PM_{2.5}$	Good Combustion Practices	1.0 g/hp-hr (3-hour average)
24		Good Combustion Practices and Limited Operation	1.0 g/hp-hr (3-hour average)
27 & 34			0.15 g/hp-hr (3-hour average)
29			0.015 g/hp-hr (3-hour average)

9.1 For EU IDs 24, 26, 27, 29, and 34, the Permittee shall demonstrate compliance with the $PM_{2.5}$ BACT emissions limits contained in Table 6 as follows:

a. Maintain good combustion practices at all times the EUs are in operation.

(i) Perform regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(ii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iii) Keep a copy of the manufacturer's and the operator's maintenance procedures.

b. For EU IDs 24, 27, 29, and 34, Limit the maintenance checks, readiness testing, and non-emergency operation of each EU to 100 hours per calendar year.

(i) For EU IDs 24, 27, 29, and 34 monitor, record, and report as follows:

(A) Maintain and operate a non-resettable hour meter, capable of recording the total hours of operation.

(B) By the end of each calendar month, record the total operating hours of the EU

(1) for the previous calendar month; and

(2) for the previous 12 consecutive months, as calculated using the records obtained under Condition 8.1d(i)(B)(1).

c. Report in accordance with Condition 18

(i) a summary of the maintenance records collected under Condition 9.1a(ii); and

(ii) the operating hour records for each engine collected under Condition 9.1b(i)(B)(2).

d. Report the compliance status with the $PM_{2.5}$ emissions limits in Table 6 in accordance with each annual compliance certification described in Condition 19.

e. Report in accordance with Condition 17, whenever

(i) an emissions rate exceeds the limit in Table 6; or

(ii) Any of Conditions 9.1a through 9.1d are not met.

9.2 For EU ID 27, the Permittee shall comply with Conditions Conditions 4 through 4.1 of Minor Permit AQ0316MSS03, issued January 16, 2013.

10. Incinerator Emissions Limits. The Permittee shall limit the $PM_{2.5}$ emissions from the incinerator EU ID 9A as specified in Table 7.

Table 7 - EU ID 9A SIP BACT Limits

Pollutant	BACT Control	BACT Emissions Limit
$PM_{2.5}$	Good Combustion Practices Multi Chamber Design	4.67 lb per ton of waste 109 tons per 12-month rolling period

10.1 For EU ID 9A, the Permittee shall demonstrate compliance with the $PM_{2.5}$ requirements in Table 7 as follows:

a. Maintain good combustion practices at all times the EU is in operation.

(i) Perform regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(ii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iii) Keep a copy of the manufacturer's and the operator's maintenance procedures.

b. Control $PM_{2.5}$ emissions by using a multiple chamber designed incinerator.

c. Weigh and record the weight of each batch of waste combusted in EU ID 9A

(i) by the end of each calendar month, calculate and record the total quantity of waste combusted for the previous month in tons; and

(ii) for the previous 12 consecutive months, as calculated using the records obtained under Condition 10.1c(i).

d. Report in accordance with Condition 18

(i) a summary of the maintenance records collected under Condition 10.1a(ii);

(ii) a statement indicating whether EU ID 9A is equipped with at least primary and secondary combustion chambers;

(iii) the quantity of monthly waste combusted under Condition 10.1c(i); and

(iv) the rolling 12-month quantity of waste combusted under Condition 10.1c(ii).

e. Report the compliance status with the $PM_{2.5}$ emissions limits in Table 7 in accordance with each annual compliance certification described in Condition 19.

f. Report in accordance with Condition 17, whenever

(i) a limit in Table 7 is exceeded, or

(ii) whenever any of the requirements in Conditions 10.1a through 10.1e are not met.

11. Material Handling Units Emissions Limits. The Permittee shall limit the $PM_{2.5}$ emissions from the material handling units EU IDs 105, 107, 109, 110, 114, and 128 through 130 as specified in Table 8.

Table 8 - EU IDs 105, 107, 109, 110, 114, and 128 through 130 SIP BACT Limits

EU IDs	Pollutant	BACT Control	BACT Emissions Limit
105, 107, 109, 110, and 128 through 130	$PM_{2.5}$	Fabric Filter, Enclosure, & Vents	0.03 gr/dscf
114			0.050 gr/dscf

11.1 For EU IDs 105, 107, 109, 110, and 128 through 130, the Permittee shall demonstrate compliance with the $PM_{2.5}$ requirements in Table 8 as follows:

a. Operate the EUs with fabric filters and vents at all times of operation.

(i) Keep records of the date and time identifying each time period that an EU is operated without a fabric filter or vent.

(ii) Perform regular maintenance regular maintenance according to the manufacturer's and the operator's maintenance requirements and procedures.

(iii) Keep records of any maintenance that would have a significant effect on emissions. The records may be kept in electronic format.

(iv) Keep a copy of the manufacturer's and the operator's maintenance procedures.

b. Operate the EUs in an enclosure.

(i) Keep records of the date and time identifying each time period that an EU is operated outside of an enclosure.

c. For each of the EUs, the Permittee shall within six months of issuance of this permit either:

(i) provide vendor data documenting that EU IDs 105, 107, 109, 110, 114, and 128 through 130 meet the emission limits of Table 8; or

(ii) perform an initial Method 9 observation. For all Method 9 observations, observe emissions unit exhaust for 18 consecutive minutes to obtain a minimum of 72 consecutive 15-second opacity observations in accordance with Method 9 of 40 C.F.R. 60, Appendix A-4; or

(iii) documentation of the previous submittal where the obligations of Conditions 11.1c(i) or 11.1c(ii) were met.

d. If the 18 consecutive minutes of the initial Method 9 observations conducted under Condition 11.1c(ii) result in an 18-minute average opacity greater than 10 percent for EU IDs 105, 107, 109, 110, or 128 through 130, or 20 percent for EU ID 114, the Permittee shall conduct a $PM_{2.5}$ source test in accordance with the methods and procedures specified in 40 C.F.R. 60 Appendix A and Section 6 to determine the $PM_{2.5}$ emission rate.

(i) If required under Condition 11.1d, the Permittee shall report the results of source test(s) in accordance with Condition 33.

(ii) If required under Condition 11.1c(ii), include copies of the results of initial Method 9 observations conducted under Condition 11.1c(ii) in the first operating report required under Condition 18.

e. Report the the compliance status with the $PM_{2.5}$ emissions limits in Table 8 in accordance with each annual compliance certification described in Condition 19.

f. Report in accordance with Condition 18 a summary of the records collected under Condition 11.1a(iii).

g. Report in accordance with Condition 17, whenever

(i) an emissions rate exceeds a limit in Table 8;

(ii) an EU is operated without a fabric filter as recorded in Condition 11.1a(i);

(iii) an EU is operated outside of an enclosure as recorded in Condition 11.1b(i); or

(iv) whenever any of the requirements in Conditions 11.1a through 11.1f are not met.

12. Ash Loadout to Truck EU ID 111. The Permittee shall limit the $PM_{2.5}$ emissions from the ash loadout to truck EU ID 111 as specified in Table 9.

Table 9 - EU ID 111 SIP BACT Limits

Pollutant	BACT Control	BACT Emissions Limit
$PM_{2.5}$	Enclosure	5.05E-05 pound per ton of ash

12.1 For EU ID 111, the Permittee shall demonstrate compliance with the $PM_{2.5}$ requirements in Table 9 as follows:

a. Operate EU ID 111 in an enclosure during all ash loadout operations.

(i) Monitor that overhead door(s) at coal ash loading building are closed while loading the trucks. Monitor that ash truck bodies are free of ash before they leave the building, and that their loads are tarped before they leave the building area. Minimize fugitive dust from coal ash handling operations.

(ii) Keep records of the date and time identifying each time period that EU ID 111 was not enclosed during ash loadout operations.

b. Report the the compliance status with the $PM_{2.5}$ emissions limit in Table 9 in accordance with each annual compliance certification described in Condition 19.

c. Report in accordance with Condition 17; whenver

(i) a limit in Table 9 is exceeded; or

(ii) whenever any of the requirements in Conditions 12.1a through 12.1b are not met.

Section 4. Recordkeeping, Reporting, and Certification Requirements

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

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

13.2 Records of all monitoring required by this permit, and information about the monitoring including:

a. the date, place, and time of sampling or measurements;

b. the date(s) analyses were performed;

c. the company or entity that performed the analyses;

d. the analytical techniques or methods used;

e. the results of such analyses; and

f. the operating conditions as existing at the time of sampling or measurement.

Reporting Requirements

14. Certification. The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: *"Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete."* Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

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

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

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

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

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

16. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke, reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the federal administrator.

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

17.1 **Excess Emissions Reporting.** The Permittee shall report all emissions or operations that exceed emissions standards or limits of this permit as follows:

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

(i) excess emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable.

b. In accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology-based emission standard.

c. If a continuous or recurring excess emissions is not corrected within 48 hours of discovery, report within 72 hours of discovery unless the Department provides written permission to report under Condition 17.1d.

d. Report all other excess emissions not described in Conditions 17.1a, 17.1b, and 17.1c within 30 days after the end of the month during which the excess emissions occurred or as part of the next routine operating report in Condition 18 for excess emissions that occurred during the period covered by the report, whichever is sooner.

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

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

a. Report all other permit deviations within 30 days after the end of the month during which the deviation occurred or as part of the next routine operating report in Condition 18 for permit deviations that occurred during the period covered by the report, whichever is sooner.

17.3 **Reporting Instructions.** When reporting either excess emissions or permit deviations, the Permittee shall report using the Department's online form for all such submittals, beginning no later than September 7, 2023. The form can be found at the Division of Air Quality's Air Online Services (AOS) system webpage http://dec.alaska.gov/applications/air/airtoolsweb using the Permittee Portal option. Alternatively, upon written Department approval, the Permittee may submit the form contained in Section 7 of this permit. The Permittee must provide all information called for by the form that is used. Submit the report in accordance with the submission instructions on the Department's Standard Permit Conditions webpage found at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-conditions-iii-and-iv-submission-instructions/.

18. Operating Reports. During the life of this permit[2], the Permittee shall submit to the Department an operating report in accordance with Conditions 14 and 15 by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.

18.1 The operating report must include all information required to be in operating reports by other conditions of this permit, for the period covered by the report.

18.2 When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 18.1, the Permittee shall identify

a. the date of the excess emissions or permit deviation;

b. the equipment involved;

c. the permit condition affected;

d. a description of the excess emissions or permit deviation; and

e. any corrective action or preventive measures taken and the date(s) of such actions; or

18.3 when excess emissions or permit deviation reports have already been reported under Condition 17 during the period covered by the operating report, the Permittee shall either

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

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

18.4 The operating report must include, for the period covered by the report, a listing of emissions monitored under Conditions 11.1d which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report

a. the date of the emissions;

b. the equipment involved;

c. the permit condition affected; and

d. the monitoring result which triggered the additional monitoring.

19. Annual Compliance Certification. Each year by March 31, the Permittee shall compile and submit to the Department an annual compliance certification report according to Condition 14.

19.1 Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:

a. identify each term or condition set forth in Section 2 through Section 6, that is the basis of the certification;

b. briefly describe each method used to determine the compliance status;

[2] *Life of this permit* is defined as the permit effective dates, including any periods of reporting obligations that extend beyond the permit effective dates. For example, if a permit expires prior to the end of a calendar year, there is still a reporting obligation to provide operating reports for the periods when the permit was in effect.

c. state whether compliance is intermittent or continuous; and

d. identify each deviation and take it into account in the compliance certification.

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

Section 5. Standard Permit Conditions

20. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

20.1 an enforcement action; or

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

21. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

22. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

23. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

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

25. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

25.1 enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;

25.2 have access to and copy any records required by this permit;

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

25.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 6. General Source Test Requirements

26. Requested Source Tests. In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

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

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

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

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

28.1 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A, Reference Method 9. The Permittee may use the form in Attachment 1 of this permit to record data.

28.2 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

28.3 Source testing for emissions of PM_{10} and $PM_{2.5}$ must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

28.4 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

29. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific emissions unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

30. Test Deadline Extension. The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

31. Test Plans. Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the emissions unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 26 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

32. **Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and time the source test will begin.

33. **Test Reports.** Within 60 days after completing a source test, the Permittee shall submit one certified copy of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 1. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

Section 7. Notification Form[3]

University of Alaska Fairbanks Campus	**AQ0316MSS08 Revision 1**
Stationary Source Name	Air Quality Permit Number.

University of Alaska Fairbanks

Company Name

When did you discover the Excess Emissions/Permit Deviation?

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

When did the event/deviation occur?

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

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

What was the duration of the event/deviation? ____:____ (hrs:min) or ____days

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

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

☐ Excess Emissions - Complete Section 1 and Certify

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

☐ Deviation from Permit Conditions - Complete Section 2 and Certify

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

☐ Deviation from COBC[4], CO[5], or Settlement Agreement - Complete Section 2 and Certify

[3] Revised as of November 7, 2020.
[4] Compliance Order By Consent
[5] Compliance Order

Section 1. Excess Emissions

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

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

☐Start Up/Shut Down
☐Natural Cause (weather/earthquake/flood)
☐Control Equipment Failure
☐Scheduled Maintenance/Equipment Adjustments
☐Bad fuel/coal/gas
☐Upset Condition
☐Other _____

(c) **Description**

Describe briefly what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance. Attach supporting information if necessary.

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

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

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

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

☐Opacity _____%
☐Venting _____(gas/scf)
☐Control Equipment Down
☐Fugitive Emissions

☐ Emission Limit Exceeded
☐ Marine Vessel Opacity
☐ Flaring
☐ Other: _____

(f) **Corrective Actions:**

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

(g) **Unavoidable Emissions:**

Do you intend to assert that these excess emissions were unavoidable? ☐ YES ☐ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ YES ☐ NO

Certify Report (go to end of form)

Section 2. Permit Deviations

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

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

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

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

EU ID	EU Name	Permit Condition /Potential Deviation

(c) **Description of Potential Deviation:**

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

(d) **Corrective Actions:**

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

Certification:

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

Printed Name:_____Title_____Date _____

Signature:_____ Phone number_____

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j). Read and sign the certification in the bottom of the form above. (See Condition 14.)*

Beginning September 7, 2023, Excess Emissions and Permit Deviations must be submitted through the AOS Permittee Portal at http://dec.alaska.gov/applications/air/airtoolsweb/.

This Notification Form may only be used to satisfy the reporting requirements if the Department has approved alternative reporting options in writing prior to submittal.

Section 8. Permit Documentation

Date	Document Details
July 30, 2024	Department sent UAF a Notice of Intent to Revoke and Reissue Minor Permit AQ0316MSS08.