

TITLE V PERMIT RENEWAL APPLICATION



Chugach Electric Association / Beluga River Power Plant

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1. PERMIT RENEWAL INFORMATION

Chugach Electric Association Inc. (Chugach) owns and operates the Beluga River Power Plant (the Beluga Plant), located in Beluga, Alaska. The facility currently operates under Title V Operating Permit No. AQ0106TVP04, which was issued by the Alaska Department of Environmental Conservation (ADEC) and expires on July 8, 2025. This document serves as the renewal application for Chugach’s Title V permit for the Beluga Plant, Operating Permit No. AQ0106TVP04.

1.1 Renewal Application Overview

Section 1 of this permit application contains information required for the renewal application: a summary of required application elements, a description of fees, compliance information, identification of insignificant sources based on emission rates, and a summary of Compliance Assurance Monitoring (CAM) applicability.

Section 2 contains a list of proposed updates to Chugach’s existing Title V Permit No. AQ0106TVP04. A red-lined version of the proposed Title V permit changes is included in Appendix G.

The statement of Chugach’s current compliance status with the existing Title V permit is included in Section 3, along with a signed certification statement. The methods by which Chugach assesses compliance with each of these conditions are documented in the 2023 Annual Compliance Certification for the Beluga Plant, which is provided in Appendix F.

Supporting documentation is contained in the appendices, including the required Title V renewal application forms (Appendix A), a facility plot plan (Appendix B), an emission unit inventory (Appendix C), emission calculations (Appendix D), a listing of categorically insignificant sources (Appendix E), a copy of the 2023 Annual Compliance Certification (Appendix F), and a redlined version of the existing Title V permit (Appendix G).

1.2 Required Renewal Application Elements

Per the application requirements of the Federal Operating Permit Program (40 CFR Part 71.5) and ADEC’s Title V operating permit regulation (18 AAC 50.326), applications for the renewal of a Title V permit must contain the same information and level of review as the initial application. Table 1-1 lists the information that is required for submittal and the location of the required information within this report.

Table 1-1. Required Permit Application Elements ^a

Citation	Required Information	Location of Required Information
18 AAC 50.326(c), AS 46.14.150 & 40 CFR 71.5(a)	Timely and complete Application	This application was submitted prior to the January 8, 2025 deadline for the permit renewal.
40 CFR 71.5(a)(1)(iii)	Renewals	

Citation	Required Information	Location of Required Information
18 AAC 50.326(c) & AS 46.14.520	Confidentiality of Information	Chugach has not requested confidentiality for this permit renewal application.
40 CFR 71.5(c)(1) & (2)	Source Identification, Process and product description with alternative operating scenarios	Forms A1 and A4 (provided in Appendix A) contain general facility information. A facility plot plan is provided in Appendix B. Source information is also available in the current permit No. AQ0106TVP04.
40 CFR 71.5(c)(3)	Major emissions, emission points, emission rates, description of control equipment, and limitations of equipment. If applicable, the compliance assurance monitoring system submittal per 40 CFR 64.4	Form Series B (provided in Appendix A) contains a list of significant and insignificant emission units at the facility. Appendix C contains detailed information about each significant emission unit. Detailed emission calculations are provided in spreadsheet format in Appendix D in lieu of submitting Form Series D. The Fiscal Year 2024 Assessable Emissions Report is also included in Appendix D to satisfy the requirement to provide actual emissions from the facility. No change to the Compliance Assurance Monitoring (CAM) applicability determination, as discussed in Section 1.8 of this report.
40 CFR 71.5(c)(4)	Air Pollution Control Requirements	Sections 3 through 9 of the current operating permit No. AQ0106TVP04 contain the state and federal operating requirements for the facility and specific equipment units. No changes to these requirements are requested.
18 AAC 50.326(c) & 18 AAC 50.400-430	Application Fees ^b	A description of fee requirements is included in the current operating permit No. AQ0106TVP04. Chugach is required to pay an annual permit fee and an annual compliance review fee per ADEC's request.
40 CFR 71.5(c)(5)	Information to determine applicability, implement and enforce other applicable requirements	The applicability of relevant requirements of the Clean Air Act, and information necessary to implement and enforce these requirements, is contained throughout the current operating permit No. AQ0106TVP04. No changes to these requirements are proposed.
40 CFR 71.5(c)(6)	Proposed exemption explanations	Section 10 of the current operating permit No. AQ0106TVP04 contains the permit shield for the facility.
40 CFR 71.5(c)(7) via 40 CFR 71.6(a)(9)	Terms and conditions for reasonably anticipated operating conditions	Chugach does not have any alternate operating scenarios for the Beluga Plant; the current operating permit contains terms and conditions for the normal operating scenario. No changes are proposed.
40 CFR 71.5(c)(7) via 40 CFR 71.6(a)(10)	Terms and conditions for the trading of emissions	Chugach does not use alternate operating scenarios that require trading emissions between sources at the Beluga Plant.

Citation	Required Information	Location of Required Information
40 CFR 71.5(c)(8)	Compliance Plan	The current compliance status of the Beluga Plant is identified in Section 1.5 of this renewal application, along with the required compliance statements for current and upcoming requirements; the methods used to assess compliance with the current operating permit are described in Appendix F. The Beluga Plant does not have any outstanding compliance issues that necessitate the development and implementation of a compliance plan.
40 CFR 71.5(c)(9)	Certification of Accuracy and Completeness	The required signed certification statement, an explanation of methods used for determining compliance, and a schedule for the submission of compliance certifications during the renewal permit's term are contained in Section 3 and Appendix F of this renewal application.
18 AAC 50.326(d)	Insignificant Emission units (All Bases)	The current operating permit lists each requirement that applies to insignificant emission units at the Beluga Plant. These units are listed in Section 1.7 and Appendix E of this report, along with a regulatory basis for why each is insignificant. The compliance certifications described in the previous line-item address insignificant emission units.
18 AAC 50.326(e)	Insignificant Emission units: Emission Rate Basis	Projected emissions for insignificant units which are designated insignificant because of their emission rates, are presented in Section 1.7; detailed supporting information for these calculations is presented in Appendix D.
18 AAC 50.326(f)	Insignificant Emission units: Category Basis	A checklist of categorically insignificant units and activities at the Beluga Plant is contained in Appendix E.
18 AAC 50.326(g)	Insignificant Emission units: Size or Production Rate Basis	A checklist of insignificant units and activities designated insignificant by size or production rate at the Beluga Plant is contained in Appendix E.
18 AAC 50.326(h)	Insignificant Emission units: Case-by-Case Basis	N/A
18 AAC 50.326(i)	Administratively Insignificant Emission units	A checklist of administratively insignificant units and activities at the Beluga Plant is contained in Appendix E.

- a. If a spreadsheet or other alternative is submitted in lieu of a required form, the alternative contains all information required by the form, unless otherwise stated.
- b. Potential emission estimates are presented in Section 1.3; however, Chugach estimates its fees based on actual emissions for the 12-month period, rather than potential emissions.

1.3 General Emissions Information

Appendix D contains the current potential to emit (PTE) calculations for regulated emission units at Chugach's Beluga Plant and identifies corresponding emission factors.

An updated PTE emission inventory of applicable criteria pollutants, greenhouse gases (GHGs) and hazardous air pollutants (HAPs), using the most current operational information, is located in Appendix D. The significant emission sources at the Beluga Plant are comprised of fuel combustion equipment and a cooling water tower. Emissions of NO_x, CO, PM, and VOC in tons per year (tpy) are estimated using source test results, manufacturer data, and default AP-42 emission factors. SO₂ emissions are estimated using a mass balance of sulfur, based on the sulfur content of the fuel and facility-wide fuel usage rates. Additionally, insignificant source demonstrations are included in Appendix E.

Table 1-2 presents potential emissions estimates for the Beluga Plant. The potential HAP emission estimates confirm the Beluga Plant’s status as an area source with respect to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulations codified under 40 CFR Part 63.

Table 1-2. Potential Emissions Summary

Regulated Air Pollutant	Potential Emissions (tpy)
NO _x	3,410
SO ₂	35
CO	879
PM ₁₀	71
PM _{2.5}	71
VOCs	22
Total Criteria Pollutants ^a	4,417
GHGs (CO ₂ e) ^b	1,256,247
Maximum Single HAP	1.4
Total HAP	4

- a. Since PM_{2.5} is a subcategory of PM₁₀, only PM₁₀ is included in the total criteria pollutant emissions estimate.
- b. The GHG emission estimate is expressed as CO₂ equivalent emissions (CO₂e).

1.4 Regulatory Review

There are no newly applicable New Source Performance Standards (NSPS) or NESHAP regulations that Chugach is required to comply with. No changes to the current applicable requirements are proposed.

1.5 Compliance Information

Table 1-3 provides a statement of compliance with each corresponding condition, term, or requirement in the current Title V permit. The condition-numbering scheme is reflective of the current Title V permit (No. AQ0106TVP04). The compliance demonstration methodology described in Chugach’s 2023 Annual Compliance Certification (provided in Appendix F) is used to assess and confirm compliance with each permit requirement at the time of this application’s submittal. Because Table 1-3 represents Chugach’s current compliance status on the submittal date of this application, it does not reflect a particular reporting period. The next full period review of compliance will take place in early 2025 for the reporting year 2024 Annual Compliance Certification. Chugach will continue to comply with these requirements and will achieve compliance with any newly applicable requirements that become effective during the next permit term on a timely basis.

Table 1-3. Current Compliance Status for Title V Permit No. AQ0106TVP04

Condition No.	Current Compliance Status	Condition No.	Current Compliance Status
1	In Compliance	37	In Compliance
2	In Compliance	38	In Compliance
3	In Compliance	39	In Compliance
4	In Compliance	40	In Compliance
5	In Compliance	41	In Compliance
6	In Compliance	42	In Compliance
7	In Compliance	43	In Compliance
8	In Compliance	44	In Compliance
9	In Compliance	45	In Compliance
10	In Compliance	46	In Compliance
11	In Compliance	47	In Compliance
12	In Compliance	48	In Compliance
13	In Compliance	49	In Compliance
14	In Compliance	50	In Compliance
15	In Compliance	51	In Compliance
16	In Compliance	52	In Compliance
17	In Compliance	53	In Compliance
18	In Compliance	54	In Compliance
19	In Compliance	55	In Compliance
20	In Compliance	56	In Compliance
21	In Compliance	57	In Compliance
22	In Compliance	58	In Compliance
23	In Compliance	59	In Compliance
24	In Compliance	60	In Compliance
25	In Compliance	61	In Compliance
26	In Compliance	62	In Compliance
27	In Compliance	63	In Compliance
28	In Compliance	64	In Compliance
29	In Compliance	65	In Compliance
30	In Compliance	66	In Compliance
31	In Compliance	67	In Compliance
32	In Compliance	68	In Compliance
33	In Compliance	69	In Compliance
34	In Compliance	70	In Compliance
35	In Compliance	71	In Compliance
36	In Compliance		

1.6 Permit Shield

The only change to the permit shield proposed is due to the decommissioning of EU ID 10. Details on what contents of the permit shield that are slated to be removed are detailed in the redlined permit pages in Appendix G. Chugach is not requesting that any items be added to the permit shield at this time.

1.7 Insignificant Emission Units

In addition to the information regarding insignificant emission units referenced in Table 1-1, Table 1-4 below provides an itemized listing of the emission units determined to be insignificant on an emission rate basis (18 AAC 50.326(e)) along with appropriate justifications. There are three (3) insignificant emission units designated insignificant on an emission rate basis at the Beluga Plant as of the submission of this renewal.

As demonstrated in Table 1-4, insignificant EU IDs 14-16 are deemed insignificant because the pollutant-specific PTE of each unit is below the relevant emission thresholds provided in 18 AAC 50.326(e).

Table 1-4. Insignificant Sources (Emission Rate Basis)

Pollutant	Estimated Maximum Annual Emission Rate (tpy)			Insignificant Threshold (tpy)
	EU ID 14	EU ID 15	EU ID 16	
NO _x	1.72	1.72	1.72	2.00
CO	1.44	1.44	1.44	5.00
PM ₁₀	0.13	0.13	0.13	0.75
VOC	0.094	0.094	0.094	2.00
SO ₂	0.058	0.058	0.058	2.00

All remaining insignificant emission units are considered insignificant based on unit size under 18 AAC 50.326(g) or by some other categorical basis under 18 AAC 50.326(f). Details on insignificant emission unit bases can be found in Appendix E.

1.8 Control Equipment and CAM Applicability

Chugach determined in the current Title V permit (No. AQ0106TVP04) that there are no emissions units at the stationary source that use emissions limitations or control devices to achieve compliance with emission limits or standards that could be subject to the CAM rule (40 CFR 64). No additional potentially CAM applicable units have been added, nor any changes conducted on existing units that make them potentially CAM applicable, therefore CAM requirements remain non-applicable to the Beluga Plant.

2. PROPOSED CHANGES AND SUPPORTING INFORMATION

2.1 Proposed Updates

2.1.1 Removed Generator

Chugach has historically intermittently operated EU ID 10, a Caterpillar G-398 Backup AC Generator. Since the issuance of the current TV permit, Chugach has decommissioned the unit as it is no longer needed. As of this permit renewal, the generator is disconnected from both the natural gas fuel line and power, with significant electrical wiring having been removed in the process. The unit is effectively inoperable and cannot be reasonably restarted. Chugach has no plans, either in the short term or long term, to restart the unit, and as such propose it to be removed from the permit.

2.1.1.1 Proposed Change

Chugach proposes to remove combustion turbines EU ID 10 from Table A, and all other Conditions and references in the permit. The proposed update is included in a red-lined page in Appendix G, and the required form in Appendix A.

2.1.2 Mothballed Turbines

Chugach has historically operated EU IDs 6 and 7, two (2) Brown Boveri Turbodyne 11D4 natural gas turbines. As of the submittal of this permit renewal, both turbines have been mothballed and there are no plans to restart either unit in the short term. Regardless, Chugach proposes keeping these units and all conditions referencing these units in the renewed operating permit in case they become operational in the long term.

2.1.2.1 Proposed Change

Chugach has mothballed the EU IDs 6 and 7 (combustion turbines) but does not propose any changes to these units in the permit renewal.

3. COMPLIANCE CERTIFICATION

3.1 Certification of Truth, Accuracy, and Completeness

Based on the information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document, in addition to the documents and information referenced in Table 1-1, are true, accurate, and complete.

X

Eric Boyette

Signature of Responsible Official

01/02/2025

Date

Eric Boyette

Printed Name

Sr. Manager, HSE

Title

APPENDIX A. TITLE V RENEWAL FORMS

FORM A1
Stationary Source (General Information)

GENERAL INFORMATION		
1. Permittee:		
Permittee Name: Chugach Electric Association, Inc.		
Mailing Address Line 1: P.O. Box 196300		
Mailing Address Line 2		
City: Anchorage	State: AK	Zip Code: 99519-6300
2. Stationary Source Name: Beluga River Power Plant		
3. Stationary Source Physical Address:		
Physical Address Line 1: 40 Miles West of Anchorage		
Physical Address Line 2: Along the western coast of Cook Inlet		
City: Anchorage	State: AK	Zip Code:
4. Location: Section 27, Township 13N, Range 10W		Latitude: 61° 11' 07.1" North Longitude: 151° 02' 11.8" West
5. Primary SIC Code: 4911	SIC Code Description: Electric Services	Primary NAICS Code: 221112 – Fossil Fuel Electric Power Generation
6. Current/Previous Title V Air Permit No.: AQ0106TVP04		Expiration Date: July 8, 2025
7. Does this application contain confidential data? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8. APPLICATION IS BEING MADE FOR:		
<input type="checkbox"/> Initial Title V Permit for this Stationary Source <input type="checkbox"/> Modify Title V Permit (currently permitted) <input checked="" type="checkbox"/> Title V Permit Renewal		
9. CONTACT INFORMATION (Attach additional sheets if needed)		
Owner:		Operator:
Name/Title: Chugach Electric Association, Inc.		Name/Title: Chugach Electric Association, Inc.
Mailing Address Line 1: P.O. Box 196300		Mailing Address Line 1: P.O. Box 196300
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99519-6300	City: Anchorage State: AK Zip Code: 99519-6300
Permittee's Responsible Official:		Designated Agent:
Name/Title: Eric Boyette, HSE Senior Manager		Name/Title: Arthur Miller, CEO
Mailing Address Line 1: P.O. Box 196300		Mailing Address Line 1: P.O. Box 196300
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99519-6300	City: Anchorage State: AK Zip Code: 99519-6300
Stationary Source and Building Contact:		Fee Contact:
Name/Title: Eric Boyette, HSE Senior Manager		Name/Title: Eric Boyette, HSE Senior Manager
Mailing Address Line 1: P.O. Box 196300		Mailing Address Line 1: P.O. Box 196300
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99519-6300	City: Anchorage State: AK Zip Code: 99519-6300
Phone: (907) 223-3960	Email: eric_boyette@chugachelectric.com	Phone: (907) 223-3960 Email: eric_boyette@chugachelectric.com
Permit Contact:		Person or Firm that Prepared Application:
Name/Title: Eric Boyette, HSE Senior Manager		Name/Title: Trinity Consultants
Mailing Address Line 1: P.O. Box 196300		Mailing Address Line 1: 315 5th Ave S
Mailing Address Line 2		Mailing Address Line 2 Suite 830
City: Anchorage	State: AK Zip Code: 99519-6300	City: Seattle State: WA Zip Code: 98104
Phone: (907) 223-3960	Email: eric_boyette@chugachelectric.com	Phone: (253) 867-5604 Email: bhbertus@trinityconsultants.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):	Eric Boyette	HSE Senior Manager
X Signature (blue ink):		Date: 01/02/2025

FORM A4
Title V Air Operating Permit Renewal Application Information

Permit Number: AQ0106TVP04

1.	Permit Contact: Name	Eric Boyette
	Title	HSE Senior Manager
	Mailing Address Line 1	5601 Electron Drive
	Mailing Address Line 2	
	City, State, Zip	Anchorage, Alaska 99518
	Phone Number	907-223-3960
	Email	Eric_Boyette@chugachelectric.com
2.	Were there any changes to stationary source General Information (Form A1)? If yes, complete and submit a Form A1.	Yes, please see the attached Form A1.
3.	Were there any changes to the stationary source description (Form A2)? If yes, complete and submit a Form A2.	No
4.	Were there any off-permit changes? Reference any notifications provided to the Department, and attach copies of the notifications.	No
	If yes, integrate changes into renewal permit? [if no, explain]	N/A
5.	Have any Alaska Title I permits been issued to the stationary source since the most recent Title V permit or revision issuance?	No
	If yes, integrate changes into renewal permit? [If yes, please list. If no, explain]	N/A
6.	Will there be any changes to the operating scenario(s)? [if yes, describe and attach Form A3]	No
7.	Will there be any new, modified, or reconstructed emission units or air pollution control equipment? [if yes, attach appropriate forms from Form Series B, C, D, and E]	No
8.	Are the current emissions units correctly identified and defined in the permit? [if no, attach appropriate forms from Form Series B, C, D, and E]	No
9.	Does the CAM rule [40 CFR Part 64] apply to any of the emissions units? [if yes, review the guidance provided for CAM in the Form A4 instructions for this item]	No
10.	Does the accidental release prevention regulation [40 CFR Part 68] apply to the facility? [if yes, provide the appropriate regulatory applicability document in detail.]	No

FORM A4

Title V Air Operating Permit Renewal Application Information

11.	Are there any other new applicable requirements? [if yes, list the new applicable requirements, emissions units, and attach the appropriate Series E Form]	No
12.	Are there any requested changes in the assessable potential to emit other than those identified in item 9 above? [if yes, answer the following]	Yes, please see attached Form Series D.
	Are the changes a result of having better emissions information such as a new emission factor from a recent source test? [if yes, complete and attach any applicable emissions forms from Series D. Attach additional information as necessary to fully document.]	No
	Are the changes due to an increase in production? [if yes, complete and attach the applicable emissions form from Series D. Attach additional information as necessary to fully document.]	No
13.	Is the stationary source in compliance with all of the conditions of the current permit? If yes, attach a compliance certification. If no, attach a compliance schedule and/or actions taken for any out-of-compliance emission units.	Yes, please see Attachment E for the compliance certification.
14.	Are there any requested changes to testing and/or monitoring conditions? [if yes, identify the condition, the requested change, and the reason. Attach additional information as necessary to fully document.]	Yes, EU ID 10 has been decommissioned. Please see Form E3 for requested changes.
15.	Are there any requested changes to monitoring conditions other than those being replaced by CAM? [if yes, identify the condition, the requested change, and the reason. Attach additional information as necessary to fully document.]	No
16.	Are there any requested changes to recordkeeping conditions? [if yes, identify the condition, the requested change, and the reason. Attach additional information as necessary to fully document.]	Yes, EU ID 10 has been decommissioned. Please see Form E3 for requested changes.
17.	Are there any requested changes to reporting conditions? [if yes, identify the condition, the requested change, and the reason. Attach additional information as necessary to fully document.]	Yes, EU ID 10 has been decommissioned. Please see Form E3 for requested changes.

FORM A4
Title V Air Operating Permit Renewal Application Information

18.	Are there any requested changes to the non-applicable requirements (i.e. permit shield)? [if yes, identify the emission unit, the requested change, and the reason in the appropriate Series B and/or D form. If the change applies stationary source-wide, complete the appropriate Series E form. Attach additional information as necessary to fully document.]	Yes, EU ID 10 has been removed from the facility. Please remove shields for the unit from the list of non-applicable requirements.
19.	Are there any other requested changes to any condition? [if yes, identify the condition, the requested change, and the reason. Attach additional information as necessary to fully document.]	No

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.

Eric Boyette

Name of Responsible Official

HSE Senior Manager

Title

Eric Boyette

Signature (blue ink)

01/02/2025

Date

FORM B
Emission Unit Listing For This Application

Permit Number: AQ0106TVP04

EMISSION UNIT LISTING: New, Modified, Previously Unpermitted, Replaced, Deleted					
Emission Unit ID Number	Emission Unit Name	Brief Emission Unit Description	Rating/Size	Construction Date	Notes
Emission Units To Be ADDED By This Application (New, Previously Unpermitted, or Replacement)					
Emission Units To Be MODIFIED By This Application					
Emission Units To Be DELETED By This Application					
10	CAT G-398 Natural Gas Generator	Backup AC Generator	450 kW	1996	Unit has been decommissioned.

SIGNIFICANT EMISSION UNIT LISTING: Title V permitted emission units that have not been modified				
Emission Unit ID Number	Emission Unit Name	Brief Emission Unit Description	Rating/Size	Construction Date
1	GE Frame 5R Turbine	Power Unit No. 1	270 MMBtu/hr	1968
2	GE Frame 5R Turbine	Power Unit No. 2	270 MMBtu/hr	1968
3	GE Frame 7 Turbine MS7000R	Power Unit No. 3	940 MMBtu/hr	1974
5	GE Frame 7 Turbine MS7000R	Power Unit No. 5	940 MMBtu/hr	1975
6	Brown Boveri Turbodyne 11D4 Turbine	Power Unit No. 6	1,030 MMBtu/hr	1976
7	Brown Boveri Turbodyne 11D4 Turbine	Power Unit No. 7	1,030 MMBtu/hr	1974
11	Black Start Generator Engine	Cummins QSB5.9	425 hp	2011
12	Black Start Generator Engine	Cummins V8-265	265 hp	1968
13	Firewater Pump Engine	Detroit Diesel 10447110	117 hp	1974

FORM B
Emission Unit Listing For This Application

INSIGNIFICANT EMISSION UNIT LISTING: Insignificant Title V permitted emission units that have not been modified				
Emission Unit Name	Brief Emission Unit Description	Rating/Size	Construction Date	Basis for Insignificant Status
14	Thermoflux Fuel Gas Heaters	4 MMBtu/hr	Unknown	18 AAC 50.326(e)
15	Thermoflux Fuel Gas Heaters	4 MMBtu/hr	Unknown	18 AAC 50.326(e)
16	Thermoflux Fuel Gas Heaters	4 MMBtu/hr	Unknown	18 AAC 50.326(e)
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
22	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
23	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
24	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
25	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
26	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
27	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
28	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
29	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
30	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
31	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
32	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
33	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
34	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
35	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
36	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
37	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
38	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
39	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
40	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
41	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
42	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
43	Modine Heater	0.4 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
45	Solaronics Infrared Heater	0.01 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
46	Trane Heater	0.25 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
47	Weil-Mclain Boiler	0.233 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
48	Weil-Mclain Boiler	0.233 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
49	State Select	0.04 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
50	Teledyne Larrs Hot Water Boiler	1.2 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
51	King Air Systems Heater	0.275 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
52	King Air Systems Heater	0.25 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
53	King Air Systems Heater	0.28 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
54	King Air Systems Heater	0.25 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
55	King Air Systems Heater	0.275 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
56	King Air Systems Heater	1.08 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
57	King Air Systems Heater	0.275 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
58	Oil Water Separator (OWS) Building	0.204 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
59	Fire Pump Building	0.06 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)

FORM B
Emission Unit Listing For This Application

62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Unknown	18 AAC 50.326(g)(5)
63	"Terra" Pizza Oven	0.03 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
64	Vulcan Double Ovens	0.06 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
65	Vulcan Double Ovens	0.06 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
66	Vulcan Single Oven	0.03 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
67	Vulcan Single Oven	0.03 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
68	Vulcan Single Oven	0.03 MMBtu/hr	Unknown	18 AAC 50.326(f)(18)
69	Master Portable Heater	0.15 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
70	Master Portable Heater	0.15 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
71	Master Portable Heater	0.15 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Unknown	18 AAC 50.326(g)(7)
75	Honda EB2200I Generator	2200 Watt	Unknown	18 AAC 50.326(f)(101)
76	Hotsy Power Wash Pressure Washer	20 HP	Unknown	18 AAC 50.326(f)(13)

FORM B2

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

Permit Number: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 1 // Normal
2.	Date installation/construction commenced ¹	1968
3.	Date installed	1968
4.	Emission Unit serial number	179110
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	General Electric Frame 5R Turbine
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	270 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

- 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 YYYYY 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)
Natural Gas	Approximately 270 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.040(j), 50.055(a)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions to reduce visibility by more than 20% averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.040(j), 50.055(b)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.040(j), 50.055(c), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 36	18 AAC 50.326(j)(3), 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures;	Yes	Conditions 36.2 and 36.3

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Unit 1 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 1 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 1 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 2 // Normal
2.	Date installation/construction commenced ¹	1968
3.	Date installed	1968
4.	Emission Unit serial number	179195
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	General Electric Frame 5R Turbine
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	270 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

- 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 YYYYY 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)
Natural Gas	Approximately 270 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.040(j), 50.055(a)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.040(j), 50.055(b)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.040(j), 50.055(c), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 36	18 AAC 50.030, 50.326(j)(3), 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures;	Yes	Conditions 36.2 and 36.3

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Unit 2 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 2 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 2 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 3 // Normal
2.	Date installation/construction commenced ¹	1974
3.	Date installed	1974
4.	Emission Unit serial number	217714
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	General Electric Frame 7 Turbine, Model MS7000R
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	940 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

- 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 YYYYY 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)
Natural Gas	Approximately 940 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.040(j), 50.055(b)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.040(j), 50.055(c), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 13	Operating Permit No. 9423-AA0013 18 AAC 50.040(j) & 50.326(j) 40 CFR 71.6(a)(1)	Owner Requested Limits	Ensure that the alarms and interlock system are as described in AQ0106TVP04 Figure A.	Yes	Condition 13.2.
AQ0106TVP04 – Condition 36	18 AAC 50.326(j)(3), 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;	Yes	Conditions 36.2 and 36.3.

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Unit 3 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 3 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 3 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 5 // Normal
2.	Date installation/construction commenced ¹	1975
3.	Date installed	1975
4.	Emission Unit serial number	237984
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	General Electric Frame 7 Turbine, Model MS7000R
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	940 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

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 YYYYY 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)
Natural Gas	Approximately 940 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.055(a)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.055(b)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.055(c), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 13	Operating Permit No. 9423-AA0013 18 AAC 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Owner Requested Limits	Ensure that the alarms and interlock system are as described in AQ0106TVP04 Figure A.	Yes	Condition 13.2
AQ0106TVP04 – Condition 36	18 ACC 50.326(j)(3), 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures;	Yes	Conditions 36.2 and 36.3

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Units 5 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 5 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 5 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 6 // Normal
2.	Date installation/construction commenced ¹	1976
3.	Date installed	1976
4.	Emission Unit serial number	31330
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Brown Boveri Turbodyne 11D4 Turbine
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	1,030 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

- 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 YYYYY 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)
Natural Gas	Approximately 1,030 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.055(a)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.055(b)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.055(c), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 36	18 AAC 50.326(j)(3), & 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures;	Yes	Conditions 36.2 and 36.3

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Unit 6 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 6 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 6 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 7 // Normal
2.	Date installation/construction commenced ¹	1974
3.	Date installed	1974
4.	Emission Unit serial number	20521
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Brown Boveri Turbodyne 11D4 Turbine
7.	Type of combustion device	Gas Turbine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	1,030 MMBtu/hr
10.	If used for power generation, electrical output (kW)	N/A

- 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 YYYYY 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)
Natural Gas	Approximately 1,030 Mscf/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.055(a)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Condition 1.1
AQ0106TVP04 – Condition 5	18 AAC 50.055(b)(1), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Particulate Matter Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Condition 5.1
AQ0106TVP04 – Condition 8	18 AAC 50.055(c), 50.040(j), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Conditions 11 and 12
AQ0106TVP04 – Condition 36	18 AAC 50.326(j)(3), & 50.346(b)(5)	Good Air Pollution Control Practice	Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures;	Yes	Conditions 36.2 and 36.3

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)

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 60 Subpart GG Standards of Performance for Stationary Combustion Turbines	Emissions Unit 7 was installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
40 CFR 60 Subpart KKKK Standards of Performance for Stationary Combustion Turbines	Emissions Unit 7 was installed before the applicability date and have not commenced construction, modified, or reconstructed after February 18, 2005.
40 CFR 63 Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Emissions Unit 7 is not located in a major source of hazardous air pollutants.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 11 // Normal
2.	Date installation/construction commenced ¹	2011
3.	Date installed	November 15, 2011
4.	Emission Unit serial number	73254468
5.	Special control requirements? [if yes, describe]	Yes, Turbocharger/Aftercooler
6.	Manufacturer and model number	Cummins, Model QSB5.9
7.	Type of combustion device	Diesel Engine
8.	Rated design capacity (horsepower rating for engines)	425 bhp
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	317 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 YYYYY 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	Approximately 23.1 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with Conditions 1.2 and 2-4.
AQ0106TVP04 – Condition 5	18 AAC 50.055(b)(1)	Particulate Matter (PM) Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 5.2, and 6-7.
AQ0106TVP04 – Condition 8	18 AAC 50.055(c)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 9 and 10.
AQ0106TVP04 – Condition 17	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 an applicable standard.	Yes	Reasonable Inquiry.
AQ0106TVP04 – Condition 18.1	40 CFR 60.4200(a)(2)(i), 60.4201(d), 60.4204(b), Subpart III	NSPS Subpart III Emission Standards	Comply with the applicable emission standards for new engines in 40 CFR 60.4204, as applicable to EU ID 11.	Yes	Monitor and record in accordance with Condition 18.2 through 18.4.
AQ0106TVP04 – Condition 18.5	40 CFR 60.4200(a), 60.4206, and 60.4211(a), Subpart III	NSPS Subpart III Requirements	Operate and maintain the stationary CI ICE and control device according to the manufacturer's written instructions over the entire life of the engine and only change those settings that are permitted by the manufacturer.	Yes	Reasonable Inquiry.

FORM B2

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

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
AQ0106TVP04 – Condition 21	40 CFR 63.6590(c)(1)	NESHAP Subpart ZZZZ Requirements for New RICE	The Permittee must meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII, as provided in Condition 18.	Yes	Comply with Condition 18.
AQ0106TVP04 – Condition 41	18 AAC 50.235(a)	Technology-Based Emission Standard	If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235(d), causes emissions in excess of a technology-based emission standard listed in Condition 16, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard.	Yes	Comply with Condition 57.

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)

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 60 Subpart III 40 CFR 60.4207	The stationary source is located in Alaska and is not accessible by the FAHS (40 CFR 60.4216(d)).
40 CFR 60 subpart III 40 CFR 60.4208(e) and 60.4208(h)	Emissions Unit 11 (model year 2011) was installed in November 2011.
40 CFR 60 Subpart III 40 CFR 60.4209(b)	No diesel particulate filter is equipped.
40 CFR 60 Subpart III 40 CFR 60.4212	No performance test is required.
40 CFR 60 Subpart III 40 CFR 60.4214	Emissions Unit 11 built after 2007, has a displacement less than 10 liters per cylinder, and is less than 2,237 kW.
40 CFR 60 Subpart III 40 CFR 60.4217	No special fuel is used.

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: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 12 // Normal
2.	Date installation/construction commenced ¹	Pre-1968
3.	Date installed	1968
4.	Emission Unit serial number	Unknown
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Cummins, Model V8-265
7.	Type of combustion device	Diesel Engine
8.	Rated design capacity (horsepower rating for engines)	265 hp
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	198 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 YYYYY 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	Approximately 13.5 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.040(j), 50.055(a)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with Condition 1.2, and Conditions 2 through 4.
AQ0106TVP04 – Condition 5	18 AAC 50.040(j), 50.326(j), & 50.346(c) 40 CFR 71.6(a)(3)(i)	Particulate Matter (PM) Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 5.2, 6, and 7
AQ0106TVP04 – Condition 8	18 AAC 50.0540(j), 50.055(c), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 9 and 10
AQ0106TVP04 – Condition 20	18 AAC 50.040(j) & 50.326(j) 40 CFR 71.6(a)(1), 63.6665 & Table 8, Subpart ZZZZ	NESHAP Subpart A General 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 Subpart ZZZZ.	Yes	Reasonable Inquiry.

FORM B2

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

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
AQ0106TVP04 – Condition 21.2	40 CFR 63.6603(a), Subpart ZZZZ	NESHAP Subpart ZZZZ Management Practices	The Permittee shall meet the following management practices: - Change oil and filter every 1,000 hours of operation or annually, whichever comes first; - Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first and replace as necessary.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.4	40 CFR 71.6(a)(1) & Table 2d, Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	The Permittee has the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Conditions 21.2.a and 21.3.a.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.5	40 CFR 71.6(a)(1), 63.6625(h), & Table 2d, Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.9	40 CFR 71.6(a)(3), 63.6640(a), 63.6625(e), & Table 6 (Item 9), Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	The Permittee shall comply with either: a. The manufacturer's emission related written operation and maintenance instructions; or b. A maintenance plan developed by the Permittee which must provide, to the extent practicable, for the maintenance and operation of the engine(s) in a manner consistent with the good air pollution control practice for minimizing emissions.	Yes	Maintain records and report in accordance with Conditions 21.12 through 21.18.

FORM B2

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

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
AQ0106TVP04 – Condition 21.10	40 CFR 71.6(a)(3), 63.6640(c), Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	You must also report each instance in which you did not meet the requirements in Table 8 to NESHAP Subpart ZZZZ that apply to you.	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).]

FORM B2

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

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 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Emissions Unit 12 was installed before the applicability date of July 11, 2005. Therefore this is not an affected source.
40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6600, 63.6601, 63.6602, 63.6610, and 63.6611	Affected source is not a major source of hazardous air pollutants.
40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6612, 63.6615, 63.6620, 63.6630, 63.6635, and 63.6645	Emissions Unit 12 has a rating less than 300 hp.
40 CFR 63 Subpart ZZZZ 40 CFR 63.6603(b)	Emissions Unit 12 is not accessible by the Federal Aid Highway System and has a rating less than 300 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).]

FORM B2

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

Permit Number: AQ0106TVP04

1.	Emission Unit ID Number // Operating Scenario	Emissions Unit 13 // Normal
2.	Date installation/construction commenced ¹	Pre-1974
3.	Date installed	1974
4.	Emission Unit serial number	4A0227115
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Detroit Diesel, Model 10447110
7.	Type of combustion device	Firewater Pump Engine
8.	Rated design capacity (horsepower rating for engines)	117 hp
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	N/A

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 YYYYY 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	Approximately 5.9 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: None.
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FORM B2

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

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
AQ0106TVP04 – Condition 1	18 AAC 50.040(j), 50.055(a)(1), & 50.326(j) 40 CFR 71.6(a)(1)	Visible Emissions	Do not cause or allow visible emissions to reduce visibility by more than 20 percent averaged over any six consecutive minutes.	Yes	Monitor, record, and report in accordance with Condition 1.2, and 2-4.
AQ0106TVP04 – Condition 5	18 AAC 50.040(j), 50.326(j), & 50.346(c) 40 CFR 71.6(a)(3)(i)	Particulate Matter (PM) Emissions	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 5.2, 6 and 7
AQ0106TVP04 – Condition 8	18 AAC 50.0540(j), 50.055(c), & 50.326(j) 40 CFR 71.6(a)(1)	Sulfur Compound Emissions	Do not cause or allow sulfur compound emissions to exceed 500 ppm averaged over three hours.	Yes	Monitor, record, and report in accordance with Conditions 9 and 10
AQ0106TVP04 – Condition 20	18 AAC 50.040(j) & 50.326(j) 40 CFR 71.6(a)(1), 63.6665 & Table 8, Subpart ZZZZ	NESHAP Subpart A General 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 Subpart ZZZZ.	Yes	Reasonable Inquiry.

FORM B2

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

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
AQ0106TVP04 – Condition 21.2	40 CFR 63.6603(a), Subpart ZZZZ	NESHAP Subpart ZZZZ Management Practices	The Permittee shall meet the following management practices: - Change oil and filter every 1,000 hours of operation or annually, whichever comes first; - Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first and replace as necessary.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.4	40 CFR 71.6(a)(1) & Table 2d, Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	The Permittee has the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Conditions 21.2.a and 21.3.a.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.5	40 CFR 71.6(a)(1), 63.6625(h), & Table 2d, Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup.	Yes	Maintain records and report in accordance with Conditions 21.6, 21.7, and 21.12 through 21.18.
AQ0106TVP04 – Condition 21.9	40 CFR 71.6(a)(3), 63.6640(a), 63.6625(e), & Table 6 (Item 9), Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	The Permittee shall comply with either: a. The manufacturer's emission related written operation and maintenance instructions; or b. A maintenance plan developed by the Permittee which must provide, to the extent practicable, for the maintenance and operation of the engine(s) in a manner consistent with the good air pollution control practice for minimizing emissions.	Yes	Maintain records and report in accordance with Conditions 21.12 through 21.18.

FORM B2

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

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
AQ0106TVP04 – Condition 21.10	40 CFR 71.6(a)(3), 63.6640(c), Subpart ZZZZ	NESHAP Subpart ZZZZ Operation and Maintenance Requirements	You must also report each instance in which you did not meet the requirements in Table 8 to NESHAP Subpart ZZZZ that apply to you.	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).]

FORM B2

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

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 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Emissions Unit 13 was installed before the applicability date of July 11, 2005. Therefore this is not an affected source.
40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6600, 63.6601, 63.6602, 63.6610, and 63.6611	Affected source is not a major source of hazardous air pollutants.
40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6612, 63.6615, 63.6620, 63.6630, 63.6635, and 63.6645	Emissions Unit 13 has a rating less than 300 hp.
40 CFR 63 Subpart ZZZZ 40 CFR 63.6603(b)	Emissions Unit 13 is not accessible by the Federal Aid Highway System and has a rating less than 300 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).]

FORM E3
Title V Condition Change Request

Permit Number: AQ0106TVP04

Title V Permit Information (*attach additional sheets as needed*):

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0106TVP04 - Conditions 1, 5, 8, 11, 20, 21	Revise	Updates conditions to account for removal of EU ID 10.	Remove reference to EU ID 10.
AQ0106TVP04 - Conditions 14, 21.3, 21.8, 21.11, 21.15	Remove	EU ID 10 has been removed from the stationary source.	Conditions 14, 21.3, 21.8, 21.11, 21.15. <i>Remove.</i>

FORM E4
Permit Shield Request

Permit Number: AQ0106TVP04

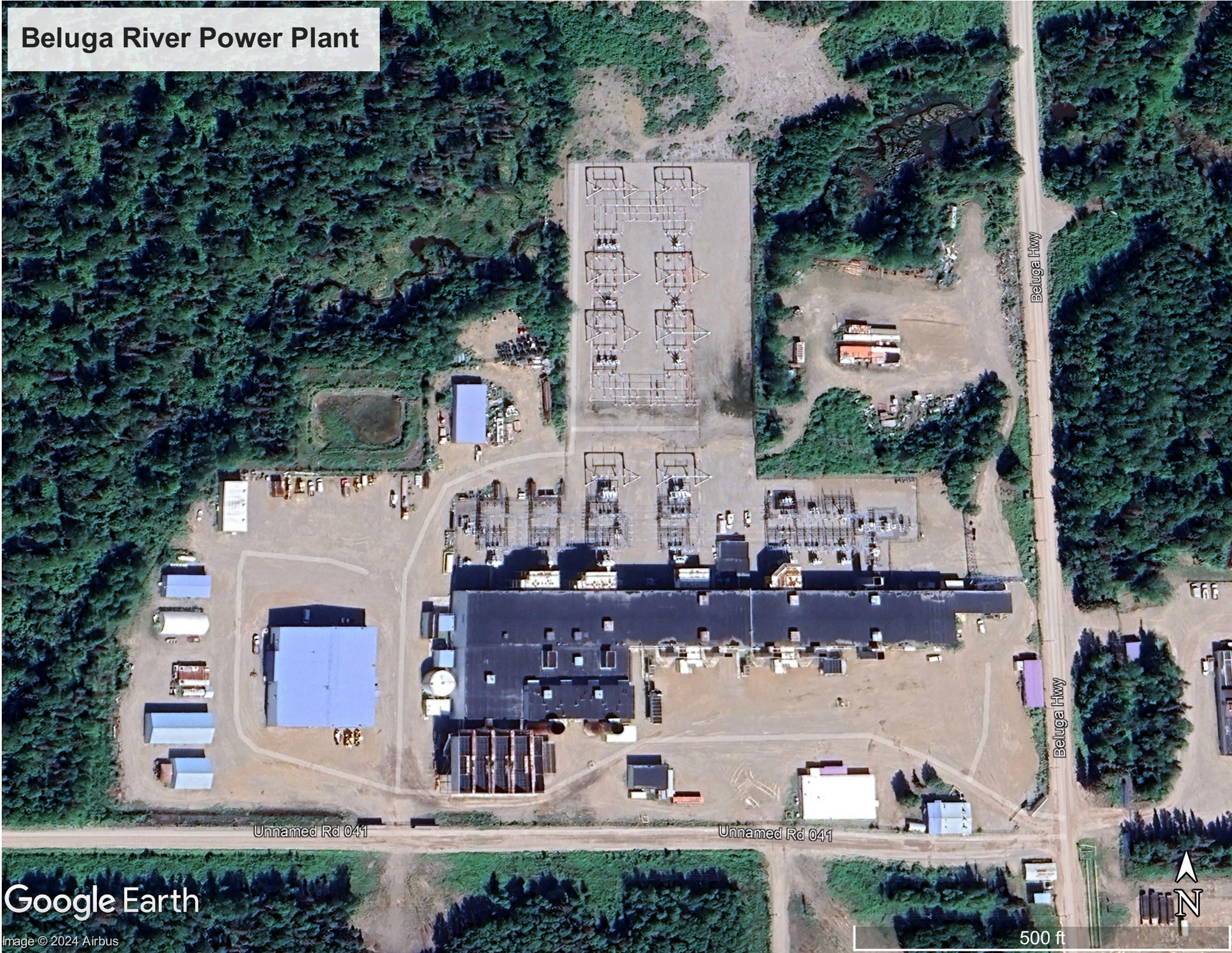
Non-applicable requirements (*attach additional sheets as needed*):

Non-Applicable Requirements ¹	Reason for non-applicability and citation/basis
40 CFR 63.50-63.56	The Beluga River Power Plant is not a major source of HAPs.

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).]

APPENDIX B. FACILITY PLOT PLAN

Beluga River Power Plant



Unnamed Rd 041

Unnamed Rd 041

Beluga Hwy

Beluga Hwy

Google Earth

Image © 2024 Airbus

500 ft



APPENDIX C. EMISSION UNIT INVENTORY

Appendix C. Significant Emissions Unit Inventory

Emission Unit			
ID	Description	Make/Model	Rating
1	Power Unit No. 1	GE Frame 5R Turbine	270 MMBtu/hr
2	Power Unit No. 2	GE Frame 5R Turbine	270 MMBtu/hr
3	Power Unit No. 3	GE Frame 7 Turbine MS7000R	940 MMBtu/hr
5	Power Unit No. 5	GE Frame 7 Turbine MS7000R	940 MMBtu/hr
6	Power Unit No. 6	Brown Boveri Turbodyne 11D4 Turbine	1,030 MMBtu/hr
7	Power Unit No. 7	Brown Boveri Turbodyne 11D4 Turbine	1,030 MMBtu/hr
11	Blackstart Generator	Cummins QSB5.9	425 hp
12	Blackstart Generator	Cummins V8-265	265 hp
13	Firewater Pump Engine	Detroit Diesel 10447110	117 hp

APPENDIX D. POTENTIAL/ASSESSIBLE EMISSIONS INVENTORY

**Table D1-1. Assessable Emissions Summary
Chugach Electric Association - Beluga River Power Plant**

Potential to Emit	Regulated Air Pollutant Emissions (tons per year) ^{1,2}							
	NO _x	CO	PM ₁₀	PM _{2.5} ³	VOC ⁴	SO ₂	GHG ⁵	HAP ⁶
Significant	3,395.9	869.9	70.2	70.2	19.2	35.0	1,241,424	3.4
Insignificant	13.6	9.6	1.0	1.0	2.5	0.4	14,823.2	0.3
Total Emissions	3,410	879	71	71	22	35	1,256,247	4
Assessable Emission Subtotals	3,410	879	71	--	22	35	--	4
Fees Apply to Pollutant? ⁷	Yes	Yes	Yes	No ⁸	Yes	Yes	No ⁹	No
Total Assessable Emissions	4,417							

Notes:

¹ Emissions are based on maximum allowable operation and permit operating limits, where applicable.

² Regulated air pollutant calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadsheets.

³ PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions.

⁴ Total VOC emissions are reduced by the amount of VOC HAP emissions.

⁵ GHG emissions are defined as CO₂e emissions. CO₂e is the summation of CO₂, CH₄, and N₂O, applying the global warming potential for each pollutant.

⁶ See individual emissions unit category HAP emissions calculations for details on methodology and assumptions.

⁷ Fees paid on each pollutant emitted in quantities greater than 10 tpy per 18 AAC 50.410.

⁸ PM_{2.5} emissions are a subset of PM₁₀ emissions and are excluded from the assessable emissions total to avoid a double payment.

⁹ Assessable emission fees for GHGs have not been established under 18 AAC 50.

**Table D1-2a. Significant Emission Unit Inventory
Chugach Electric Association - Beluga River Power Plant**

Emission Unit			Fuel Type	Installation Date	Allowable Operation	Maximum Capacity
ID	Description	Make/Model				
1	Power Unit No. 1	GE Frame 5R Turbine	Natural Gas	1968	8,760 hr/yr	270 MMBtu/hr
2	Power Unit No. 2	GE Frame 5R Turbine	Natural Gas	1968	8,760 hr/yr	270 MMBtu/hr
3	Power Unit No. 3	GE Frame 7 Turbine MS7000R	Natural Gas	1974	8,760 hr/yr	940 MMBtu/hr
5	Power Unit No. 5	GE Frame 7 Turbine MS7000R	Natural Gas	1975	8,760 hr/yr	940 MMBtu/hr
6	Power Unit No. 6	Brown Boveri Turbodyne 11D4 Turbine	Natural Gas	1976	0 hr/yr ²	1,030 MMBtu/hr
7	Power Unit No. 7	Brown Boveri Turbodyne 11D4 Turbine	Natural Gas	1974	0 hr/yr ²	1,030 MMBtu/hr
11	Blackstart Generator	Cummins QSB5.9	Diesel	2011	500 hr/yr ¹	425 hp
12	Blackstart Generator	Cummins V8-265	Diesel	1968	500 hr/yr ¹	265 hp
13	Firewater Pump Engine	Detroit Diesel 10447110	Diesel	1974	500 hr/yr ¹	117 hp

Note

¹ Operation limit of 500 hr/yr was based on EPA's default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions (EPA's Memorandum: Calculating Potential to Emit for Emergency Generators, EPA, 1995).

² These turbines were mothballed with no plans to restart in the future. They are kept in the permit but not calculated for emissions.

Table D1-2b. Insignificant Emission Unit Inventory
Chugach Electric Association - Beluga River Power Plant

ID	Emission Unit		Fuel Type	Rating/Size	Maximum Operation	Insignificant Status
	Description					
14	Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(e)	
15	Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(e)	
16	Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(e)	
17	Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
18	Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
19	Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
20	Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
21	Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
22	Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
23	Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
24	Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
25	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
26	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
27	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
28	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
29	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
30	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
31	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
32	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
33	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
34	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
35	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
36	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
37	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
38	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
39	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
40	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
41	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
42	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
43	Modine Heater	Natural Gas	0.4 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
44	Solaronics Infrared Heater	Natural Gas	0.01 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
45	Solaronics Infrared Heater	Natural Gas	0.01 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
46	Trane Heater	Natural Gas	0.25 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
47	Weil-Mclain Boiler	Natural Gas	0.23 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
48	Weil-Mclain Boiler	Natural Gas	0.23 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
49	State Select	Natural Gas	0.04 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
50	Teledyne Larrs Hot Water Boiler	Natural Gas	1.2 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
51	King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
52	King Air Systems Heater	Natural Gas	0.25 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
53	King Air Systems Heater	Natural Gas	0.28 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
54	King Air Systems Heater	Natural Gas	0.25 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
55	King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
56	King Air Systems Heater	Natural Gas	1.08 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
57	King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
58	Oil Water Separator (OWS) Building	Natural Gas	0.204 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
59	Fire Pump Building	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
60	"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
61	"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
62	"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(5)	
63	"Ierra" Pizza Oven	Natural Gas	0.03 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
64	Vulcan Double Ovens	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
65	Vulcan Double Ovens	Natural Gas	0.06 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
66	Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
67	Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
68	Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(f)(18)	
69	Master Portable Heater	Diesel	0.15 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
70	Master Portable Heater	Diesel	0.15 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
71	Master Portable Heater	Diesel	0.15 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
72	Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
73	Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
74	Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	8,760 hr/yr	18 AAC 50.326(g)(7)	
75	Honda EB2200I Generator	Gasoline	2200 Watt	8,760 hr/yr	18 AAC 50.326(f)(101)	
76	Hotsy Power Wash Pressure Washer	Gasoline	20 HP	8,760 hr/yr	18 AAC 50.326(f)(13)	

**Table D1-3. Assessable Potential to Emit Calculations - Oxides of Nitrogen (NO_x) Emissions
Chugach Electric Association - Beluga River Power Plant**

ID	Emission Unit		Fuel Type	Factor Reference	NO _x Emission Factor	Maximum Annual Operation	Annual NO _x Emissions
	Description	Rating/Capacity					
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.32 lb/MMBtu	8,760 hr/yr	378.43 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.32 lb/MMBtu	8,760 hr/yr	378.43 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.32 lb/MMBtu	8,760 hr/yr	1,317.50 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.32 lb/MMBtu	8,760 hr/yr	1,317.50 tpy
11	Blackstart Generator	425 hp	Diesel	Manufacturer Data	4.731 g/hp-hr	500 hr/yr	1.11 tpy
12	Blackstart Generator	265 hp	Diesel	AP-42 Table 3.3-1	0.031 lb/hp-hr	500 hr/yr	2.05 tpy
13	Firewater Pump Engine	117 hp	Diesel	AP-42 Table 3.3-1	0.031 lb/hp-hr	500 hr/yr	0.91 tpy
Significant Emission Units - Total Assessable Potential to Emit - NO_x							3,395.9 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	1.72 tpy ¹
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	1.72 tpy ¹
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	1.72 tpy ¹
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
22	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
23	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
24	Modine "Hot Dawg" Heater	0.045 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
34	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
35	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
36	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
37	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
38	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
40	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
41	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
42	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
43	Modine Heater	0.4 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.17 tpy ¹
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.00 tpy ¹
45	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.00 tpy ¹
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.10 tpy ¹
47	Weil-Mclain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.09 tpy ¹
48	Weil-Mclain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.09 tpy ¹
49	State Select	0.04 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
50	Teledyne Larrs Hot Water Boiler	1.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.52 tpy ¹
51	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.11 tpy ¹
52	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.10 tpy ¹
53	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.11 tpy ¹
54	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.10 tpy ¹
55	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.11 tpy ¹
56	King Air Systems Heater	1.08 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	100 lb/MMscf	8,760 hr/yr	0.46 tpy ¹
57	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.11 tpy ¹
58	Oil Water Separator (OWS) Building	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.08 tpy ¹
59	Fire Pump Building	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
63	"Jerra" Pizza Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.01 tpy ¹
64	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
65	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.02 tpy ¹
66	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.01 tpy ¹
67	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.01 tpy ¹
68	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	94 lb/MMscf	8,760 hr/yr	0.01 tpy ¹
69	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.12 tpy ¹
70	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.12 tpy ¹
71	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.12 tpy ¹
72	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.38 tpy ¹
73	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.38 tpy ¹
74	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	24 lb/Mgal	8,760 hr/yr	0.38 tpy ¹
75	Honda EB22001 Generator	2,200.00 Watt	Gasoline	AP-42 Table 3.3-1	0.011 lb/hp-hr	8,760 hr/yr	0.08 tpy ¹
76	Hotsy Power Wash Pressure Washer	20.00 HP	Gasoline	AP-42 Table 3.3-1	0.011 lb/hp-hr	8,760 hr/yr	0.96 tpy ¹
Insignificant Emission Units Total Assessable Potential to Emit - NO_x							13.6 tpy
Total Assessable Potential to Emit - NO_x							3,409.6 tpy

Notes:

- ¹ Natural gas engine heat rate: 8,000 Btu/hp-hr
- ² Generator efficiency: 90 percent
- ³ Natural gas high heat value: 1,020 Btu/scf
- ⁴ Diesel high heat value: 137,000 Btu/gal (HHV)
- Conversion factors: 0.002205 lb/g
- 1.341 hp/kW

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**Table D1-4. Assessable Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))**

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	CO Emission Factor	Maximum Annual Operation	Annual CO Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.082 lb/MMBtu	8,760 hr/yr	96.97 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.082 lb/MMBtu	8,760 hr/yr	96.97 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.082 lb/MMBtu	8,760 hr/yr	337.61 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-1	0.082 lb/MMBtu	8,760 hr/yr	337.61 tpy
11	Blackstart Generator	425 hp	Diesel	Manufacturer Data	0.255 g/hp-hr	500 hr/yr	0.06 tpy
12	Blackstart Generator	265 hp	Diesel	AP-42 Table 3.3-1	0.00668 lb/hp-hr	500 hr/yr	0.44 tpy
13	Firewater Pump Engine	117 hp	Diesel	AP-42 Table 3.3-1	0.00668 lb/hp-hr	500 hr/yr	0.20 tpy
Significant Emission Units - Total Assessable Potential to Emit - CO							869.9 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	1.44 tpy ³
15	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	1.44 tpy ³
16	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	1.44 tpy ³
17	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.03 tpy ³
18	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.03 tpy ³
19	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.03 tpy ³
20	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.03 tpy ³
21	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.03 tpy ³
22	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
23	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
24	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
25	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
26	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
27	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
28	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
29	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
30	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
31	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
32	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
33	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
34	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.144 tpy ³
35	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.144 tpy ³
36	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
37	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
38	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
39	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
40	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
41	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
42	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
43	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.14 tpy ³
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.00 tpy ³
45	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.00 tpy ³
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
47	Weil-McLain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
48	Weil-McLain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
49	State Select	0.04 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.007 tpy ³
50	Teledyne Laris Hot Water Boiler	1.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.433 tpy ³
51	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.05 tpy ³
52	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
53	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.05 tpy ³
54	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
55	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.05 tpy ³
56	King Air Systems Heater	1.08 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	84 lb/MMscf	8,760 hr/yr	0.39 tpy ³
57	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.05 tpy ³
58	Oil Water Separator (OWS) Building	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.04 tpy ³
59	Fire Pump Building	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
63	"Terra" Pizza Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
64	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
65	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
66	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
67	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
68	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-1	40 lb/MMscf	8,760 hr/yr	0.01 tpy ³
69	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.02 tpy ³
70	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.02 tpy ³
71	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.02 tpy ³
72	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.08 tpy ³
73	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.08 tpy ³
74	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	5 lb/Mgal	8,760 hr/yr	0.08 tpy ³
75	Honda E622001 Generator	2,200.0 Watt	Gasoline	AP-42 Table 3.3-1	6.95E-03 lb/hp-hr	8,760 hr/yr	0.09 tpy ³
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	AP-42 Table 3.3-1	6.95E-03 lb/hp-hr	8,760 hr/yr	0.61 tpy ³
Insignificant Emission Units - Total Assessable Potential to Emit - CO							9.6 tpy
Total Assessable Potential to Emit - CO							879.5 tpy

Notes:
¹ Natural gas engine heat rate: 8,000 Btu/hp-hr
² Generator efficiency: 90 percent
³ Natural gas high heat value: 1,020 Btu/scf
⁴ Diesel high heat value: 137,000 Btu/gal (HHV)
 Conversion factors: 0.002205 lb/g, 1.341 hp/kW
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**Table D1-5. Assessable Potential to Emit Calculations - Particulate Matter (PM) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))**

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	PM ₁₀ Emission Factor	Maximum Annual Operation	Annual PM ₁₀ Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	8,760 hr/yr	7.81 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	8,760 hr/yr	7.81 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	8,760 hr/yr	27.17 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	8,760 hr/yr	27.17 tpy
11	Blackstart Generator	425 hp	Diesel	Manufacturer Data	0.0750 g/hp-hr	500 hr/yr	0.02 tpy
12	Blackstart Generator	265 hp	Diesel	AP-42 Table 3.3-1	0.0022 lb/hp-hr	500 hr/yr	0.15 tpy
13	Firewater Pump Engine	117 hp	Diesel	AP-42 Table 3.3-1	0.0022 lb/hp-hr	500 hr/yr	0.06 tpy
Significant Emission Units - Total Assessable Potential to Emit - PM							70.2 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.13 tpy ³
15	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.13 tpy ³
16	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.13 tpy ³
17	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
18	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
19	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
20	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
21	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
22	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
23	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
24	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
25	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
26	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
27	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
28	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
29	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
30	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
31	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
32	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
33	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
34	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
35	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
36	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
37	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
38	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
39	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
40	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
41	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
42	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
43	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
45	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
47	Weil-McLain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
48	Weil-McLain Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
49	State Select	0.04 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
50	Teledyne Laris Hot Water Boiler	1.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.04 tpy ³
51	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
52	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
53	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
54	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
55	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
56	King Air Systems Heater	1.08 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.04 tpy ³
57	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
58	Oil Water Separator (OWS) Building	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.01 tpy ³
59	Fire Pump Building	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
63	"Terro" Pizza Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
64	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
65	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
66	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
67	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
68	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	7.6 lb/MMscf	8,760 hr/yr	0.00 tpy ³
69	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
70	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
71	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
72	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.03 tpy ⁴
73	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.03 tpy ⁴
74	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-1	2 lb/Mgal	8,760 hr/yr	0.03 tpy ⁴
75	Honda EB2200T Generator	2,200.0 Watt	Gasoline	AP-42 Table 3.3-1	7.21E-04 lb/hp-hr	8,760 hr/yr	0.01 tpy
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	AP-42 Table 3.3-1	7.21E-04 lb/hp-hr	8,760 hr/yr	0.06 tpy
Insignificant Emission Units - Total Assessable Potential to Emit - PM							1.0 tpy
Total Assessable Potential to Emit - PM							71.2 tpy

Notes:
¹ Natural gas engine heat rate: 8,000 Btu/hp-hr
² Generator efficiency: 90 percent
³ Natural gas high heat value: 1,020 Btu/scf
⁴ Diesel high heat value: 137,000 Btu/gal (HHV)
 Conversion factors: 0.002205 lb/g
 1.341 hp/kW

Table D1-6. Assessable Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	VOC Emission Factor	Maximum Annual Operation	Annual VOC Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	8,760 hr/yr	2.48 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	8,760 hr/yr	2.48 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	8,760 hr/yr	8.65 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	8,760 hr/yr	8.65 tpy
11	Blackstart Generator	425 hp	Diesel	Manufacturer Data	0.075 g/hp-hr	500 hr/yr	0.02 tpy
12	Blackstart Generator	265 hp	Diesel	AP-42 Table 3.3-1	0.00247 lb/hp-hr	500 hr/yr	0.16 tpy
13	Firewater Pump Engine	117 hp	Diesel	AP-42 Table 3.3-1	0.00247 lb/hp-hr	500 hr/yr	0.07 tpy
Significant Emission Units - Total Assessable Potential to Emit - VOC							22.5 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.094 tpy ¹
15	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.094 tpy ¹
16	Thermoflux Fuel Gas Heaters	4.00 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.094 tpy ¹
17	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.005 tpy ³
18	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.005 tpy ³
19	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.005 tpy ³
20	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.005 tpy ³
21	Solaronics Suntube IV Heater	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.005 tpy ³
22	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.001 tpy ³
23	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.001 tpy ³
24	Modine "Hot Dawg" Heater	0.05 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.001 tpy ³
25	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
26	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
27	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
28	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
29	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
30	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
31	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
32	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
33	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
34	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
35	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
36	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
37	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
38	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
39	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
40	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
41	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
42	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
43	Modine Heater	0.40 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.009 tpy ³
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.000 tpy ³
45	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.000 tpy ³
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.006 tpy ³
47	Weil-McInn Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
48	Weil-McInn Boiler	0.23 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
49	State Select	0.04 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
50	Teledyne Larrs Hot Water Boiler	1.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.03 tpy ³
51	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
52	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
53	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
54	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
55	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
56	King Air Systems Heater	1.08 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.03 tpy ³
57	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.01 tpy ³
58	Oil Water Separator (OWS) Building	0.20 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
59	Fire Pump Building	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
63	"Terra" Pizza Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
64	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
65	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
66	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
67	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
68	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	5.5 lb/MMscf	8,760 hr/yr	0.00 tpy ³
69	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.00 tpy ⁴
70	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.00 tpy ⁴
71	Master Portable Heater	0.15 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.00 tpy ⁴
72	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
73	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
74	Frost Fighter Portable Heaters	0.50 MMBtu/hr	Diesel	AP-42 Table 1.3-3	0.556 lb/Mgal	8,760 hr/yr	0.01 tpy ⁴
75	Honda EB2200L Generator	2,200.0 Watt	Gasoline	AP-42 Table 3.3-1	0.022 lb/hp-hr	8,760 hr/yr	0.28 tpy
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	AP-42 Table 3.3-1	0.022 lb/MMscf	8,760 hr/yr	1.89 tpy
Insignificant Emission Units - Total Assessable Potential to Emit - VOC							2.8 tpy
Total Assessable Potential to Emit - VOC							25.3 tpy

Notes:

- ¹ Natural gas engine heat rate: 8,000 Btu/hp-hr
- ² Generator efficiency: 90 percent
- ³ Natural gas high heat value: 1,020 Btu/scf
- ⁴ Diesel high heat value: 137,000 Btu/gal (HHV)
- Conversion factors: 0.002205 lb/g
1.341 hp/kW

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Table D1-7. Assessable Potential to Emit Calculations - Sulfur Dioxide (SO₂) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Maximum Fuel Sulfur Content	Factor Reference	SO ₂ Emission Factor	Maximum Annual Operation	Annual SO ₂ Emissions
Significant Emission Units								
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	3.91 tpy ²
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	3.91 tpy ²
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	13.60 tpy ²
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	13.60 tpy ²
11	Blackstart Generator	425 hp	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	500 hr/yr	0.001 tpy ^{2,3,4,7}
12	Blackstart Generator	265 hp	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	500 hr/yr	0.001 tpy ^{2,3,4,7}
13	Firewater Pump Engine	117 hp	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	500 hr/yr	0.0003 tpy ^{2,3,4,7}
Significant Emission Units - Total Assessable Potential to Emit - SO₂ 35.0								
Insignificant Emission Units								
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.058 tpy ²
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.058 tpy ²
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.058 tpy ²
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
22	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
23	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
24	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
34	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
35	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
36	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
37	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
38	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
40	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
41	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
42	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
43	Modine Heater	0.4 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.006 tpy ²
44	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
45	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
46	Trane Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
47	Well-Mclain Boiler	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
48	Well-Mclain Boiler	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
49	State Select	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
50	Teledyne Lars Hot Water Boiler	1.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.017 tpy ²
51	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
52	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
53	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
54	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
55	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
56	King Air Systems Heater	1.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.016 tpy ²
57	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.004 tpy ²
58	Oil Water Separator (OWS) Building	0.2 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.003 tpy ²
59	Fire Pump Building	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
60	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
61	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
62	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
63	"Ierra" Pizza Oven	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
64	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
65	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.001 tpy ²
66	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
67	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
68	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	20 ppmv H ₂ S	Mass Balance ¹	3.37 lb/MMscf	8,760 hr/yr	0.000 tpy ²
69	Master Portable Heater	0.2 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.001 tpy ²
70	Master Portable Heater	0.2 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.001 tpy ²
71	Master Portable Heater	0.2 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.001 tpy ²
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.003 tpy ²
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.003 tpy ²
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	15 ppmw S	Mass Balance ¹	0.00020 lb/gal ³	8,760 hr/yr	0.003 tpy ²
75	Honda EB2200I Generator	2,200.0 Watt	Gasoline	-- --	AP-42 Table 3.3-1	5.91E-04 lb/hp-hr	8,760 hr/yr	0.01 tpy
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	-- --	AP-42 Table 3.3-1	5.91E-04 lb/hp-hr	8,760 hr/yr	0.05 tpy
Insignificant Emission Units - Total Assessable Potential to Emit - SO₂ 0.4 tpy								
Total Assessable Potential to Emit - SO₂								35.5 tpy

¹ Mass balance:

For diesel units, the SO₂ emission factor is calculated based on the sulfur content in diesel fuel

Molar mass ratio is 32 lb S/mol : 64 lb SO₂/mol; Stoichiometry: 1 mol S = 1 mol SO₂

SO₂ Emission Factor, lb/gal = (Molar mass ratio, 2 lb SO₂:1 lb S) x (weight % S in fuel) x (density of fuel, lb/gal) / 100%

For natural gas units, the SO₂ emission factor is calculated based on the sulfur content in natural gas

ppmv H₂S = scf H₂S per MMscf fuel gas; Molar ratio: 1 mol H₂S = 1 mol S = 1 mol SO₂; Sulfur content of Natural Gas = 20.0 ppmv H₂S = 20 scf H₂S/MMscf fuel

SO₂ Emission Factor, lb/MMscf = (scf H₂S/MMscf fuel) x (64 lb SO₂/1 mol S) / (379.9 scf/mol at STP)

² Natural gas high heat value:

1,020 Btu/scf (HHV)

³ Diesel density:

6.75 lb/gal

⁴ Generator efficiency:

8,000 Btu/hp-hr

⁵ Diesel high heat value:

137,000 Btu/gal (HHV)

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⁶ Diesel engine heat rate:

7,000 Btu/hp-hr

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⁷ Conversion factors:

1.341 hp/kW

**Table D1-8. Assessable Potential to Emit Calculations - Carbon Dioxide Equivalent (CO₂e) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))**

ID	Emission Unit		Fuel Type	Potential Greenhouse Gas Emissions (tpy)			
	Description	Rating/Capacity		CO ₂	CH ₄	N ₂ O	GHG CO ₂ e
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	138,337	2.61	0.261	138,480
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	138,337	2.61	0.261	138,480
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	481,619	9.08	0.908	482,116
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	481,619	9.08	0.908	482,116
11	Blackstart Generator	425 hp	Diesel	121	0.00	0.001	122
12	Blackstart Generator	265 hp	Diesel	76	0.003	0.001	76
13	Firewater Pump Engine	117 hp	Diesel	33	0.001	0.0003	33
Significant Emission Units - Total Assessable Potential to Emit - Greenhouse Gases							1,241,424
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	2,049	0.039	0.0039	2,052
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	2,049	0.039	0.0039	2,052
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	2,049	0.039	0.0039	2,052
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	102	0.002	0.0002	103
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	102	0.002	0.0002	103
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	102	0.002	0.0002	103
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	102	0.002	0.0002	103
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	102	0.002	0.0002	103
22	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	23	0.000	0.0000	23
23	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	23	0.000	0.0000	23
24	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	23	0.000	0.0000	23
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
34	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
35	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
36	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
37	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
38	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
40	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
41	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
42	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
43	Modine Heater	0.4 MMBtu/hr	Natural Gas	205	0.004	0.0004	205
44	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	5	0.000	0.0000	5
45	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	5	0.000	0.0000	5
46	Trane Heater	0.3 MMBtu/hr	Natural Gas	128	0.002	0.0002	128
47	Weil-Mclain Boiler	0.2 MMBtu/hr	Natural Gas	119	0.002	0.0002	120
48	Weil-Mclain Boiler	0.2 MMBtu/hr	Natural Gas	119	0.002	0.0002	120
49	State Select	0.0 MMBtu/hr	Natural Gas	20	0.000	0.0000	21
50	Teledyne Larrs Hot Water Boiler	1.2 MMBtu/hr	Natural Gas	615	0.012	0.0012	615
51	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	141	0.003	0.0003	141
52	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	128	0.002	0.0002	128
53	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	143	0.003	0.0003	144
54	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	128	0.002	0.0002	128
55	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	141	0.003	0.0003	141
56	King Air Systems Heater	1.1 MMBtu/hr	Natural Gas	553	0.010	0.0010	554
57	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	141	0.003	0.0003	141
58	Oil Water Separator (OWS) Building	0.2 MMBtu/hr	Natural Gas	105	0.002	0.0002	105
59	Fire Pump Building	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
60	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
61	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
62	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
63	"Terra" Pizza Oven	0.0 MMBtu/hr	Natural Gas	15	0.000	0.0000	15
64	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
65	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	31	0.001	0.0001	31
66	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	15	0.000	0.0000	15
67	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	15	0.000	0.0000	15
68	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	15	0.000	0.0000	15
69	Master Portable Heater	0.2 MMBtu/hr	Diesel	107	0.004	0.0009	107
70	Master Portable Heater	0.2 MMBtu/hr	Diesel	107	0.004	0.0009	107
71	Master Portable Heater	0.2 MMBtu/hr	Diesel	107	0.004	0.0009	107
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	357	0.014	0.0029	358
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	357	0.014	0.0029	358
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	357	0.014	0.0029	358
75	Honda EB22001 Generator	2,200.0 Watt	Gasoline	6	0.000	0.0001	6
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	43	0.002	0.0004	43
Insignificant Emission Units - Total Assessable Potential to Emit - Greenhouse Gases							14,823
Total Assessable Potential to Emit - Greenhouse Gases							1,256,247

Table D1-9. Assessable Potential to Emit Calculations - Carbon Dioxide (CO₂) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	CO ₂ Emission Factor	Maximum Annual Operation	Annual CO ₂ Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	138,337 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	138,337 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	481,619 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	481,619 tpy
11	Blackstart Generator	425 hp	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	500 hr/yr	121 tpy ¹
12	Blackstart Generator	265 hp	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	500 hr/yr	76 tpy ¹
13	Firewater Pump Engine	117 hp	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	500 hr/yr	33 tpy ¹
Significant Emission Units - Total Assessable Potential to Emit - CO₂							1,240,143 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	2,049 tpy
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	2,049 tpy
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	2,049 tpy
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	102 tpy
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	102 tpy
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	102 tpy
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	102 tpy
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	102 tpy
22	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	23 tpy
23	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	23 tpy
24	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	23 tpy
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
34	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
35	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
36	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
37	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
38	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
40	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
41	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
42	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
43	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	205 tpy
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	5 tpy
45	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	5 tpy
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	128 tpy
47	Well-McLain Boiler	0.23 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	119 tpy
48	Well-McLain Boiler	0.23 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	119 tpy
49	State Select	0.04 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	20 tpy
50	Teledyne Larrs Hot Water Boiler	1.20 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	615 tpy
51	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	141 tpy
52	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	128 tpy
53	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	143 tpy
54	King Air Systems Heater	0.25 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	128 tpy
55	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	141 tpy
56	King Air Systems Heater	1.08 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	553 tpy
57	King Air Systems Heater	0.28 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	141 tpy
58	Oil Water Separator (OWS) Building	0.20 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	105 tpy
59	Fire Pump Building	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
60	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
61	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
62	"Bruest" Gas House Heaters	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
63	"Jerra" Pizza Oven	0.03 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	15 tpy
64	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
65	Vulcan Double Ovens	0.06 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	31 tpy
66	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	15 tpy
67	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	15 tpy
68	Vulcan Single Oven	0.03 MMBtu/hr	Natural Gas	40 CFR 98, Table C-1	53.06 kg/MMBtu	8,760 hr/yr	15 tpy
69	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	107 tpy
70	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	107 tpy
71	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	107 tpy
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	357 tpy
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	357 tpy
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-1	73.96 kg/MMBtu	8,760 hr/yr	357 tpy
75	Honda EB22001 Generator	2,200.0 Watt	Gasoline	40 CFR 98, Table C-1	70.22 kg/MMBtu	8,760 hr/yr	6.35 tpy ²
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	40 CFR 98, Table C-1	70.22 kg/MMBtu	8,760 hr/yr	43.06 tpy ²
Insignificant Emission Units - Total Assessable Potential to Emit - CO₂							14,804 tpy
Total Assessable Potential to Emit - CO₂							1,254,947 tpy

Notes:

¹ Heat rate for natural gas engine: 8,000 Btu/hp-hr² Generator efficiency: 90 percent³ Heat rate for diesel/gasoline engines: 7,000 Btu/hp-hr

Conversion factors: 0.0011023 tons/kg

1.341 hp/kW

2.20462 kg/lb

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Table D1-10. Assessable Potential to Emit Calculations - Methane (CH₄) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	CH ₄ Emission Factor	Maximum Annual Operation	Annual CH ₄ Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	2.607 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	2.607 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	9.077 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	9.077 tpy
11	Blackstart Generator	425 hp	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	500 hr/yr	0.005 tpy ¹
12	Blackstart Generator	265 hp	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	500 hr/yr	0.003 tpy ¹
13	Firewater Pump Engine	117 hp	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	500 hr/yr	0.001 tpy ¹
Significant Emission Units - Total Assessable Potential to Emit - CH₄							23.4 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.039 tpy
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.039 tpy
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.039 tpy
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
22	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
23	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
24	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
34	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
35	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
36	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
37	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
38	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
40	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
41	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
42	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
43	Modine Heater	0.40 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
44	Solaronics Infrared Heater	0.01 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
45	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
46	Trane Heater	0.25 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
47	Well-McLain Boiler	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
48	Well-McLain Boiler	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
49	State Select	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
50	Teledyne Larrs Hot Water Boiler	1.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.012 tpy
51	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.003 tpy
52	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
53	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.003 tpy
54	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
55	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.003 tpy
56	King Air Systems Heater	1.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.010 tpy
57	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.003 tpy
58	Oil Water Separator (OWS) Building	0.2 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.002 tpy
59	Fire Pump Building	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
60	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
61	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
62	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
63	"Terra" Pizza Oven	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
64	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
65	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.001 tpy
66	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
67	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
68	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	AP-42 Table 1.4-2	1.0E-03 kg/MMBtu	8,760 hr/yr	0.000 tpy
69	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
70	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
71	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.004 tpy
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.014 tpy
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.014 tpy
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	0.014 tpy
75	Honda EB2200i Generator	2,200.0 Watt	Gasoline	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	2.71E-04 tpy ²
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	8,760 hr/yr	1.84E-03 tpy ²
Insignificant Emission Units - Total Assessable Potential to Emit - CH₄							0.3 tpy
Total Assessable Potential to Emit - CH₄							23.7 tpy

Notes:

- ¹ Heat rate for natural gas engine: 8,000 Btu/hp-hr
- ² Generator efficiency: 90 percent
- ³ Heat rate for diesel/gasoline engines: 7,000 Btu/hp-hr

Conversion factors: 0.0011023 tons/kg
 1.341 hp/kW
 2.20462 kg/lb

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Table D1-11. Assessable Potential to Emit Calculations - Nitrous Oxide (N₂O) Emissions
Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

ID	Emission Unit Description	Rating/Capacity	Fuel Type	Factor Reference	N ₂ O Emission Factor	Maximum Annual Operation	Annual N ₂ O Emissions
Significant Emission Units							
1	Power Unit No. 1	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.261 tpy
2	Power Unit No. 2	270 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.261 tpy
3	Power Unit No. 3	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.908 tpy
5	Power Unit No. 5	940 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.908 tpy
11	Blackstart Generator	425 hp	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	500 hr/yr	0.001 tpy ¹
12	Blackstart Generator	265 hp	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	500 hr/yr	0.001 tpy ¹
13	Firewater Pump Engine	117 hp	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	500 hr/yr	0.000 tpy ¹
Significant Emission Units - Total Assessable Potential to Emit - N₂O							2.3 tpy
Insignificant Emission Units							
14	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0039 tpy
15	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0039 tpy
16	Thermoflux Fuel Gas Heaters	4.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0039 tpy
17	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
18	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
19	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
20	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
21	Solaronics Suntube IV Heater	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
22	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
23	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
24	Modine "Hot Dawg" Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
25	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
26	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
27	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
28	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
29	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
30	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
31	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
32	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
33	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
34	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
35	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
36	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
37	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
38	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
39	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
40	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
41	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
42	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
43	Modine Heater	0.4 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0004 tpy
44	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
45	Solaronics Infrared Heater	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
46	Trane Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
47	Well-McLain Boiler	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
48	Well-McLain Boiler	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
49	State Select	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
50	Teledyne Larrs Hot Water Boiler	1.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0012 tpy
51	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0003 tpy
52	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
53	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0003 tpy
54	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
55	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0003 tpy
56	King Air Systems Heater	1.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0010 tpy
57	King Air Systems Heater	0.3 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0003 tpy
58	Oil Water Separator (OWS) Building	0.2 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0002 tpy
59	Fire Pump Building	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
60	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
61	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
62	"Bruest" Gas House Heaters	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
63	Terra Pizza Oven	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
64	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
65	Vulcan Double Ovens	0.1 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0001 tpy
66	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
67	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
68	Vulcan Single Oven	0.0 MMBtu/hr	Natural Gas	40 CFR 98, Table C-2	1.0E-04 kg/MMBtu	8,760 hr/yr	0.0000 tpy
69	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0009 tpy
70	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0009 tpy
71	Master Portable Heater	0.2 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0009 tpy
72	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0029 tpy
73	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0029 tpy
74	Frost Fighter Portable Heaters	0.5 MMBtu/hr	Diesel	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	0.0029 tpy
75	Honda EB2200i Generator	2,200.0 Watt	Gasoline	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	5.43E-05 tpy ²
76	Hotsy Power Wash Pressure Washer	20.0 HP	Gasoline	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	8,760 hr/yr	3.68E-04 tpy ²
Insignificant Emission Units - Total Assessable Potential to Emit - N₂O							0.037 tpy
Total Assessable Potential to Emit - N₂O							2.3 tpy

Notes:

- ¹ Heat rate for natural gas engine: 8,000 Btu/hp-hr
 - ² Generator efficiency: 90 percent
 - ³ Heat rate for diesel/gasoline engines: 7,000 Btu/hp-hr
- Conversion factors: 0.0011023 tons/kg
1.341 hp/kW
2.20462 kg/lb

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Table D1-12. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions Insignificant Emissions Threshold by Fuel Type (18 AAC 50.326(e))

Hazardous Air Pollutant	Natural Gas Turbines	Diesel Engines <600 hp	Insignificant Heaters	Total HAP Emissions ¹
Acetaldehyde	0.42	1.08E-03	6.55E-03	0.43
Acetamide				
Acetonitrile				
Acetophenone				
2-Acetylaminofluorene				
Acetophenone				
Acrolein	0.07	1.31E-04	7.90E-04	0.07
Acrylamide				
Acrylic Acid				
Acrylonitrile				
Allyl chloride				
4-Aminobiphenyl				
Aniline				
o-Anisidine				
Asbestos				
Benzene	0.13	1.22E-03	8.20E-03	0.14
1,3-Butadiene	4.56E-03	5.52E-05	3.34E-04	0.00
Benzidine				
Benzotrifluoride				
Benzyl chloride				
Bisphenyl				
Bis(2-ethylhexyl)phthalate (DEHP)				
Bis(chloromethyl)ether				
Bromoform				
1,4-Dichlorobenzene(p)				
Calcium cyanamide				
Caprolactam				
Captan				
Carbaryl				
Carbon disulfide				
Carbon tetrachloride				
Carbonyl sulfide				
Catechol				
Chloramben				
Chlordane				
Chlorine				
Chloroacetic acid				
2-Chloroacetophenone				
Chlorobenzene				
Chlorobenzilate				
Chloroform				
Chloromethyl methyl ether				
Chloroprene				
Cresols/Cresylic acid (isomers and mixture)				
Cumene				
2,4-D, salts and esters				
DDE				
Diazomethane				
Dibenzofurans				
1,2-Dibromo-2-chloropropane				
Dibutylphthalate				
Dichlorobenzene			1.34E-04	1.34E-04
1,4-Dichlorobenzene(p)				
1,3-Dichlorobenzene				
Dichloroethyl ether(Bis(2-chloroethyl)ether)				
1,3-Dichloropropene				
Dichlorvos				
Diethanolamine				
N,N-Diethyl aniline (N,N-Dimethylaniline)				
Diethyl sulfate				
3,3-Dimethoxybenzidine				
Dimethyl aminoazobenzene				
3,3-Dimethyl benzidine				
Dimethyl caramoyl chloride				
Dimethyl formamide				
1,1-Dimethyl hydrazine				
Dimethyl phthalate				
Dimethyl sulfate				
4,6-Dinitro-o-cresol, and salts				
2,4-Dinitrophenol				
2,4-Dinitrotoluene				
1,4-Dioxane(1,4-Diethyleneoxide)				
1,2-Diphenylhydrazine				
Epichlorohydrin (1-Chloro-2,3-epoxypropane)				
1,2-Epoxybutane				
Ethyl acrylate				
Ethyl benzene	0.34			0.34
Ethyl carbamate "Urethane"				
Ethyl chloride (Chloroethane)				
Ethylene dibromide (Dibromoethane)				
Ethylene dichloride (1,2-Dichloroethane)				
Ethylene glycol				
Ethyleneimine (Aziridine)				
Ethylene oxide				
Ethylene thiourea				
Ethylene dichloride (1,1-Dichloroethane)				
Formaldehyde		1.67E-03	6.79E-02	0.07
Heptachlor				
Hexachlorobenzene				
Hexachlorobutadiene				
Hexachlorocyclopentadiene				
Hexachloroethane				
Hexamethylene-1,6 diisocyanate				
Hexamethylphosphoramide				
N-Hexane			2.02E-01	0.20
Hydrazine				
Hydrochloric acid				
Hydrogen fluoride (Hydrofluoric acid)				
Hydroquinone				
Isochlorane				
Lindane (all isomers)				
Maleic anhydride				
Methanol				

Methoxychlor				
Methyl bromide (Bromomethane)				
Methyl chloride (Chloromethane)				
Methyl chloroform (1,1,1-Trichloroethane)				
Methyl ethyl ketone (2-Butanone)				
Methyl hydrazine				
Methyl iodide (Iodomethane)				
Methyl isobutyl ketone (Hexane)				
Methyl isocyanate				
Methyl methacrylate				
Methyl tert butyl ether				
1,4-Methylene bis(2-chloroaniline)				
Methylene chloride (Dichloromethane)				
Methylene diphenyl diisocyanate (MDI)				
3,4-Methylenedianiline				
Nitrobenzene				
4-Nitrobiphenyl				
4-Nitrophenol				
2-Nitropropane				
N-Nitroso-N-methylurea				
N-Nitrosodimethylamine				
N-Nitrosomorpholine				
Parathion				
Pentachloronitrobenzene(Quintobenzene)				
Pentachlorophenol				
Phenol				
p-Phenylenediamine				
Phosgene				
Phosgene				
Phthalic anhydride				
Polychlorinated biphenyls(Aroclors)				
Polycyclic Organic Matter (POM)	0.02	2.37E-04	1.44E-03	0.03
Acenaphthene		2.01E-06	1.21E-05	1.41E-05
Acenaphthylene		7.15E-06	4.32E-05	5.04E-05
Anthracene		2.64E-06	1.60E-05	1.86E-05
Benzo(a)anthracene		2.37E-06	1.43E-05	1.67E-05
Benzo(a)pyrene		2.66E-07	1.61E-06	1.87E-06
Benzo(e)pyrene				
Benzo(f)fluoranthene		1.40E-07	8.46E-07	9.86E-07
Benzo(g,h)perylene		6.91E-07	4.18E-06	4.87E-06
Benzo(k)fluoranthene		2.19E-07	1.32E-06	1.54E-06
Chrysene		4.99E-07	3.01E-06	3.51E-06
Dibenz(a,h)anthracene		8.23E-07	4.98E-06	5.80E-06
Fluorene		4.12E-05	2.49E-04	2.91E-04
Fluoranthene		1.07E-05	6.50E-05	7.57E-05
Indeno(1,2,3-cd)pyrene		5.30E-07	3.20E-06	3.73E-06
1-Methylnaphthalene		1.20E-04	7.93E-04	1.47E-02
Naphthalene	1.38E-02	4.15E-05	2.51E-04	2.93E-04
Pyrene		6.75E-06	4.08E-05	4.76E-05
1,3-Propane sultone				
Beta-Propiolactone				
Propionaldehyde				
Propoual (Baygon)				
Propylene dichloride (1,2-Dichloropropane)				
Propylene oxide	0.31			0.31
1,2-Propylenimine (2-Methylaziridine)				
Quinoline				
Quinone				
Styrene				
Styrene oxide				
2,3,7,8-Tetrachlorodibenzo-p-dioxin				
1,1,2,2-Tetrachloroethane				
Tetrachloroethylene (Perchloroethylene)				
Titanium tetrachloride	1.38	5.78E-04	3.87E-03	1.38
Toluene				
2,4-Toluene diamine				
2,4-Toluene diisocyanate				
p-Toluidine				
Toxaphene(chlorinated camphene)				
1,2,4-Trichlorobenzene				
1,1,2-Trichloroethane				
Trichloroethylene				
2,4,5-Trichlorophenol				
2,4,6-Trichlorophenol				
Triethylamine				
Triphenylamine				
2,2,4-Trimethylpentane				
Vinyl acetate				
Vinyl bromide				
Vinyl chloride				
Vinylidene chloride(1,1-Dichloroethylene)				
Xylenes	0.68			0.68
Arsenic Compounds			2.24E-05	2.24E-05
Beryllium Compounds			1.34E-06	1.34E-06
Cadmium Compounds			1.26E-04	1.26E-04
Chromium Compounds			1.57E-04	1.57E-04
Cobalt Compounds			9.60E-06	9.60E-06
Copper Compounds			5.60E-05	5.60E-05
Manganese Compounds			4.26E-05	4.26E-05
Mercury Compounds			2.91E-05	2.91E-05
Nickel Compounds			2.35E-04	2.35E-04
Phosphorus				
Selenium Compounds			2.69E-06	2.69E-06
Total HAPs - Maximum Individual HAP	1.38	0.002	0.20	1.38
Total VOC HAP Emissions	3.35	0.01	0.28	3.35
Total HAPs Emissions	3.35	0.01	0.29	3.66

Notes:
¹ See individual emissions unit category emissions calculations for details on methodology and assumptions.

**Table D1-12a. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Natural Gas Fired Turbines**

All NG-Fired Turbines
Maximum Total Heat Input: 21,199,200 MMBtu/yr¹

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	Chemical Name	Emission Factor	Estimated Emissions
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	4.56E-03 tpy
75070	Acetaldehyde	4.00E-05 lb/MMBtu	0.42 tpy
107028	Acrolein	6.40E-06 lb/MMBtu	0.07 tpy
71432	Benzene	1.20E-05 lb/MMBtu	0.13 tpy
100414	Ethyl benzene	3.20E-05 lb/MMBtu	0.34 tpy
50000	Formaldehyde ³	2.00E-04 lb/MMBtu	2.12 tpy
91203	Naphthalene	1.30E-06 lb/MMBtu	0.01 tpy
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	0.02 tpy
N/A	Polycyclic aromatic compounds(PAH)	2.20E-06 lb/MMBtu	
75569	Propylene oxide	2.90E-05 lb/MMBtu	0.31 tpy
108883	Toluene	1.30E-04 lb/MMBtu	1.38 tpy
1330207	Xylenes	6.40E-05 lb/MMBtu	0.68 tpy
		Total Potential HAP Emissions:	5.47 tpy

Notes:

¹ Total potential heat input based on maximum full-time operation or permit-limited operation as noted below:

Power Unit No. 1 - GE Frame 5R Turbine	270 MMBtu/hr		
Potential Heat Input:	EU ID 1	2,365,200 MMBtu/yr, operating	8,760 hr/yr
Power Unit No. 2 - GE Frame 5R Turbine	270 MMBtu/hr		
Potential Heat Input:	EU ID 2	2,365,200 MMBtu/yr, operating	8,760 hr/yr
Power Unit No. 3 - GE Frame 7 Turbine MS7000R	940 MMBtu/hr		
Potential Heat Input:	EU ID 3	8,234,400 MMBtu/yr, operating	8,760 hr/yr
Power Unit No. 5 - GE Frame 7 Turbine MS7000R	940 MMBtu/hr		
Potential Heat Input:	EU ID 5	8,234,400 MMBtu/yr, operating	8,760 hr/yr

Total Potential Heat Input: 21,199,200 MMBtu/yr

² Reference: AP-42, Tables 3.1-3.³ Formaldehyde emission factor is based on emission testing conducted on EU IDs 6 and 7.

**Table D1-12b. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Diesel Engines Less Than 600 Horsepower****Maximum Total Heat Input: 2,825 MMBtu/yr¹**

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	Chemical Name	Emission Factor²	Estimated Emissions
75070	Acetaldehyde	7.67E-04 lb/MMBtu	1.08E-03 tpy
107028	Acrolein	9.25E-05 lb/MMBtu	1.31E-04 tpy
71432	Benzene	9.33E-04 lb/MMBtu	1.32E-03 tpy
106990	1,3-Butadiene	3.91E-05 lb/MMBtu	5.52E-05 tpy
50000	Formaldehyde	1.18E-03 lb/MMBtu	1.67E-03 tpy
108883	Toluene	4.09E-04 lb/MMBtu	5.78E-04 tpy
1330207	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	4.02E-04 tpy
N/A	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	2.37E-04 tpy
N/A	Polycyclic aromatic compounds(PAH)		
91203	Naphthalene	8.48E-05 lb/MMBtu	1.20E-04 tpy
203968	Acenaphthylene	5.06E-06 lb/MMBtu	7.15E-06 tpy
83329	Acenaphthene	1.42E-06 lb/MMBtu	2.01E-06 tpy
86737	Fluorene	2.92E-05 lb/MMBtu	4.12E-05 tpy
85018	Phenanthrene	2.94E-05 lb/MMBtu	4.15E-05 tpy
120127	Anthracene	1.87E-06 lb/MMBtu	2.64E-06 tpy
206440	Fluoranthene	7.61E-06 lb/MMBtu	1.07E-05 tpy
129000	Pyrene	4.78E-06 lb/MMBtu	6.75E-06 tpy
56553	Benzo(a)anthracene	1.68E-06 lb/MMBtu	2.37E-06 tpy
218019	Chrysene	3.53E-07 lb/MMBtu	4.99E-07 tpy
205992	Benzo(b)fluoranthene	9.91E-08 lb/MMBtu	1.40E-07 tpy
207089	Benzo(k)fluoranthene	1.55E-07 lb/MMBtu	2.19E-07 tpy
50328	Benzo(a)pyrene	1.88E-07 lb/MMBtu	2.66E-07 tpy
193395	Indeno(1,2,3-cd)pyrene	3.75E-07 lb/MMBtu	5.30E-07 tpy
53703	Dibenz(a,h)anthracene	5.83E-07 lb/MMBtu	8.23E-07 tpy
N/A	Benzo(g,h,i)perylene	4.89E-07 lb/MMBtu	6.91E-07 tpy

Total Potential HAP Emissions: 0.01 tpy¹ Total potential heat input based on maximum full-time operation or permit-limited operation as noted below:

Cummins QSB5.9	425 hp			
	Potential Heat Input:	EU ID 11	1,488 MMBtu/yr, operating	500 hr/yr ³
Cummins V8-265	265 hp			
	Potential Heat Input:	EU ID 12	928 MMBtu/yr, operating	500 hr/yr ³
Detroit Diesel 10447110	117 hp			
	Potential Heat Input:	EU ID 13	410 MMBtu/yr, operating	500 hr/yr ³

Total Potential Heat Input: 2,825 MMBtu/yr

7,000 Btu/hp-hr

Engines heat rate:

² Reference: AP-42, Table 3.3-2.³ Operation limit of 500 hr/yr was based on EPA's default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions (EPA's Memorandum: Calculating Potential to Emit for Emergency Generators, EPA, 1995).

**Table D1-12c. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Insignificant Natural Gas Fired Heaters**

All insignificant NG-Fired Heaters
Maximum Total Heat Input: 228,461 MMBtu/yr ¹

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	Chemical Name	Emission Factor ^{2,3}	Estimated Emissions
N/A	Arsenic Compounds	1.96E-07 lb/MMBtu	2.24E-05 tpy
71432	Benzene	2.06E-06 lb/MMBtu	2.35E-04 tpy
N/A	Beryllium Compounds	1.18E-08 lb/MMBtu	1.34E-06 tpy
N/A	Cadmium Compounds	1.10E-06 lb/MMBtu	1.26E-04 tpy
N/A	Chromium Compounds	1.37E-06 lb/MMBtu	1.57E-04 tpy
N/A	Cobalt Compounds	8.40E-08 lb/MMBtu	9.60E-06 tpy
25321226	Dichorobenzene	1.18E-06 lb/MMBtu	1.34E-04 tpy
50000	Formaldehyde	7.50E-05 lb/MMBtu	8.57E-03 tpy
110543	N-Hexane	1.76E-03 lb/MMBtu	0.20 tpy
N/A	Lead Compounds	4.90E-07 lb/MMBtu	5.60E-05 tpy
N/A	Manganese Compounds	3.73E-07 lb/MMBtu	4.26E-05 tpy
N/A	Mercury Compounds	2.55E-07 lb/MMBtu	2.91E-05 tpy
91203	Naphthalene	5.98E-07 lb/MMBtu	6.83E-05 tpy
N/A	Nickel Compounds	2.06E-06 lb/MMBtu	2.35E-04 tpy
N/A	Polycyclic Organic Matter (POM)	8.65E-08 lb/MMBtu	9.88E-06 tpy
N/A	Selenium Compounds	2.35E-08 lb/MMBtu	2.69E-06 tpy
108883	Toluene	3.33E-06 lb/MMBtu	3.81E-04 tpy

Total Potential HAP Emissions: 0.21 tpy

¹ Total potential heat input based on maximum full-time operation or permit-limited operation as noted below:

Insignificant Natural Gas Units	26.1 MMBtu/hr, total
Potential Heat Input: All Insignificant Heaters	228,461 MMBtu/yr, operating 8,760 hr/yr, each

Total Potential Heat Input: 228,461 MMBtu/yr

² The emission factors for all individual compounds listed in AP-42 Table 1.4-3 that are identified as polycyclic organic matter (POM) have been summed and represented as the POM emission factor.

³ Reference: AP-42, Tables 1.4-2, 1.4-3, 1.4-4.

⁴ Natural gas high heat value: 1,020 Btu/scf (HHV)

**Table D1-12c. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Insignificant Natural Gas Fired Heaters**

**All insignificant NG-Fired Heaters
Maximum Total Heat Input: 17,082 MMBtu/yr ¹**

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	Chemical Name	Emission Factor ²	Estimated Emissions
75070	Acetaldehyde	7.67E-04 lb/MMBtu	6.55E-03 tpy
107028	Acrolein	9.25E-05 lb/MMBtu	7.90E-04 tpy
71432	Benzene	9.33E-04 lb/MMBtu	7.97E-03 tpy
106990	1,3-Butadiene	3.91E-05 lb/MMBtu	3.34E-04 tpy
50000	Formaldehyde	1.18E-03 lb/MMBtu	1.01E-02 tpy
108883	Toluene	4.09E-04 lb/MMBtu	3.49E-03 tpy
1330207	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	2.43E-03 tpy
N/A	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	1.43E-03 tpy
N/A	Polycyclic aromatic compounds(PAH)		
91203	Naphthalene	8.48E-05 lb/MMBtu	7.24E-04 tpy
203968	Acenaphthylene	5.06E-06 lb/MMBtu	4.32E-05 tpy
83329	Acenaphthene	1.42E-06 lb/MMBtu	1.21E-05 tpy
86737	Fluorene	2.92E-05 lb/MMBtu	2.49E-04 tpy
85018	Phenanthrene	2.94E-05 lb/MMBtu	2.51E-04 tpy
120127	Anthracene	1.87E-06 lb/MMBtu	1.60E-05 tpy
206440	Fluoranthene	7.61E-06 lb/MMBtu	6.50E-05 tpy
129000	Pyrene	4.78E-06 lb/MMBtu	4.08E-05 tpy
56553	Benzo(a)anthracene	1.68E-06 lb/MMBtu	1.43E-05 tpy
218019	Chrysene	3.53E-07 lb/MMBtu	3.01E-06 tpy
205992	Benzo(b)fluoranthene	9.91E-08 lb/MMBtu	8.46E-07 tpy
207089	Benzo(k)fluoranthene	1.55E-07 lb/MMBtu	1.32E-06 tpy
50328	Benzo(a)pyrene	1.88E-07 lb/MMBtu	1.61E-06 tpy
193395	Indeno(1,2,3-cd)pyrene	3.75E-07 lb/MMBtu	3.20E-06 tpy
53703	Dibenz(a,h)anthracene	5.83E-07 lb/MMBtu	4.98E-06 tpy
N/A	Benzo(g,h,i)perylene	4.89E-07 lb/MMBtu	4.18E-06 tpy

Total Potential HAP Emissions: 0.03 tpy

¹ Total potential heat input based on maximum full-time operation or permit-limited operation as noted below:

Insignificant Diesel Units	1.95 MMBtu/hr, total
Potential Heat Input: All Insignificant Heaters	17,082 MMBtu/yr, operating 8,760 hr/yr, each

Total Potential Heat Input: 17,082 MMBtu/yr

² Reference: AP-42, Table 3.3-2.

**Table D1-12c. Assessable Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Insignificant Natural Gas Fired Heaters**

All insignificant NG-Fired Heaters
Maximum Total Heat Input: 1,407 MMBtu/yr ¹

Section 112 Hazardous Air Pollutants

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Emission Factor ^{2,3}</u>	<u>Estimated Emissions</u>
50000	Formaldehyde	7.00E-02 lb/MMBtu	4.93E-02 tpy

Total Potential HAP Emissions: 4.93E-02 tpy

¹ Total potential heat input based on maximum full-time operation or permit-limited operation as noted below:

Insignificant Gasoline Units	0.2 MMBtu/hr, total	
Potential Heat Input: All Insignificant Heaters	1,407 MMBtu/yr, operating	8,760 hr/yr, each

Total Potential Heat Input: 1,407 MMBtu/yr

² Reference: AP-42, Table 3.3-1. ("Aldehyde" as Formaldehyde)

³ Heat rate for diesel/gasoline engines: 7,000 Btu/hp-hr AP-42 Chapter 3, Section 3.3-6

**Summary of Projected Fiscal Year (FY) 2024 Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source Type	Projected Air Contaminant Emissions (tons per year)				
	NO _x	CO	PM	VOC	SO ₂
Regulated Significant	21.5	5.7	0.5	0.1	0.1
Regulated Insignificant	11.4	7.0	0.9	0.6	0.0
Subtotals	32.8	12.7	1.3	0.8	0.1
Total Assessable Emissions	47.8				

- Projected assessable emissions are based on actual operation during Calendar Year (CY) 2022.
- Calculations based on AP-42 emission factors, mass balances, and source testing results as shown in attached spreadsheets.

**Projected Fiscal Year (FY) 2024 Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Fuel Type	Capacity	CY 2021 Operation	NO _x (tpy)	CO (tpy)	PM (tpy)	VOC (tpy)	SO ₂ (tpy)
1	GE Frame 5 Turbine	NG	270 MMBtu/hr	9.9 MMscf/yr	1.6	0.40	0.03	0.01	0.00
2	GE Frame 5 Turbine	NG	270 MMBtu/hr	0.0 MMscf/yr	0.0	0.00	0.00	0.00	0.00
3	GE Frame 7 Turbine	NG	940 MMBtu/hr	84.8 MMscf/yr	13.6	3.48	0.28	0.09	0.01
5	GE Frame 7 Turbine	NG	940 MMBtu/hr	24.8 MMscf/yr	4.0	1.02	0.08	0.03	0.00
6	Brown Boveri Turbodyne 11D4 Turbine	NG	1,030 MMBtu/hr	0.0 MMscf/yr	0.0	0.00	0.00	0.00	0.00
7	Brown Boveri Turbodyne 11D4 Turbine	NG	1,030 MMBtu/hr	13.9 MMscf/yr	2.4	0.80	0.06	0.01	0.04
9	Therm-Tec G-30M Incinerator	NG	300 lb/hr	0.0 hr/yr	0.00	0.000	0.000	0.000	0.000
10	CAT G-398 Natural Gas Generator	NG	450 kW	0.00 hr/yr	0.000	0.000	0.000	0.000	0.000
11	Cummins IC Engine - Unit 1	Diesel	425 hp	0.5 hr/yr	0.003	0.001	0.000	0.000	0.000
12	Cummins IC Engine - Unit 2	Diesel	265 hp	0 hr/yr	0.000	0.000	0.000	0.000	0.000
13	Detroit Diesel Engine - Fire Pump	Diesel	115 hp	10 hr/yr	0.018	0.004	0.001	0.001	0.002
14	Thermoflux Heater	NG	4.0 MMBtu/hr	8,760 hr/yr	1.8	1.5	0.1	0.10	0.003
15	Thermoflux Heater	NG	4.0 MMBtu/hr	8,760 hr/yr	1.8	1.5	0.1	0.10	0.003
16	Thermoflux Heater	NG	4.0 MMBtu/hr	8,760 hr/yr	1.8	1.5	0.1	0.10	0.003
17	Solaronics Suntube IV Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.007	0.00	0.000
18	Solaronics Suntube IV Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.007	0.00	0.000
19	Solaronics Suntube IV Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.00	0.000
20	Solaronics Suntube IV Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.00	0.000
21	Co-Ray-Vac Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.00	0.000
22	Co-Ray-Vac Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.08	0.04	0.01	0.00	0.0001
23	Co-Ray-Vac Heater	NG	0.2 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.00	0.0001
24	Modine Heater	NG	0.08 MMBtu/hr	8,760 hr/yr	0.0	0.0	0.00	0.00	0.0001
25	Modine Heater	NG	0.08 MMBtu/hr	8,760 hr/yr	0.0	0.0	0.00	0.00	0.0001
26	Modine Heater	NG	0.05 MMBtu/hr	8,760 hr/yr	0.02	0.0	0.002	0.001	0.0000
27	Modine Heater	NG	0.05 MMBtu/hr	8,760 hr/yr	0.02	0.0	0.002	0.001	0.0000
28	Modine Heater	NG	0.05 MMBtu/hr	8,760 hr/yr	0.02	0.0	0.002	0.001	0.0000
29	Modine Heater	NG	0.4 MMBtu/hr	8,760 hr/yr	0.2	0.1	0.01	0.01	0.0003
30	Modine Heater	NG	0.4 MMBtu/hr	8,760 hr/yr	0.2	0.1	0.01	0.01	0.0003
31	Modine Heater	NG	0.4 MMBtu/hr	8,760 hr/yr	0.2	0.1	0.01	0.01	0.0003
32	17 Modine Heaters (2016 Project)	NG	6.8 MMBtu/hr	8,760 hr/yr	2.8	1.2	0.23	0.16	0.0049
33	Reznor Air Handler	NG	0.75 MMBtu/hr	8,760 hr/yr	0.3	0.1	0.02	0.02	0.0005
34	Solonics Infrared Heater	NG	0.01 MMBtu/hr	8,760 hr/yr	0.0	0.0	0.00	0.00	0.0000
35	Solonics Infrared Heater	NG	0.01 MMBtu/hr	8,760 hr/yr	0.0	0.0	0.00	0.00	0.0000
36	Trane Heater	NG	0.25 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
37	Weil-Mclain Boiler	NG	0.25 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
38	State Industries Hot Water Heater	NG	0.04 MMBtu/hr	8,760 hr/yr	0.0	0.0	0.00	0.00	0.0000
39	Teledyne Larrs Hot Water Boiler - Camp	NG	1.2 MMBtu/hr	8,760 hr/yr	0.5	0.2	0.04	0.03	0.0009
40	King Air Systems Heater - Camp	NG	0.28 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
41	King Air Systems Heater - Camp	NG	0.28 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
42	King Air Systems Heater - Camp	NG	0.25 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
43	King Air Systems Heater - Camp	NG	0.25 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
44	King Air Systems Heater - Camp	NG	0.25 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
45	King Air Systems Heater - Camp	NG	1.0 MMBtu/hr	8,760 hr/yr	0.4	0.2	0.03	0.02	0.0007
46	King Air Systems Heater - Camp	NG	0.28 MMBtu/hr	8,760 hr/yr	0.1	0.0	0.01	0.01	0.0002
47	King Air Makeup Air Heater - Camp	NG	1.2 MMBtu/hr	8,760 hr/yr	0.5	0.2	0.04	0.03	0.0009
Total (tpy)					33	12.9	0.9	0.5	0.1

Regulated Significant	21	6	0	0
Regulated Insignificant	11.4	7.0	0.9	0.6

- NG heating value assumed to be 1,000 Btu/SCF

- Operating hours listed for sources 11-12 are estimates based in number of engine starts

- Operating hours listed for sources 14-47 are based on full-time operation

**Projected Fiscal Year (FY) 2024 NO_x Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Emission Factor Reference	Emission Factor	Capacity	CY 2021 Operation	Emission Rate
1	GE Frame 5 Turbine	AP-42 Table 3.1-1	0.32 lb/MMBtu	270 MMBtu/hr	10 MMscf/yr	1.5771 tpy
2	GE Frame 5 Turbine	AP-42 Table 3.1-1	0.32 lb/MMBtu	270 MMBtu/hr	0 MMscf/yr	0.0000 tpy
3	GE Frame 7 Turbine	AP-42 Table 3.1-1	0.32 lb/MMBtu	940 MMBtu/hr	85 MMscf/yr	13.5738 tpy
5	GE Frame 7 Turbine	AP-42 Table 3.1-1	0.32 lb/MMBtu	940 MMBtu/hr	25 MMscf/yr	3.9714 tpy
6	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.20 lb/MMBtu	1,030 MMBtu/hr	0 MMscf/yr	0.0000 tpy
7	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.34 lb/MMBtu	1,030 MMBtu/hr	14 MMscf/yr	2.3515 tpy
9	Therm-Tec G-30M Incinerator	AP-42 Table 2.1-12	2.00 lb/ton	300 lb/hr	0 hr/yr	0.0000 tpy
10	CAT G-398 Natural Gas Generator	AP-42 Table 3.2-1	15.81 g/kW-hr	450.0 kW	0.0 hr/yr	0.0000 tpy
11	Cummins IC Engine - Unit 1	AP-42 Table 3.3-1	0.03 lb/hp-hr	425.0 hp	0.5 hr/yr	0.0033 tpy
12	Cummins IC Engine - Unit 2	AP-42 Table 3.3-1	0.03 lb/hp-hr	265.0 hp	0.0 hr/yr	0.0000 tpy
13	Detroit Diesel Engine - Fire Pump	AP-42 Table 3.3-1	0.03 lb/hp-hr	115.0 hp	10.0 hr/yr	0.0178 tpy
14	Thermoflux Heater	AP-42 Table 1.4-1	100 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.7520 tpy
15	Thermoflux Heater	AP-42 Table 1.4-1	100 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.7520 tpy
16	Thermoflux Heater	AP-42 Table 1.4-1	100 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.7520 tpy
17	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
18	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
19	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
20	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
21	Co-Ray-Vac Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
22	Co-Ray-Vac Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
23	Co-Ray-Vac Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.8223 tpy
24	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0329 tpy
25	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0329 tpy
26	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0206 tpy
27	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0206 tpy
28	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0206 tpy
29	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.1647 tpy
30	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.1647 tpy
31	Modine Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.1647 tpy
32	17 Modine Heaters (2016 Project)	AP-42 Table 1.4-1	94 lb/MMCF	6.8 MMBtu/hr	8,760.0 hr/yr	2.7997 tpy
33	Reznor Air Handler	AP-42 Table 1.4-1	94 lb/MMCF	0.8 MMBtu/hr	8,760.0 hr/yr	0.3088 tpy
34	Soltronics Infrared Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0041 tpy
35	Soltronics Infrared Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0041 tpy
36	Trane Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1029 tpy
37	Weil-Mclain Boiler	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1029 tpy
38	State Industries Hot Water Heater	AP-42 Table 1.4-1	94 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0165 tpy
39	Teledyne Larrs Hot Water Boiler - Camp	AP-42 Table 1.4-1	94 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.4941 tpy
40	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1153 tpy
41	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1153 tpy
42	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1029 tpy
43	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1029 tpy
44	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1029 tpy
45	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	1.0 MMBtu/hr	8,760.0 hr/yr	0.4117 tpy
46	King Air Systems Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.1153 tpy
47	King Air Makeup Air Heater - Camp	AP-42 Table 1.4-1	94 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.4941 tpy

Total 33 tpy

- NG heating value assumed to be 1,000 Btu/SCF

- Diesel fuel heating value assumed to be 137,000 Btu/gal

- Operating hours listed for sources 11-12 are estimates based in number of engine starts

- Operating hours listed for sources 14-47 are based on full-time operation

**Projected Fiscal Year (FY) 2023 CO Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Emission Factor Reference	Emission Factor	Capacity	CY 2021 Operation	Emission Rate
1	GE Frame 5 Turbine	AP-42 Table 3.1-1	0.08 lb/MMBtu	270 MMBtu/hr	10 MMscf/yr	0.4041 tpy
2	GE Frame 5 Turbine	AP-42 Table 3.1-1	0.08 lb/MMBtu	270 MMBtu/hr	0 MMscf/yr	0.0000 tpy
3	GE Frame 7 Turbine	AP-42 Table 3.1-1	0.08 lb/MMBtu	940 MMBtu/hr	85 MMscf/yr	3.4783 tpy
5	GE Frame 7 Turbine	AP-42 Table 3.1-1	0.08 lb/MMBtu	940 MMBtu/hr	25 MMscf/yr	1.0177 tpy
6	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.02 lb/MMBtu	1,030 MMBtu/hr	0 MMscf/yr	0.0000 tpy
7	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.12 lb/MMBtu	1,030 MMBtu/hr	14 MMscf/yr	0.8001 tpy
9	Therm-Tec G-30M Incinerator	AP-42 Table 2.1-12	20.00 lb/ton	300 lb/hr	0 hr/yr	0.0000 tpy
10	CAT G-398 Natural Gas Generator	AP-42 Table 3.2-1	2.1 g/kW-hr	450.0 kW	0.0 hr/yr	0.0000 tpy
11	Cummins IC Engine - Unit 1	AP-42 Table 3.3-1	0.01 lb/hp-hr	425.0 hp	0.5 hr/yr	0.0007 tpy
12	Cummins IC Engine - Unit 2	AP-42 Table 3.3-1	0.01 lb/hp-hr	265.0 hp	0.0 hr/yr	0.0000 tpy
13	Detroit Diesel Engine - Fire Pump	AP-42 Table 3.3-1	0.01 lb/hp-hr	115.0 hp	10.0 hr/yr	0.0038 tpy
14	Thermoflux Heater	AP-42 Table 1.4-1	84.00 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.4717 tpy
15	Thermoflux Heater	AP-42 Table 1.4-1	84.00 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.4717 tpy
16	Thermoflux Heater	AP-42 Table 1.4-1	84.00 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	1.4717 tpy
17	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
18	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
19	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
20	Solaronics Suntube IV Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
21	Co-Ray-Vac Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
22	Co-Ray-Vac Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
23	Co-Ray-Vac Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0350 tpy
24	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0140 tpy
25	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0140 tpy
26	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0088 tpy
27	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0088 tpy
28	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0088 tpy
29	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0701 tpy
30	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0701 tpy
31	Modine Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0701 tpy
32	17 Modine Heaters (2016 Project)	AP-42 Table 1.4-1	40.00 lb/MMCF	6.8 MMBtu/hr	8,760.0 hr/yr	1.1914 tpy
33	Reznor Air Handler	AP-42 Table 1.4-1	40.00 lb/MMCF	0.8 MMBtu/hr	8,760.0 hr/yr	0.1314 tpy
34	Soltronics Infrared Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0018 tpy
35	Soltronics Infrared Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0018 tpy
36	Trane Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0438 tpy
37	Weil-Mclain Boiler	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0438 tpy
38	State Industries Hot Water Heater	AP-42 Table 1.4-1	40.00 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0070 tpy
39	Teledyne Larrs Hot Water Boiler - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.2102 tpy
40	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0491 tpy
41	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0491 tpy
42	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0438 tpy
43	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0438 tpy
44	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0438 tpy
45	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	1.0 MMBtu/hr	8,760.0 hr/yr	0.1752 tpy
46	King Air Systems Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0491 tpy
47	King Air Makeup Air Heater - Camp	AP-42 Table 1.4-1	40.00 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.2102 tpy
Total						12.9 tpy

- NG heating value assumed to be 1,000 Btu/SCF

- Diesel fuel heating value assumed to be 137,000 Btu/gal

- Operating hours listed for sources 11-12 are estimates based in number of engine starts

- Operating hours listed for sources 14-47 are based on full-time operation

**Projected Fiscal Year (FY) 2024 PM Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Emission Factor Reference	Emission Factor	Capacity	CY 2021 Operation	Emission Rate
1	GE Frame 5 Turbine	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	270 MMBtu/hr	10 MMscf/yr	0.0325 tpy
2	GE Frame 5 Turbine	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	270 MMBtu/hr	0 MMscf/yr	0.0000 tpy
3	GE Frame 7 Turbine	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	940 MMBtu/hr	85 MMscf/yr	0.2800 tpy
5	GE Frame 7 Turbine	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	940 MMBtu/hr	25 MMscf/yr	0.0819 tpy
6	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.0090 lb/MMBtu	1,030 MMBtu/hr	0 MMscf/yr	0.0000 tpy
7	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	0.0080 lb/MMBtu	1,030 MMBtu/hr	14 MMscf/yr	0.0557 tpy
9	Therm-Tec G-30M Incinerator	AP-42 Table 2.1-12	15.0 lb/ton	300 lb/hr	0 hr/yr	0.0000 tpy
10	CAT G-398 Natural Gas Generator	AP-42 Table 3.2-1	0.2 g/Kw-hr	450.0 kW	0.0 hr/yr	0.0000 tpy
11	Cummins IC Engine - Unit 1	AP-42 Table 3.3-1	0.00 lb/hp-hr	425.0 hp	0.5 hr/yr	0.0002 tpy
12	Cummins IC Engine - Unit 2	AP-42 Table 3.3-1	0.00 lb/hp-hr	265.0 hp	0.0 hr/yr	0.0000 tpy
13	Detroit Diesel Engine - Fire Pump	AP-42 Table 3.3-1	0.00 lb/hp-hr	115.0 hp	10.0 hr/yr	0.0013 tpy
14	Thermoflux Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.1332 tpy
15	Thermoflux Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.1332 tpy
16	Thermoflux Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.1332 tpy
17	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
18	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
19	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
20	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
21	Co-Ray-Vac Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
22	Co-Ray-Vac Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
23	Co-Ray-Vac Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
24	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0027 tpy
25	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0027 tpy
26	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0017 tpy
27	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0017 tpy
28	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0017 tpy
29	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0133 tpy
30	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0133 tpy
31	Modine Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0133 tpy
32	17 Modine Heaters (2016 Project)	AP-42 Table 1.4-2	7.60 lb/MMCF	6.8 MMBtu/hr	8,760.0 hr/yr	0.2264 tpy
33	Reznor Air Handler	AP-42 Table 1.4-2	7.60 lb/MMCF	0.8 MMBtu/hr	8,760.0 hr/yr	0.0250 tpy
34	Solonics Infrared Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0003 tpy
35	Solonics Infrared Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0003 tpy
36	Trane Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0083 tpy
37	Weil-Mclain Boiler	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0083 tpy
38	State Industries Hot Water Heater	AP-42 Table 1.4-2	7.60 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0013 tpy
39	Teledyne Larrs Hot Water Boiler - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.0399 tpy
40	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0093 tpy
41	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0093 tpy
42	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0083 tpy
43	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0083 tpy
44	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0083 tpy
45	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	1.0 MMBtu/hr	8,760.0 hr/yr	0.0333 tpy
46	King Air Systems Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0093 tpy
47	King Air Makeup Air Heater - Camp	AP-42 Table 1.4-2	7.60 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.0399 tpy
Total						1.2 tpy

- NG heating value assumed to be 1,000 Btu/SCF
- Diesel fuel heating value assumed to be 137,000 Btu/gal
- Operating hours listed for sources 11-12 are estimates based in number of engine starts
- Operating hours listed for sources 14-47 are based on full-time operation
- Percent ash in used oil assumed to equal 0.08%

**Projected Fiscal Year (FY) 2023 VOC Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Emission Factor Reference	Emission Factor	Capacity	CY 2021 Operation	Emission Rate
1	GE Frame 5 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	270 MMBtu/hr	10 MMscf/yr	0.0103 tpy
2	GE Frame 5 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	270 MMBtu/hr	0 MMscf/yr	0.0000 tpy
3	GE Frame 7 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	940 MMBtu/hr	85 MMscf/yr	0.0891 tpy
5	GE Frame 7 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	940 MMBtu/hr	25 MMscf/yr	0.0261 tpy
6	Brown Boveri Turbodyne 11D4 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1,030 MMBtu/hr	0 MMscf/yr	0.0000 tpy
7	Brown Boveri Turbodyne 11D4 Turbine	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1,030 MMBtu/hr	14 MMscf/yr	0.0146 tpy
9	Therm-Tec G-30M Incinerator	AP-42 Table 2.1-12	15.0 lb/ton	300 lb/hr	0 hr/yr	0.0000 tpy
10	CAT G-398 Natural Gas Generator	AP-42 Table 3.2-2	10.9 g/kw-hr	450.0 kW	0.0 hr/yr	0.0000 tpy
11	Cummins IC Engine - Unit 1	AP-42 Table 3.3-1	0.00 lb/hp-hr	425.0 hp	0.5 hr/yr	0.0003 tpy
12	Cummins IC Engine - Unit 2	AP-42 Table 3.3-1	0.00 lb/hp-hr	265.0 hp	0.0 hr/yr	0.0000 tpy
13	Detroit Diesel Engine - Fire Pump	AP-42 Table 3.3-1	0.00 lb/hp-hr	115.0 hp	10.0 hr/yr	0.0014 tpy
14	Thermoflux Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.0964 tpy
15	Thermoflux Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.0964 tpy
16	Thermoflux Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	4.0 MMBtu/hr	8,760.0 hr/yr	0.0964 tpy
17	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
18	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
19	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
20	Solaronics Suntube IV Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
21	Co-Ray-Vac Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
22	Co-Ray-Vac Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
23	Co-Ray-Vac Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.2 MMBtu/hr	8,760.0 hr/yr	0.0048 tpy
24	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0019 tpy
25	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0019 tpy
26	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0012 tpy
27	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0012 tpy
28	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.1 MMBtu/hr	8,760.0 hr/yr	0.0012 tpy
29	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0096 tpy
30	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0096 tpy
31	Modine Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.4 MMBtu/hr	8,760.0 hr/yr	0.0096 tpy
32	17 Modine Heaters (2016 Project)	AP-42 Table 1.4-2	5.50 lb/MMCF	6.8 MMBtu/hr	8,760.0 hr/yr	0.1638 tpy
33	Reznor Air Handler	AP-42 Table 1.4-2	5.50 lb/MMCF	0.8 MMBtu/hr	8,760.0 hr/yr	0.0181 tpy
34	Solonics Infrared Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0002 tpy
35	Solonics Infrared Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0002 tpy
36	Trane Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0060 tpy
37	Weil-Mclain Boiler	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0060 tpy
38	State Industries Hot Water Heater	AP-42 Table 1.4-2	5.50 lb/MMCF	0.0 MMBtu/hr	8,760.0 hr/yr	0.0010 tpy
39	Teledyne Larrs Hot Water Boiler - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.0289 tpy
40	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
41	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
42	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0060 tpy
43	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0060 tpy
44	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0060 tpy
45	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	1.0 MMBtu/hr	8,760.0 hr/yr	0.0241 tpy
46	King Air Systems Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	0.3 MMBtu/hr	8,760.0 hr/yr	0.0067 tpy
47	King Air Makeup Air Heater - Camp	AP-42 Table 1.4-2	5.50 lb/MMCF	1.2 MMBtu/hr	8,760.0 hr/yr	0.0289 tpy

Total 0.8 tpy

- NG heating value assumed to be 1,000 Btu/SCF
- Diesel fuel heating value assumed to be 137,000 Btu/gal
- Operating hours listed for sources 11-12 are estimates based in number of engine starts
- Operating hours listed for sources 14-47 are based on full-time operation

**Projected Fiscal Year (FY) 2023 SO_x Assessable Emissions
(Based on Actual Operations During Calendar Year (CY) 2022)**

Beluga River Power Plant

Source No.	Source Identification	Emission Factor Reference	Actual Fuel Sulfur Content	Emission Factor	Capacity	CY 2021 Operation	Emission Rate	
1	GE Frame 5 Turbine	Engineering Calculation	1.0 ppmv H ₂ S	0 lb/MMBtu	270 MMBtu/hr	9.86 MMscf/yr	0.0008	tpy
2	GE Frame 5 Turbine	Engineering Calculation	1.0 ppmv H ₂ S	0 lb/MMBtu	270 MMBtu/hr	0.00E+00 MMscf/yr	0.0000	tpy
3	GE Frame 7 Turbine	Engineering Calculation	1.0 ppmv H ₂ S	0 lb/MMBtu	940 MMBtu/hr	84.84 MMscf/yr	0.0070	tpy
5	GE Frame 7 Turbine	Engineering Calculation	1.0 ppmv H ₂ S	0 lb/MMBtu	940 MMBtu/hr	24.82 MMscf/yr	0.0021	tpy
6	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	ppmv H ₂ S	0 lb/MMBtu	1,030 MMBtu/hr	0.00E+00 MMscf/yr	0.0000	tpy
7	Brown Boveri Turbodyne 11D4 Turbine	Source Test Factor	ppmv H ₂ S	0 lb/MMBtu	1,030 MMBtu/hr	13.91 MMscf/yr	0.0417	tpy
9	Therm-Tec G-30M Incinerator	AP-42 Table 2.1-12	2.5 lb/ton	3 lb/ton	300 lb/hr	0.00E+00 hr/yr	0.0000	tpy
10	CAT G-398 Natural Gas Generator	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	4.2 MMBtu/hr	0.00E+00 hr/yr	0.0000	tpy
11	Cummins IC Engine - Unit 1	Engineering Calculation	0.5 wt. pct. S	0.5 lb/MMBtu	3.0 MMBtu/hr	0.50 hr/yr	0.0004	tpy
12	Cummins IC Engine - Unit 2	Engineering Calculation	0.5 wt. pct. S	0.5 lb/MMBtu	1.9 MMBtu/hr	0.00E+00 hr/yr	0.0000	tpy
13	Detroit Diesel Engine - Fire Pump	Engineering Calculation	0.5 wt. pct. S	0.5 lb/MMBtu	0.8 MMBtu/hr	10.00 hr/yr	0.0021	tpy
14	Thermoflux Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	4.0 MMBtu/hr	8760.00 hr/yr	0.0029	tpy
15	Thermoflux Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	4.0 MMBtu/hr	8760.00 hr/yr	0.0029	tpy
16	Thermoflux Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	4.0 MMBtu/hr	8760.00 hr/yr	0.0029	tpy
17	Solaronics Suntube IV Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
18	Solaronics Suntube IV Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
19	Solaronics Suntube IV Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
20	Solaronics Suntube IV Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
21	Co-Ray-Vac Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
22	Co-Ray-Vac Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
23	Co-Ray-Vac Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.2 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
24	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.1 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
25	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.1 MMBtu/hr	8760.00 hr/yr	0.0001	tpy
26	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.1 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
27	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.1 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
28	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.1 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
29	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.4 MMBtu/hr	8760.00 hr/yr	0.0003	tpy
30	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.4 MMBtu/hr	8760.00 hr/yr	0.0003	tpy
31	Modine Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.4 MMBtu/hr	8760.00 hr/yr	0.0003	tpy
32	17 Modine Heaters (2016 Project)	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	6.8 MMBtu/hr	8760.00 hr/yr	0.0049	tpy
33	Reznor Air Handler	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.8 MMBtu/hr	8760.00 hr/yr	0.0005	tpy
34	Soltronics Infrared Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.0 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
35	Soltronics Infrared Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.0 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
36	Trane Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
37	Weil-Mclain Boiler	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
38	State Industries Hot Water Heater	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.0 MMBtu/hr	8760.00 hr/yr	0.0000	tpy
39	Teledyne Larrs Hot Water Boiler - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	1.2 MMBtu/hr	8760.00 hr/yr	0.0009	tpy
40	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
41	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
42	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
43	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
44	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
45	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	1.0 MMBtu/hr	8760.00 hr/yr	0.0007	tpy
46	King Air Systems Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	0.3 MMBtu/hr	8760.00 hr/yr	0.0002	tpy
47	King Air Makeup Air Heater - Camp	Engineering Calculation	1.0 ppmv H ₂ S	0.0 lb/MMBtu	1.2 MMBtu/hr	8760.00 hr/yr	0.0009	tpy

Total 0.1 tpy

- All Engine heat rates assumed to be 7,000 Btu/hp-hr
- NG heating value assumed to be 1,000 Btu/SCF
- Diesel fuel heating value assumed to be 137,000 Btu/gal
- Operating hours listed for sources 11-12 are estimates based in number of engine starts
- Operating hours listed for sources 14-47 are based on full-time operation
- Sulfur content of diesel fuel assumed to be 0.5 wt. pct.

APPENDIX E. CATEGORICALLY INSIGNIFICANT EMISSION UNITS

Insignificant Emission Unit Inventory
Chugach Electric Association - Beluga River Power Plant

Description	Fuel	Rating/Size	Basis for Insignificance
Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	18 AAC 50.326(e)
Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	18 AAC 50.326(e)
Thermoflux Fuel Gas Heaters	Natural Gas	4.0 MMBtu/hr	18 AAC 50.326(e)
Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Suntube IV Heater	Natural Gas	0.2 MMBtu/hr	18 AAC 50.326(g)(5)
Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	18 AAC 50.326(g)(5)
Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	18 AAC 50.326(g)(5)
Modine "Hot Dawg" Heater	Natural Gas	0.045 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Modine Heater	Natural Gas	0.4 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Infrared Heater	Natural Gas	0.01 MMBtu/hr	18 AAC 50.326(g)(5)
Solaronics Infrared Heater	Natural Gas	0.01 MMBtu/hr	18 AAC 50.326(g)(5)
Trane Heater	Natural Gas	0.25 MMBtu/hr	18 AAC 50.326(g)(5)
Weil-Mclain Boiler	Natural Gas	0.23 MMBtu/hr	18 AAC 50.326(g)(5)
Weil-Mclain Boiler	Natural Gas	0.23 MMBtu/hr	18 AAC 50.326(g)(5)
State Select	Natural Gas	0.04 MMBtu/hr	18 AAC 50.326(g)(5)
Teledyne Larrs Hot Water Boiler	Natural Gas	1.2 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.25 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.28 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.25 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	1.08 MMBtu/hr	18 AAC 50.326(g)(5)
King Air Systems Heater	Natural Gas	0.275 MMBtu/hr	18 AAC 50.326(g)(5)
Oil Water Separator (OWS) Building	Natural Gas	0.204 MMBtu/hr	18 AAC 50.326(g)(5)
Fire Pump Building	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(g)(5)
"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(g)(5)
"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(g)(5)
"Bruest" Gas House Heaters	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(g)(5)
"Terra" Pizza Oven	Natural Gas	0.03 MMBtu/hr	18 AAC 50.326(f)(18)
Vulcan Double Ovens	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(f)(18)
Vulcan Double Ovens	Natural Gas	0.06 MMBtu/hr	18 AAC 50.326(f)(18)
Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	18 AAC 50.326(f)(18)
Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	18 AAC 50.326(f)(18)
Vulcan Single Oven	Natural Gas	0.03 MMBtu/hr	18 AAC 50.326(f)(18)
Master Portable Heater	Diesel	0.15 MMBtu/hr	18 AAC 50.326(g)(7)
Master Portable Heater	Diesel	0.15 MMBtu/hr	18 AAC 50.326(g)(7)
Master Portable Heater	Diesel	0.15 MMBtu/hr	18 AAC 50.326(g)(7)
Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	18 AAC 50.326(g)(7)
Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	18 AAC 50.326(g)(7)
Frost Fighter Portable Heaters	Diesel	0.5 MMBtu/hr	18 AAC 50.326(g)(7)
Honda EB2200I Generator	Gasoline	2200 Watt	18 AAC 50.326(f)(101)
Hotsy Power Wash Pressure Washer	Gasoline	20 HP	18 AAC 50.326(f)(13)

APPENDIX F. 2023 COMPLIANCE CERTIFICATION

ANNUAL COMPLIANCE CERTIFICATION
AIR QUALITY OPERATING PERMIT AQ0106TVP04
Chugach Electric Association, Inc.
Beluga River Power Plant

Reporting Period: January 1, 2023 to December 31, 2023

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

Christina L Radeski

Christina Radeski
Environmental Compliance Manager

AIR QUALITY OPERATING PERMIT AQ0106TVP04
Chugach Electric Association, Inc.
Beluga River Power Plant (BRPP)

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
1	Visible Emissions Standard – Fuel Burning Equipment	Continuous	Fuel use requirements under Condition 1.1, and reasonable inquiry.	<p>EU IDs 1, 3, 5, and 7 burned only natural gas during the reporting period. EU ID 10 was decommissioned in December 2020. EU ID 2 was mothballed in January 2021. EU ID 6 was mothballed May 2020.</p> <p>EU IDs 11 through 13 operation did not exceed 400 hours, each, during any consecutive 12-month period. Compliance with the visible emissions standard is based on reasonable inquiry.</p>
2 - 4	Visible emissions Monitoring, Recordkeeping and Reporting	Continuous	Monitoring conducted under Condition 1.2.	EU IDs 11 through 13 operation did not exceed 400 hours, each, during any consecutive 12-month period. Requirements were not triggered. Compliance with the visible emissions standard is based on reasonable inquiry.
5	Particulate Matter Emissions Standard	Continuous	Fuel use requirements under Condition 5.1, and reasonable inquiry.	EU IDs 1, 3, 5, and 7 burned only natural gas during the reporting period. EU IDs 2, 6, and 10 did not operate during the period. EU IDs 11 through 13 operation did not exceed 400 hours, each, during any consecutive 12-month period. Compliance with the particulate matter emissions standard is based on reasonable inquiry.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
6 - 7	PM Monitoring, Recordkeeping and Reporting	Continuous	Monitoring conducted under Condition 5.2.	EU IDs 11 through 13 operation did not exceed 400 hours, each, during any consecutive 12-month period. Requirements were not triggered. Compliance with the particulate emissions standard is based on reasonable inquiry.
8 - 12	Sulfur Compound Emissions Standard	Continuous	Natural gas supply contract specifications/records. ULSD receipts.	EU IDs 1, 3, 5, and 7 burned only natural gas meeting the supply contract specifications during the reporting period. EU IDs 2, 6, and 10 did not operate during the period. EU IDs 11 through 13 burned only ULSD during the reporting period.
13	Owner Requested Limits – EU ID 3 and 5 Exhaust Temperature/ Discharge Pressure	Continuous	Operational alarm and limitation curve, monitoring required under Condition 13.	EU IDs 3 and 5 operated with exhaust and temperature interlocking control systems. MR&R under conditions 13.1 and 13.2 conducted as required during reporting period. EU IDs 3 and 5 operating conditions did not exceed TRIP limits.
14	Owner Requested Limits – EU ID 10 Operating Hours	Continuous	Monitoring required under Condition 14.1.	EU ID 10 did not operate more than 24 hours during any consecutive 12-month period. EU ID 10 was disconnected from its fuel line and drained of oil in December 2020.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
15	Insignificant EU	Continuous	VE, PM, and Sulfur Standard. Also General MR&R for Insignificant Emissions Units.	Insignificant EUs did not exceed applicable emission standards. With respect to insignificant EUs, Chugach complied with Condition 40 as required by Condition 15.4b. No insignificant EUs became significant during the reporting period.
16	NSPS Subpart A - Notification	Continuous	Reasonable inquiry.	Chugach complied with the notification requirements in Condition 16.
17	NSPS Subpart A - Concealment of Emissions	Continuous	No concealment of emissions.	Chugach did not conceal emissions.
18	NSPS Subpart IIII Applicability	Continuous	Reasonable inquiry/records.	Conditions requirements 18.1 through 18.8 were met.
19	40 CFR Part 61 NESHAP Subparts A & M	Continuous	Reasonable inquiry.	Chugach complied with the applicable requirements in Condition 19.
20	NESHAP Subpart A	Continuous	Reasonable inquiry.	Chugach complied with 40 CFR 63 Subpart A in accordance with the provisions for applicability of Subpart A in Table 8 to Subpart ZZZZ.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
21	NESHAP Subpart ZZZZ	Continuous	<p>EU ID 11 - Comply with Condition 18.</p> <p>EU IDs 10, 12, and 13, 40 CFR 63 operating and maintenance practices and MR&R.</p>	<p>EU ID 11 complied with the requirements in Condition 18.</p> <p>Chugach complied with the maintenance requirements in Conditions 21.2 and 21.3.</p> <p>EU 10 was disconnected from the fuel line, drained of oil, and decommissioned in December 2020. Therefore, a non-resettable hour meter was not installed on EU ID 10.</p> <p>Chugach complied with the requirements in Conditions 21.11a through 21.11.c.</p> <p>Chugach maintains all records required by the Condition 21 for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p>
22 - 24	Protection of Stratospheric Ozone 40 CFR 82	Continuous	Reasonable inquiry.	Chugach complied with all requirements of 40 CFR 82 subpart F, subpart G, and subpart H as applicable during the reporting period.
25 - 27	NESHAPs Applicability Determinations	Continuous	Reasonable inquiry.	Chugach complied with the requirements in Condition 25 through 27.
28 - 29	NSPS and NESHAPs Reports and Waivers	Continuous	Reasonable inquiry/records.	Chugach complied with the requirements in Conditions 28 through 29. Reports were submitted as required during reporting period.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
30 - 32	Standard Terms and Conditions	Continuous	Reasonable inquiry.	Chugach complied with the Title V Permit Standard Terms and Conditions.
33	Administration Fees	Continuous	Reasonable inquiry.	Fees were paid as required during the reporting period.
34	Assessable Emissions	Continuous	Reasonable inquiry/records.	Assessable emissions fees were paid as required during the reporting period.
35	Assessable Emissions Estimates	Continuous	Reasonable inquiry/records.	Projected assessable emissions estimate was submitted per Condition 34.
36	Good Air Pollution Control Practice	Continuous	Reasonable inquiry/records.	Regular maintenance was performed on EU IDs 1, 3 5, and 7 as necessary per the manufacturer's and/or operator's maintenance procedures. EU IDs 2 and 6 did not operate during the period. Records required under Conditions 36.2 and 36.3 were maintained as required.
37	Dilution	Continuous	Routine inspection of exhaust and ductwork.	Chugach did not dilute any emissions.
38	Reasonable Precautions to Prevent Fugitive Dust	Continuous	Reasonable inquiry.	No reasonable precautions were necessary. Chugach did not engage in activities that produced significant fugitive dust. No complaints were received during reporting period.
39	Stack Injection	Continuous	Reasonable inquiry.	No materials other than products of combustion were released from an EU exhaust stack at the stationary source.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
40	Air Pollution Prohibited	Continuous	Reasonable inquiry/records.	No complaints from the public during the reporting period. No records, reports or corrective action required.
41	Technology-Based Emission Standards	Continuous	Reasonable inquiry.	No unavoidable excess emissions occurred during the reporting period.
42	Open Burning	Continuous	Reasonable inquiry.	No open burning was conducted at the stationary source during the reporting period.
43 - 52	Source Testing and Monitoring Requirements	Continuous	Reasonable inquiry.	No source testing was required under Permit No. AQ0106TVP04 during this compliance period.
53	Recordkeeping Requirements	Continuous	Reasonable inquiry/records.	Chugach maintains all records required by Permit No. AQ0106TVP04 for at least 5 years after the date of collection.
54	Certification	Continuous	Reasonable inquiry/records.	Chugach has certified all reports submitted in compliance with permit provisions.
55	Submittals	Continuous	Reasonable inquiry/records.	Chugach submitted all required reports as directed by Condition 55.
56	Information Requests	Continuous	Reasonable inquiry/records.	Chugach complied with all information requests received from the department.
57	Excess Emissions and Permit Deviation Reports	Continuous	Reasonable inquiry/records.	No excess emissions or permit deviation reports were filed during the reporting period.

Cond. No.	Description	Compliance Status	Method Used to Determine Compliance Status	Comments on Condition, Compliance Method or Compliance Status
58	Operating Reports	Continuous	Reasonable inquiry/records.	Records document semi-annual operating reports were submitted on or before the deadlines specified in Condition 58.
59	Annual Compliance Certification	Continuous	Reasonable inquiry/records.	Records document Annual Compliance Certification was submitted on or before the deadline specified in Condition 59.
60	Emission Inventory Reporting	Continuous	By March 31 each year actual emissions by EU shall be submitted on Section 14, Emission Inventory Form.	Condition requirements met.
61	Permit Applications and Submittals	Continuous	Application information shall be submitted to EPA in accordance with Condition 61.	Condition requirements met.
62	Emissions Trading	Continuous	Reasonable inquiry.	Beluga River Power Plant does not engage in emissions trading.
63	Off Permit Changes	Continuous	Reasonable inquiry.	No off permit changes were made during the reporting period.
64	Operational Flexibility	Continuous	Reasonable inquiry.	No operational flexibility changes were made during the reporting period.
65	Permit Renewal	Continuous	Reasonable inquiry.	An application to renew Permit No. AQ0106TVP04 was not required during the reporting period.
66 - 71	General Compliance Requirements	Continuous	Reasonable inquiry.	Chugach met all general compliance requirements during the reporting period.

Chugach Electric Association, Inc.
Beluga River Power Plant
AQ0106TVP04

3/20/24
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cc: EPA – Region 10
Air Toxic and Enforcement Section
M/S 20-C04
1200 Sixth Avenue, Suite 155
Seattle, Washington 98101-3188

APPENDIX G. RED-LINED PERMIT

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY OPERATING PERMIT

Permit No. AQ0106TVP04

Issue Date: FINAL - July 8, 2020

Expiration Date: July 8, 2025

The Alaska Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Chugach Electric Association**, for the operation of the **Beluga River Power Plant**.

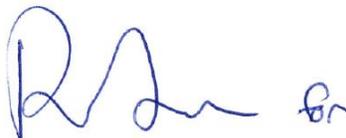
This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

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

Citations listed herein are contained within the effective version of 18 AAC 50 at permit issuance. All federal regulation citations are from those sections adopted by reference in this version of regulation in 18 AAC 50.040 unless otherwise specified.

This operating permit becomes effective August 7, 2020.

Upon effective date of this permit, Operating Permit No. AQ0106TVP03 expires.



James R. Plosay, Manager
Air Permits Program

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Abbreviations and Acronyms

AAC.....	Alaska Administrative Code	NAICS.....	North American Industrial Classification System
ADEC	Alaska Department of Environmental Conservation	NESHAP	National Emission Standards for Hazardous Air Pollutants [as contained in 40 CFR 61 and 63]
AS.....	Alaska Statutes	NH ₃	ammonia
ASTM.....	American Society for Testing and Materials	NO _x	nitrogen oxides
BACT	best available control technology	NSPS	New Source Performance Standards [as contained in 40 CFR 60]
bHp.....	brake horsepower	O ₂	oxygen
CAA or The Act	Clean Air Act	PAL.....	plantwide applicability limitation
CDX.....	Central Data Exchange	Pb	lead
CEDRI.....	Compliance and Emissions Data Reporting Interface	PM _{2.5}	particulate matter less than or equal to a nominal 2.5 microns in diameter
CFR	Code of Federal Regulations	PM ₁₀	particulate matter less than or equal to a nominal 10 microns in diameter
CO	carbon monoxide	ppm	parts per million
dscf.....	dry standard cubic foot	ppmv, ppmvd	parts per million by volume on a dry basis
EPA	US Environmental Protection Agency	psia	pounds per square inch (absolute)
EU.....	emissions unit	PSD	prevention of significant deterioration
gph.....	gallons per hour	PTE	potential to emit
gr/dscf.....	grain per dry standard cubic foot (1 pound = 7000 grains)	SIC.....	Standard Industrial Classification
HAPs	hazardous air pollutants [as defined in AS 46.14.990]	SIP.....	State Implementation Plan
hp.....	horsepower	SO ₂	sulfur dioxide
ID.....	emissions unit identification number	tph	tons per hour
kPa.....	kiloPascals	tpy	tons per year
kW	kilowatts	VOC	volatile organic compound [as defined in 40 CFR 51.100(s)]
LAER.....	lowest achievable emission rate	VOL	volatile organic liquid [as defined in 40 CFR 60.111b, Subpart Kb]
MACT	maximum achievable control technology [as defined in 40 CFR 63]	vol%	volume percent
MMBtu/hr.....	million British thermal units per hour	wt%	weight percent
MMscf.....	million standard cubic feet		
MR&R.....	monitoring, recordkeeping, and reporting		

Section 1. Stationary Source Information

Identification

Permittee:	Chugach Electric Association PO Box 196300 Anchorage, AK 99519-6300	
Stationary Source Name:	Beluga River Power Plant	
Location:	61° 11' 07.1" North; 151° 02' 11.8" West	
Physical Address:	Remote site 40 miles west of Anchorage, AK along the western coast of Cook Inlet	
Owner and Operator:	Chugach Electric Association PO Box 196300 Anchorage, AK 99519-6300	
Permittee's Responsible Official:	Michael B. Brodie, P.E., Manager, Environmental Engineering PO Box 196300 Anchorage, AK 99519-6300	
Designated Agent:	Lee D. Thibert, CEO PO Box 196300 Anchorage, AK 99519-6300	
Stationary Source and Building Contact:	Michael B. Brodie, P.E., Manager, Environmental Engineering PO Box 196300 Anchorage, AK 99519-6300 (907) 762-4835 mike_brodie@chugachelectric.com	
Fee and Permit Contact:	Michael B. Brodie, P.E., Manager, Environmental Engineering PO Box 196300 Anchorage, AK 99519-6300 (907) 762-4835 mike_brodie@chugachelectric.com	
Process Description:	SIC Code	4911 - Electric Services
	NAICS Code:	221112 - Electric power generation, fossil fuel

[18 AAC 50.040(j)(3) & 50.326(a)]
 [40 CFR 71.5(c)(1) & (2)]

Section 2. Emissions Unit Inventory and Description

Emissions units listed in Table A have specific monitoring, recordkeeping, or reporting conditions in this permit. Except as noted elsewhere in the permit, emissions unit descriptions and ratings are given for identification purposes only.

Table A - Emissions Unit Inventory

EU ID	Emissions Unit Name	Emissions Unit Description	Fuel	Rating/Size	Installation or Construction Date
1	GE Frame 5R Turbine	Power Unit No. 1	Natural Gas	270 MMBtu/hr	1968
2	GE Frame 5R Turbine	Power Unit No. 2	Natural Gas	270 MMBtu/hr	1968
3	GE Frame 7 MS7000R Turbine	Power Unit No. 3	Natural Gas	940 MMBtu/hr	1974
5	GE Frame 7 MS7000R Turbine	Power Unit No. 5	Natural Gas	940 MMBtu/hr	1975
6	Brown Boveri Turbodyne 11D4 Turbine	Power Unit No. 6	Natural Gas	1,030 MMBtu/hr	1976
7	Brown Boveri Turbodyne 11D4 Turbine	Power Unit No. 7	Natural Gas	1,030 MMBtu/hr	1974
10	Caterpillar G-398	Backup AC Generator	Natural Gas	670 hp (450 kW)	1996
11	Cummins QSB5.9	Black Start Generator Engine	Diesel	425 hp	2011
12	Cummins V8-265	Black Start Generator Engine	Diesel	265 hp	1968
13	Detroit Diesel 10447110	Firewater Pump Engine	Diesel	117 hp	1974

[18 AAC 50.326(a)]
 [40 CFR 71.5(c)(3)]

Section 3. State Requirements

Visible Emissions Standard

1. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 through 3, 5 through 7, and ~~10~~ through 13 listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j), 50.055(a)(1), & 50.326(j)]
[40 CFR 71.6(a)(1)]

- 1.1. For EU IDs 1 through 3, 5 through 7, and ~~10~~, burn only gas as fuel. Monitoring for these emissions units shall consist of a statement in each operating report under Condition 58 indicating whether each of these emissions units burned only gas during the period covered by the report. Report under Condition 57 if any fuel other than gas is burned.
- 1.2. For each of EU IDs 11 through 13, as long as the emissions unit operates no more than 400 hours (emergency and non-emergency hours combined) each consecutive 12-month period, monitoring shall consist of an annual compliance certification under Condition 59 with the visible emissions standard based on reasonable inquiry.
 - a. Record the hours of operation of each of EU IDs 11 through 13 each calendar month.
 - b. Each calendar month, calculate and record the total hours of operation for each 12-month rolling period for of each of EU IDs 11 through 13.
 - c. If any of EU IDs 11 through 13 exceeds the hour threshold in Condition 1.2, the Permittee shall include that in the operating report under Condition 58 and monitor, record, and report in accordance with Conditions 2 through 4 for the remainder of the permit term for that emissions unit.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3) & (c)(6)]

Visible Emissions Monitoring, Recordkeeping, and Reporting (MR&R)

Liquid Fuel-Fired Emissions Units (EU IDs 11 through 13)

2. **Visible Emissions Monitoring.** When required by Condition 1.2, or in the event of replacement during the permit term, the Permittee shall observe the exhaust of EU IDs 11 through 13 for visible emissions using either the Method 9 Plan under Condition 2.2 or the Smoke/No-Smoke Plan under Condition 2.3.

- 2.1. The Permittee may change visible emissions plans for an emissions unit at any time unless prohibited from doing so by Condition 2.4.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3)(i)]

- 2.2. **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 CFR 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.
- a. **First Method 9 Observation.**
- (i) For any unit, observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition 2.3.
 - (ii) For any unit replaced after exceeding the hour threshold in Condition 1.2 during the term of this permit, observe the exhaust of the newly installed unit for 18 minutes within 30 days of startup.
 - (iii) For each existing emissions unit that exceeds the operational threshold in Condition 1.2, observe the exhaust for 18 minutes of operations within 30 days after the calendar month during which that threshold has been exceeded, or within 30 days of the unit's next scheduled operations, whichever is later.
- b. **Monthly Method 9 Observations.** After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emissions unit operates.
- c. **Semiannual Method 9 Observations.** After observing emissions for three consecutive operating months under Condition 2.2.b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations:
- (i) within six months after the preceding observation, or
 - (ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following six months after the preceding observation.
- d. **Annual Method 9 Observations.** After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, perform 18-minute observations:
- (i) within twelve months after the preceding observation; or
 - (ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following twelve months after the preceding observation

- e. **Increased Method 9 Frequency.** If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emissions unit to at least monthly intervals as described in Condition 2.2.b, until the criteria in Condition 2.2.c for semiannual monitoring are met.
- 2.3. **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.
- a. **Initial Monitoring Frequency.** Observe the exhaust during each calendar day that an emissions unit operates.
 - b. **Reduced Monitoring Frequency.** After the emissions unit has been observed on 30 consecutive operating days, if the emissions unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emissions unit operates.
 - c. **Smoke Observed.** If smoke is observed, either begin the Method 9 Plan of Condition 2.2 or perform the corrective action required under Condition 2.4.
- 2.4. **Corrective Actions Based on Smoke/No Smoke Observations.** If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of Condition 2.3, then the Permittee shall either follow the Method 9 Plan of Condition 2.2 or
- a. initiate actions to eliminate smoke from the emissions unit within 24 hours of the observation;
 - b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and
 - c. after completing the actions required under Condition 2.4.a,
 - (i) make smoke/no smoke observations in accordance with Condition 2.3
 - (A) at least once per day for the next seven operating days and until the initial 30-day observation period is completed; and
 - (B) continue as described in Condition 2.3.b; or
 - (ii) if the actions taken under Condition 2.4.a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of Condition 2.4.c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under Condition 2.3.a.

- 3. Visible Emissions Recordkeeping.** When required by Condition 1.2, or in the event of replacement of any of EU IDs 11 through 13 during the permit term, the Permittee shall keep records as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3)(ii)]

- 3.1. If using the Method 9 Plan of Condition 2.2,
- a. the observer shall record
 - (i) the name of the stationary source, emissions unit and location, emissions unit type, observer's name and affiliation, and the date on the Visible Emissions Observation Form in Section 11;
 - (ii) the time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating mode (load or fuel consumption rate or best estimate if unknown) on the sheet at the time opacity observations are initiated and completed;
 - (iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
 - (iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emission Observation Form in Section 11, and
 - (v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.
 - b. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet.
 - c. Calculate and record the highest six-minute and 18-consecutive-minute average opacities observed.
- 3.2. If using the Smoke/No Smoke Plan of Condition 2.3, record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department:
- a. the date and time of the observation;
 - b. from Table A, the ID of the emissions unit observed;
 - c. whether visible emissions are present or absent in the exhaust;

- d. a description of the background to the exhaust during the observation;
- e. if the emissions unit starts operation on the day of the observation, the startup time of the emissions unit;
- f. name and title of the person making the observation; and
- g. operating rate (load or fuel consumption rate).

4. Visible Emissions Reporting. When required by Condition 1.2, or in the event of replacement of any of EU IDs 11 through 13 during the permit term, the Permittee shall report visible emissions as follows:

[18 AAC 50.040(j), 50.326(j) & 50.346(c)]
[40 CFR 71.6(a)(3)(iii)]

4.1. Include in each operating report required under Condition 58:

- a. which visible emissions plan of Condition 2 was used for each emissions unit; if more than one plan was used, give the time periods covered by each plan;
- b. for each emissions unit under the Method 9 Plan,
 - (i) copies of the observation results (i.e. opacity observations) for each emissions unit that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and
 - (ii) a summary to include:
 - (A) number of days observations were made;
 - (B) highest six- and 18-consecutive-minute average opacities observed; and
 - (C) dates when one or more observed six-minute average opacities were greater than 20 percent;
- c. for each emissions unit under the Smoke/No Smoke Plan, the number of days that smoke/no smoke observations were made and which days, if any, that smoke was observed; and
- d. a summary of any monitoring or recordkeeping required under Conditions 2 and 3 that was not done;

4.2. Report under Condition 57:

- a. the results of Method 9 observations that exceed 20 percent average opacity for any six-minute period; and
- b. if any monitoring under Condition 2 was not performed when required, report within three days of the date the monitoring was required.

Particulate Matter Emissions Standard

- 5. Industrial Process and Fuel-Burning Equipment Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from EU IDs 1 through 3, 5 through 7, and ~~10~~ through 13 listed in Table A to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.040(j), 50.055(b)(1) & 50.326(j)]
[40 CFR 71.6(a)(1)]

- 5.1. For EU IDs 1 through 3, 5 through 7, and ~~10~~, burn only gas as fuel. Monitoring for these emissions units shall consist of a statement in each operating report under Condition 58 indicating whether each of these emissions units fired only gas during the period covered by the report. Report under Condition 57 if any fuel other than gas is burned.
- 5.2. For each of EU IDs 11 through 13, as long as the emissions unit operates no more than 400 hours (emergency and non-emergency hours combined) each consecutive 12-month period, monitoring shall consist of an annual compliance certification under Condition 59 with the particulate matter emissions standard based on reasonable inquiry. Otherwise monitor, record and report in accordance with Conditions 6 and 7 for the remainder of the permit term for that emissions unit.

[18 AAC 50.040(j), 50.326(j) & 50.346(c)]
[40 CFR 71.6(a)(3) & (c)(6)]

Particulate Matter MR&R

Liquid Fuel-Fired Engines (EU IDs 11 through 13)

- 6. Particulate Matter Monitoring.** The Permittee shall conduct source tests on diesel engines, EU IDs 11 through 13, to determine the concentration of particulate matter in the exhaust of each emissions unit as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3)(i)]

- 6.1. Except as allowed in Condition 6.4, within six months of exceeding the criteria of Conditions 6.2.a or 6.2.b, either
- a. conduct a particulate matter source test according to requirements set out in Section 6; or
 - b. make repairs so that emissions no longer exceed the criteria of Condition 6.2; to show that emissions are below those criteria, observe emissions as described in Condition 2.2 under load conditions comparable to those when the criteria were exceeded.
- 6.2. Conduct the test or make repairs according to Condition 6.1 if
- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

- b. for an emissions unit with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.
- 6.3. During each one-hour particulate matter source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 6.4. The automatic particulate matter source test requirements in Conditions 6.1 and 6.2 are waived for an emissions unit if a particulate matter source test on that unit has shown compliance with the particulate matter standard during this permit term.

7. Particulate Matter Reporting. The Permittee shall report as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3)(iii)]

- 7.1. Report under Condition 57:
 - a. the results of any particulate matter source test that exceeds the particulate matter emissions limit; or
 - b. if one of the criteria of Condition 6.2 was exceeded and the Permittee did not comply with either Condition 6.1.a or 6.1.b, this must be reported by the day following the day compliance with Condition 6.1 was required;
- 7.2. report observations in excess of the threshold of Condition 6.2.b within 30 days of the end of the month in which the observations occur;
- 7.3. in each operating report under Condition 58, include:
 - a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 6.2;
 - b. a summary of the results of any particulate matter testing under Condition 6; and
 - c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 6.2, if they were not already submitted.

[18 AAC 50.040(j), 50.326(j)(4), & 50.346(c)]
[40 CFR 71.6(a)(3)]

Sulfur Compound Emissions Standard

- 8. Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from EU IDs 1 through 3, 5 through 7, and ~~10~~ through 13 to exceed 500 ppm averaged over three hours.

[18 AAC 50.040(j), 50.055(c) & 50.326(j)]
[40 CFR 71.6(a)(1)]

Sulfur Compound MR&R

Fuel Oil¹(EU IDs 11 through 13)

- 9. Sulfur Compound Monitoring and Recordkeeping.** The Permittee shall comply with the following:
- 9.1. The Permittee shall do one of the following for each shipment of fuel:
 - a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or
 - b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and
 - (i) test the fuel for sulfur content; or
 - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
 - 9.2. Fuel testing under Condition 9.1 must follow an appropriate method listed in 18 AAC 50.035(b)-(c) or 40 CFR 60.17 incorporated by reference in 18 AAC 50.040(a)(1).
 - 9.3. If a load of fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO₂ emissions in ppm using either the SO₂ material balance calculation in Section 12 or Method 19 of 40 CFR 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 10. Sulfur Compound Reporting.** The Permittee shall report as follows:
- 10.1. If SO₂ emissions calculated under Condition 9.3 exceed 500 ppm, the Permittee shall report under Condition 57. When reporting under this condition, include the calculation under Section 12 or Method 19.
 - 10.2. The Permittee shall include in the report required by Condition 58
 - a. a list of the fuel grades received at the stationary source during the reporting period;

¹ *Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil, as defined in 40 CFR 60.41b.

- b. for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and
- c. for fuel with a sulfur content greater than 0.75 percent, the calculated SO₂ emissions in ppm.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3)]

Gas Fuel (EU IDs 1 through 3, 5 through 7, and 10)

11. Sulfur Compound Monitoring and Recordkeeping. The Permittee shall keep readily accessible records for the life of this permit showing that all supply contracts for natural gas used at the facility include a maximum specification of 20 grains of sulfur per 100 standard cubic feet of gas.

12. Sulfur Compound Reporting. The Permittee shall report as follows:

12.1. Report in accordance with Condition 57 whenever the natural gas combusted contains more than 20 grains of sulfur per 100 standard cubic feet of gas and whenever the fuel combusted causes sulfur compound emissions to exceed the standard of Condition 8.

12.2. Include copies of the records required by Condition 11 with the operating report required by Condition 58 for the period covered by the report.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)]
[40 CFR 71.6(a)(3) & (c)(6)]

Preconstruction Permit² Requirements

Owner Requested Limits

13. The Permittee shall ensure that the alarms and interlock system on EU IDs 3 and 5 are as described in Figure A below.

[Permit to Operate 9423-AA0013, amended 4/8/1997]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(1)]

13.1. Instruct all unit operators of the operating limit.

13.2. Report in accordance with Condition 57 whenever the operating conditions of EU ID 3 or 5 exceed the limits of the line marked “TRIP” in Figure A.

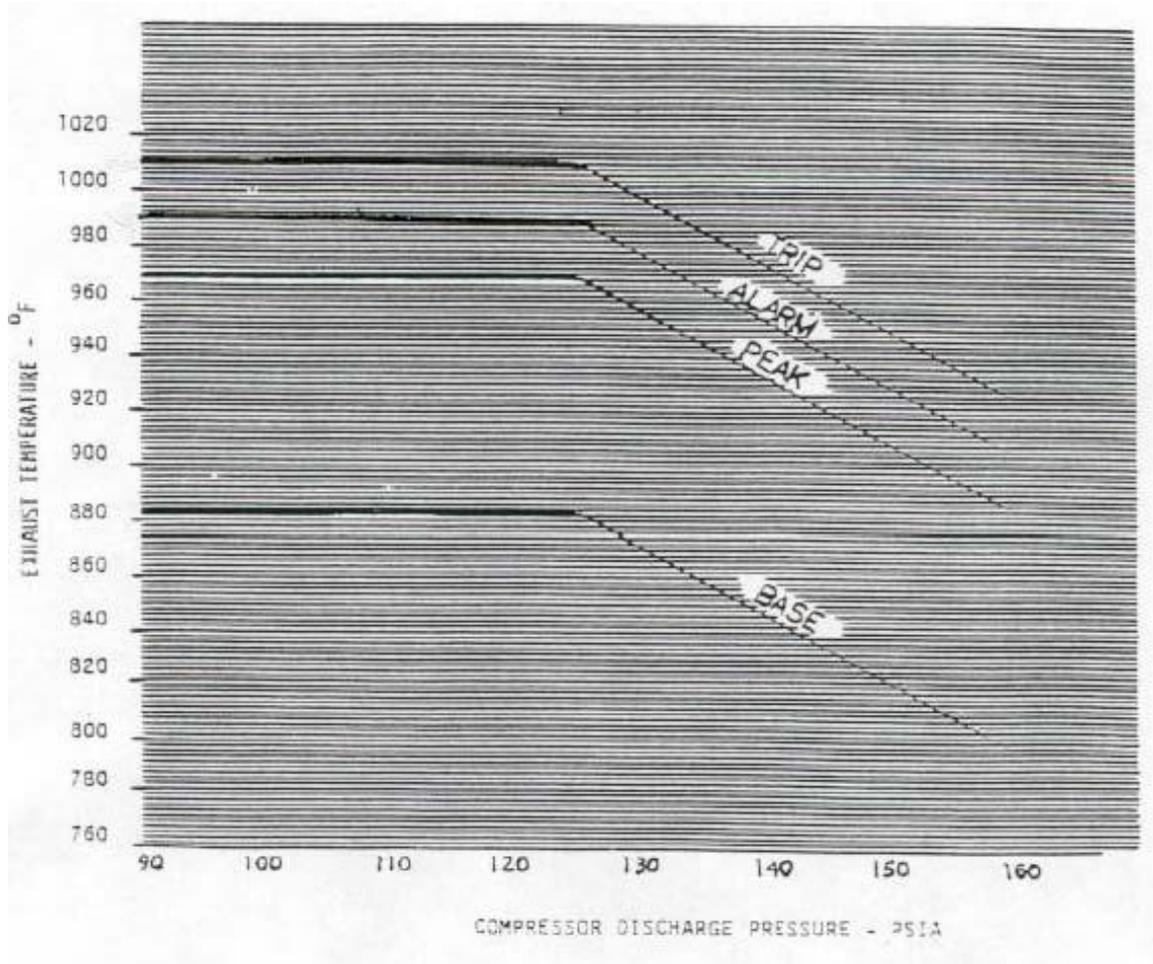
[Permit to Operate 9423-AA0013, amended 4/8/1997]
[40 CFR 71.6(a)(3)]

² *Preconstruction Permit* refers to federal PSD permits, state-issued permits-to-operate issued on or before January 17, 1997 (these permits cover both construction and operations), construction permits issued on or after January 18, 1997, and minor permits issued on or after October 1, 2004.

Figure A - Operational Alarm and Limitation Curve for Gas Turbine Generating Units No. 3 and 5

Exhaust Temperature Control, Alarm and TRIP Limits
Vs

Expected Compressor Discharge Pressure for Simple Cycle Operation



- ~~14. Operate EU ID 10 for no more than 24 hours per consecutive 12-month period to ensure operational capacity and for routine maintenance.~~

~~[Permit to Operate 9423-AA0013, amended 4/8/1997]~~

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

~~[40 CFR 71.6(a)(1)]~~

- ~~14.1. Monitoring and Recordkeeping. Each calendar month, calculate and record the rolling 12-month total hours of operation for EU ID 10 for the previous consecutive 12-month period.~~

- ~~14.2. Reporting.~~

- ~~a. Report the rolling 12-month hours of operation calculated in accordance with Condition 14.1 in the operating report required by Condition 58.~~

- b. ~~Report in accordance with Condition 57 whenever the limit in Condition 14 is exceeded.~~

[40 CFR 71.6(a)(3) & (c)(6)]

Insignificant Emissions Units

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

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

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

- 15.2. **Particulate Matter Standard:** The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1)]

- 15.3. **Sulfur Standard:** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c)]

15.4. **General MR&R for Insignificant Emissions Units**

- a. The Permittee shall submit the compliance certifications of Condition 59 based on reasonable inquiry;
- b. The Permittee shall comply with the requirements of Condition 40;
- c. The Permittee shall report in the operating report required by Condition 58 if an emissions unit has historically been classified as insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and current actual emissions become greater than any of those thresholds; and
- d. No other monitoring, recordkeeping or reporting is required.

[18 AAC 50.346(b)(4)]

Section 4. Federal Requirements

40 CFR Part 60 New Source Performance Standards

Subpart A

16. New Source Performance Standards (NSPS) Subpart A Notification. Furnish the Administrator written notification or, if acceptable to both the Administrator³ and the Permittee, electronic notification, as follows:

[18 AAC 50.035 & 50.040(a)(1)]

16.1. A notification of any proposed replacement of components of an existing facility⁴, for which the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, postmarked as soon as practicable, but no less than 60 days before commencement of replacement, and including the following information:

[40 CFR 60.15(d), Subpart A]

- a. the name and address of owner or operator,
- b. the location of the existing facility,
- c. a brief description of the existing facility and the components that are to be replaced,
- d. a description of the existing and proposed air pollution control equipment,
- e. an estimate of the fixed capital cost of the replacements, and of constructing a comparable entirely new facility,
- f. the estimated life of the existing facility after the replacements, and
- g. a discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

17. 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 Condition 18. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1)]

[40 CFR 60.12, Subpart A]

³ For Section 4 of this permit, the Department defines *Administrator* to mean the EPA Administrator and the Department.

⁴ *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 CFR 60.2.

Subpart III

18. NSPS Subpart III Applicability. For EU ID 11, comply with the following applicable requirements of NSPS Subpart III.

[18 AAC 50.040(a)(2)(OO), 50.040(j)(4), & 50.326(j)]

[40 CFR 71.6(a)(1)]

[40 CFR 60.4200(a), Subpart III]

NSPS Subpart III Emission Standards

18.1. Comply with the following emission standards:

[40 CFR 71.6(a)(1)]

[40 CFR 60.4204(b), Subpart III]

- a. NMHC + NO_x: 4.0 g/kW-hr
- b. CO: 3.5 g/kW/hr
- c. PM: 0.20 g/kW-hr

[40 CFR 60.4201(a), Subpart III]

18.2. Notwithstanding the requirements in Condition 18.1, EU ID 11 may be certified to the provisions of 40 CFR part 94.

[40 CFR 71.6(a)(1)]

[40 CFR 60.4201(f), Subpart III]

18.3. Owners and operators who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in 40 CFR 60.4212.

[40 CFR 71.6(a)(1)]

[40 CFR 60.4204(d), Subpart III]

18.4. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in Condition 18.1 or 18.2 over the entire life of the engine.

[40 CFR 71.6(a)(1)]

[40 CFR 60.4206, Subpart III]

NSPS Subpart III Compliance Requirements

18.5. You must do all of the following, except as permitted under Condition 18.7:

[40 CFR 71.6(a)(1)]

[40 CFR 60.4211(a), Subpart III]

- a. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
- b. Change only those emission-related settings that are permitted by the manufacturer; and

- c. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

[40 CFR 60.4211(a)(1) through (3), Subpart III]

- 18.6. You must comply with the emission standards specified in Condition 18.1 or 18.2 by purchasing an engine certified to the emission standards in Condition 18.1 or 18.2. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 18.7.

[40 CFR 71.6(a)(3)]

[40 CFR 60.4211(c), Subpart III]

- 18.7. 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:

[40 CFR 71.6(a)(3)]

[40 CFR 60.4211(g), Subpart III]

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

[40 CFR 60.4211(g)(2), Subpart III]

NSPS Subpart III Testing Requirements

- 18.8. Owners and operators who conduct performance tests pursuant to NSPS Subpart III must do so according to 40 CFR 60.4212(a) through (e).

[40 CFR 71.6(a)(3)]

[40 CFR 60.4212, Subpart III]

40 CFR Part 61 National Emission Standards for Hazardous Air Pollutants

Subparts A & M

- 19. Comply with the applicable requirements set forth in 40 CFR 61.145, 61.146, 61.148, 61.150, and 61.152 of Subpart M, and the applicable sections set forth in 40 CFR 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(1), 50.040(b)(2)(F), & 50.326(j)]

[40 CFR 61 Subparts A & M, & Appendix A]

40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants

Subpart A

20. For EU IDs ~~10~~, 12, and 13, comply with the applicable requirements of 40 CFR 63 Subpart A in accordance with the provisions for applicability of Subpart A in Subpart ZZZZ, Table 8.

[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(1)]
[40 CFR 63.6665 & Table 8, Subpart ZZZZ]

Subpart ZZZZ

21. **NESHAP Subpart ZZZZ Applicability.** For EU IDs ~~10~~ through 13, comply with the following applicable requirements of NESHAP Subpart ZZZZ.

[18 AAC 50.040(c)(23), 50.040(j), & 50.326(j)]
[40 CFR 71.6(a)(1)]
[40 CFR 63.6585(c) & 63.6590(a)(1)(iii), Subpart ZZZZ]

- 21.1. EU ID 11 must meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of Condition 18. No further requirements apply for EU ID 11 under Condition 21 and 40 CFR 63.

[40 CFR 71.6(a)(1)]
[40 CFR 63.6590(c), Subpart ZZZZ]

NESHAP Subpart ZZZZ Emission Limitations, Operating Limitations, and Other Requirements

- 21.2. For EU IDs 12 and 13, you must meet the following requirements, except during periods of startup:

[40 CFR 71.6(a)(1)]
[40 CFR 63.6603(a), Subpart ZZZZ]

- a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
- b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[Table 2d, Item 1; Subpart ZZZZ]

- ~~21.3. For EU ID 10, you must meet the following requirements, except during periods of startup:~~

~~[40 CFR 71.6(a)(1)]
[40 CFR 63.6603(a), Subpart ZZZZ]~~

- ~~a. Change oil and filter every 500 hours of operation or annually, whichever comes first;~~
- ~~b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and~~

- ~~c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.~~

~~[Table 2d, Item 5; Subpart ZZZZ]~~

- 21.4. Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) or (j) in order to extend the specified oil change requirement in Conditions 21.2.a and 21.3.a.

[40 CFR 71.6(a)(1)]
[Table 2d, Subpart ZZZZ]

- 21.5. During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 CFR 71.6(a)(1)]
[40 CFR 63.6625(h) & Table 2d, Subpart ZZZZ]

NESHAP Subpart ZZZZ General Compliance Requirements

- 21.6. You must be in compliance with the emission limitations, operating limitations, and other requirements in NESHAP Subpart ZZZZ that apply to you at all times.
- 21.7. 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.

[40 CFR 71.6(a)(1)]
[40 CFR 63.6605(a) & (b), Subpart ZZZZ]

~~*NESHAP Subpart ZZZZ Initial Compliance Requirements*~~

- ~~21.8. For EU ID 10, you must install a non-resettable hour meter if one is not already installed.~~

~~[40 CFR 71.6(a)(1)]
[40 CFR 63.6625(f), Subpart ZZZZ]~~

NESHAP Subpart ZZZZ Continuous Compliance Requirements

- 21.9. You must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

[40 CFR 71.6(a)(3)]
[40 CFR 63.6640(a), Subpart ZZZZ]

- a. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or

- b. 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.

[40 CFR 63.6625(e) & Table 6, Item 9; Subpart ZZZZ]

- 21.10. You must also report each instance in which you did not meet the requirements in Table 8 to NESHAP Subpart ZZZZ that apply to you.

[40 CFR 71.6(a)(3)]

[40 CFR 63.6640(e), Subpart ZZZZ]

- ~~21.11. For EU ID 10, you must operate the emergency stationary RICE according to the requirements in Conditions 21.11.a through 21.11.c. In order for the engine to be considered an emergency stationary RICE under NESHAP Subpart ZZZZ, 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 Conditions 21.11.a through 21.11.c, is prohibited. If you do not operate the engine according to the requirements in Conditions 21.11.a through 21.11.c, the engine will not be considered an emergency engine under NESHAP Subpart ZZZZ and must meet all requirements for non-emergency engines.~~

~~[40 CFR 71.6(a)(3)]~~

~~[40 CFR 63.6640(f), Subpart ZZZZ]~~

- ~~a. There is no time limit on the use of emergency stationary RICE in emergency situations.~~
- ~~b. You may operate your emergency stationary RICE for the purposes specified in Condition 21.11.b(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Condition 21.11.c counts as part of the 100 hours per calendar year allowed by this paragraph.~~

~~[40 CFR 63.6640(f)(1) & (2), Subpart ZZZZ]~~

- ~~(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.~~

~~[40 CFR 63.6640(f)(2)(i), Subpart ZZZZ]~~

~~c. Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Condition 21.11.b. Except as provided in Condition 21.11.c(i), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.~~

~~[40 CFR 63.6640(f)(4), Subpart ZZZZ]~~

~~(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the conditions of 40 CFR 63.6640(f)(4)(ii)(A) through (E) are met.~~

~~[40 CFR 63.6640(f)(4)(ii), Subpart ZZZZ]~~

NESHAP Subpart ZZZZ Notifications, Reports, and Records Requirements

21.12. You must report all deviations as defined in NESHAP Subpart ZZZZ in the semiannual monitoring report required by Condition 58.

[40 CFR 71.6(a)(3)]

[40 CFR 63.6650(f), Subpart ZZZZ]

21.13. If you own or operate an emergency stationary RICE that operates for the purpose specified in Condition 21.11.c(i), you must submit an annual report according to the requirements in 40 CFR 63.6650(h)(1) through (3).

[40 CFR 71.6(a)(3)]

[40 CFR 63.6650(h), Subpart ZZZZ]

21.14. You must 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.

~~21.15. For EU ID 10, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in Condition 21.11.c(i), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.~~

~~[40 CFR 71.6(a)(3)]~~

~~[40 CFR 63.6655(e) & (f), Subpart ZZZZ]~~

21.16. Your records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

21.17. 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.

21.18. 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).

[40 CFR 71.6(a)(3)]
[40 CFR 63.6660(a) through (c), Subpart ZZZZ]

40 CFR Part 82 Protection of Stratospheric Ozone

Subparts F, G, & H

22. Subpart F – Recycling and Emissions Reduction. Comply with the applicable standards for recycling and emission reduction of refrigerants in 40 CFR 82 Subpart F.

[18 AAC 50.040(d) & 50.326(j)]
[40 CFR 82 Subpart F]

23. Subpart G – Significant New Alternatives. Comply with the applicable prohibitions in 40 CFR 82.174.

[18 AAC 50.040(d) & 50.326(j)]
[40 CFR 82.174(b) through (d), Subpart G]

24. Subpart H – Halons Emissions Reduction. Comply with the applicable prohibitions in 40 CFR 82.270.

[18 AAC 50.040(d) & 50.326(j)]
[40 CFR 82.270(b) through (f), Subpart H]

General NSPS and NESHAP Requirements

25. NESHAP Applicability Determinations. Determine rule applicability and designation of affected sources under National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories (40 CFR 63) in accordance with the procedures in 40 CFR 63.1(b).

[18 AAC 50.040(c)(1), 50.040(j), & 50.326(j)]

25.1. An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under 40 CFR 63 must keep a record as specified in 40 CFR 63.10(b)(3).

[40 CFR 71.6(a)(3)(ii)]
[40 CFR 63.1(b)(3), Subpart A]

26. If an existing source becomes affected by an applicable subpart of 40 CFR 63, the Permittee shall comply with such standard by the compliance date established by the Administrator in the applicable subpart, in accordance with 40 CFR 63.6(c).

[18 AAC 50.040(c)(1), 50.040(j), & 50.326(j)]

27. After the effective date of any relevant standard promulgated by the Administrator under 40 CFR 63, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator and the Department of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in 40 CFR 63.9(b).

[18 AAC 50.040(c)(1), 50.040(j), & 50.326(j)]
[40 CFR 71.6(a)(3)(iii)]
[40 CFR 63.5(b)(4), Subpart A]

28. **Reports.** Except for previously submitted reports and federal reports and notices submitted through EPA's Central Data Exchange (CDX) and Compliance and Emissions Data Reporting Interface (CEDRI) online reporting system, attach to the operating report required by Condition 58 a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 during the period covered by the report. For reports previously submitted to ADEC or submitted through CDX/CEDRI, state in the operating report the date and a brief description of each of the reports submitted during the reporting period.

[18 AAC 50.326(j)(4) & 50.040(j)]
[40 CFR 71.6(c)(6)]

29. **Waivers.** Upon request by the Department, provide a written copy of any EPA-granted alternative monitoring requirement, custom monitoring schedule or waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements. The Permittee shall keep a copy of each U.S. EPA-issued monitoring waiver or custom monitoring schedule with the permit.

[18 AAC 50.326(j)(4) & 50.040(j)]
[40 CFR 71.6(c)(6)]

Section 5. General Conditions

Standard Terms and Conditions

30. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
[18 AAC 50.326(j)(3), 50.345(a) & (e)]
31. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and re-issuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[18 AAC 50.326(j)(3), 50.345(a) & (f)]
32. The permit does not convey any property rights of any sort, nor any exclusive privilege.
[18 AAC 50.326(j)(3), 50.345(a) & (g)]
33. **Administration Fees.** The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400 through 403.
[18 AAC 50.326(j)(1), 50.400, & 50.403]
[AS 37.10.052(b) & AS 46.14.240]
34. **Assessable Emissions.** The Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities 10 tons per year or greater. The quantity for which fees will be assessed is the lesser of
- 34.1. the stationary source's assessable potential to emit of 7,572 tpy; or
- 34.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon credible evidence of actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by the most representative of one or more of the following methods:
- a. an enforceable test method described in 18 AAC 50.220;
- b. material balance calculations;
- c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
- d. other methods and calculations approved by the Department, including appropriate vendor-provided emissions factors when sufficient documentation is provided.
[18 AAC 50.040(j)(3), 50.035, 50.326(j)(1), 50.346(b)(1), 50.410, & 50.420]
[40 CFR 71.5(c)(3)(ii)]

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

- 35.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, PO Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or
- 35.2. if no estimate is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in Condition 34.1.

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

36. Good Air Pollution Control Practice. The Permittee shall do the following for EU IDs 1 through 3, and 5 through 7:

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

[18 AAC 50.326(j)(3) & 50.346(b)(5)]

37. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a)]

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

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

- 38.1. The Permittee shall keep records of:
 - a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and
 - b. any additional precautions that are taken
 - (i) to address complaints described in Condition 38.1.a or to address the results of Department inspections that found potential problems; and
 - (ii) to prevent future dust problems.

38.2. The Permittee shall report according to Condition 40.

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

[18 AAC 50.055(g)]

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

[18 AAC 50.110, 50.040(e), 50.326(j)(3) & 50.346(a)]
[40 CFR 71.6(a)(3)]

40.1. Monitoring, Recordkeeping, and Reporting for Condition 40:

- a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 57.
- b. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 40.
- c. The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
 - (i) after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 40; or
 - (ii) the Department notifies the Permittee that it has found a violation of Condition 40.
- d. The Permittee shall keep records of
 - (i) the date, time, and nature of all emissions complaints received;
 - (ii) the name of the person or persons that complained, if known;
 - (iii) a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 40; and
 - (iv) any corrective actions taken or planned for complaints attributable to emissions from the stationary source.
- e. With each stationary source operating report under Condition 58, the Permittee shall include a brief summary report which must include

- (i) the number of complaints received;
 - (ii) the number of times the Permittee or the Department found corrective action necessary;
 - (iii) the number of times action was taken on a complaint within 24 hours; and
 - (iv) the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.
- f. The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

41. Technology-Based Emission Standard. If an unavoidable emergency, malfunction (as defined in 18 AAC 50.235(d)), or non-routine repair (as defined in 18 AAC 50.990(64)), causes emissions in excess of a technology-based emission standard⁵ listed in Condition 18 or 22 (refrigerants),

- 41.1. take all reasonable steps to minimize levels of emissions that exceed the standard, and
- 41.2. report in accordance with Condition 57; the report must include information on the steps taken to mitigate emissions and corrective measures taken or to be taken.

[18 AAC 50.235(a), 50.326(j)(4), & 50.040(j)(4)]
[40 CFR 71.6(c)(6)]

Open Burning Requirements

42. Open Burning. If open burning is conducted at this stationary source, comply with the requirements of 18 AAC 50.065.

- 42.1. Keep written records to demonstrate compliance with the limitations in this condition and the requirements of 18 AAC 50.065. Submit copies of the records to the Department upon request.
- 42.2. Include this condition in the annual certification required under Condition 59.

[18 AAC 50.065, 50.040(j), & 50.326(j)]
[40 CFR 71.6(a)(3)]

⁵ As defined in 18 AAC 50.990(106), the term “*technology-based emission standard*” means a best available control technology (BACT) standard; a lowest achievable emission rate (LAER) standard; a maximum achievable control technology (MACT) standard established under 40 CFR 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Section 6. General Source Testing and Monitoring Requirements

- 43. Requested Source Tests.** In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.
[18 AAC 50.220(a) & 50.345(a) & (k)]
- 44. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, conduct source testing
[18 AAC 50.220(b)]
- 44.1. at a point or points that characterize the actual discharge into the ambient air; and
- 44.2. 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.
- 45. Reference Test Methods.** Use the following test methods when conducting source testing for compliance with this permit:
- 45.1. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 CFR 60.
[18 AAC 50.220(c)(1)(A) & 50.040(a)]
[40 CFR 60]
- 45.2. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 CFR 61.
[18 AAC 50.040(b) & 50.220(c)(1)(B)]
[40 CFR 61]
- 45.3. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 CFR 63.
[18 AAC 50.040(c) & 50.220(c)(1)(C)]
[40 CFR 63]
- 45.4. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9. The Permittee may use the form in Section 11 to record data.
[18 AAC 50.030 & 50.220(c)(1)(D)]
- 45.5. Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 CFR 60, Appendix A.
[18 AAC 50.040(a)(3) & 50.220(c)(1)(E)]
[40 CFR 60, Appendix A]

- 45.6. Source testing for emissions of PM_{2.5} and PM₁₀ must be conducted in accordance with the procedures specified in 40 CFR 51, Appendix M, Methods 201 or 201A and 202.
- [18 AAC 50.035(b)(2) & 50.220(c)(1)(F)]
[40 CFR 51, Appendix M]
- 45.7. Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 CFR 63 Appendix A, Method 301.
- [18 AAC 50.040(c)(32) & 50.220(c)(2)]
[40 CFR 63, Appendix A, Method 301]
- 46. 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).
- [18 AAC 50.220(c)(3) & 50.990(102)]
- 47. Test Exemption.** Compliance with Conditions 49, 50 and 51 is not required for Method 9 Plan (Condition 2.2) or Smoke/No Smoke Plan (Condition 2.3) observations.
- [18 AAC 50.345(a)]
- 48. Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.
- [18 AAC 50.345(a) & (l)]
- 49. Test Plans.** Except as provided in Condition 47, 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 43 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.
- [18 AAC 50.345(a) & (m)]
- 50. Test Notification.** Except as provided in Condition 47, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.
- [18 AAC 50.345(a) & (n)]

51. Test Reports. Except as provided in Condition 47, 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 54. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

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

52. Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in Conditions 5 and 15.2, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f)]

Section 7. General Recordkeeping and Reporting Requirements

Recordkeeping Requirements

53. Keep all records required by this permit for at least five years after the date of collection, including:

[18 AAC 50.040(a)(1) & 50.326(j)]
[40 CFR 60.7(f), Subpart A, 40 CFR 71.6(a)(3)(ii)(B)]

- 53.1. Copies of all reports and certifications submitted pursuant to this section of the permit; and
- 53.2. Records of all monitoring required by this permit, and information about the monitoring including:
- a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
 - b. the date, place, and time of sampling or measurements;
 - c. the date(s) analyses were performed;
 - d. the company or entity that performed the analyses;
 - e. the analytical techniques or methods used;
 - f. the results of such analyses; and,
 - g. the operating conditions as existing at the time of sampling or measurement.

Reporting Requirements

54. **Certification.** 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.

- 54.1. The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
- a. a certifying authority registered under AS 09.80.020 verifies that the electronic signature is authentic; and
 - b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 54.1.a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

[18 AAC 50.345(a) & (j), 50.205, & 50.326(j)]

[40 CFR 71.6(a)(3)(iii)(A)]

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

55.1. Provide electronic submittals, either by:

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

[18 AAC 50.326(j)]
[40 CFR 71.6(a)(3)(iii)(A)]

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

[18 AAC 50.345(a) & (i), 50.200, & 50.326(a) & (j)]

57. Excess Emissions and Permit Deviation Reports.

57.1. Except as provided in Condition 40, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. In accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the Permittee believes to be unavoidable;
- b. In accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology-based emission standard;
- c. Report all other excess emissions and permit deviations
 - (i) within 30 days after the end of the month during which the emissions or deviation occurred, except as provided in Condition 57.1.c(iii); or
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 57.1.c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

57.2. When reporting either excess emissions or permit deviations, the Permittee shall report using either the Department's online form, which can be found at <http://dec.alaska.gov/applications/air/airtoolsweb>, or if the Permittee prefers, the form contained in Section 13 of this permit. The Permittee must provide all information called for by the form that is used.

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

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

58. Operating Reports. During the life of this permit⁶, the Permittee shall submit an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.

58.1. 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.

58.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 58.1, the Permittee shall identify

- a. the date of the deviation;
- b. the equipment involved;
- c. the permit condition affected;
- d. a description of the excess emissions or permit deviation; and
- e. any corrective action or preventive measures taken and the date(s) of such actions; or

58.3. when excess emissions or permit deviations have already been reported under Condition 57 the Permittee shall cite the date or dates of those reports.

58.4. The operating report must include, for the period covered by the report, a listing of emissions monitored under Conditions 2.2.e and 2.3.c 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

⁶ *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.

d. the monitoring result which triggered the additional monitoring.

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

[18 AAC 50.346(b)(6) & 50.326(j)]
[40 CFR 71.6(a)(3)(iii)(A)]

59. **Annual Compliance Certification.** Each year by March 31, compile and submit to the Department an annual compliance certification report according to Condition 55.

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

- a. identify each term or condition set forth in Section 3 through Section 9, that is the basis of the certification;
- b. briefly describe each method used to determine the compliance status;
- c. state whether compliance is intermittent or continuous; and
- d. identify each deviation and take it into account in the compliance certification;

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

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

[18 AAC 50.205, 50.345(a) & (j), & 50.326(j)]
[40 CFR 71.6(c)(5)]

60. **Emission Inventory Reporting.** The Permittee shall submit to the Department reports of actual emissions, by emissions unit, of CO, NH₃, NO_x, PM₁₀, PM_{2.5}, SO₂, VOCs and lead (Pb) (and lead compounds) using the form in Section 14 of this permit, as follows:

60.1. Each year by April 30, if the stationary source's potential to emit for the previous calendar year equals or exceeds:

- a. 250 tpy of NH₃, PM₁₀, PM_{2.5} or VOCs; or
- b. 2,500 tpy of CO, NO_x or SO₂.

60.2. Every third year by April 30, if the stationary source's potential to emit for the previous calendar year (actual emissions for Pb) equals or exceeds:

- a. 0.5 tpy of actual Pb, or

- b. 1,000 tpy of CO; or
 - c. 100 tpy of SO₂, NH₃, PM₁₀, PM_{2.5}, NO_x or VOCs.
- 60.3. For reporting under Condition 60.2, the Permittee shall report in 2015 for calendar year 2014, 2018 for calendar year 2017, 2021 for calendar year 2020, etc., in accordance with the Environmental Protection Agency set schedule.
- 60.4. Include in the report required by this condition, the required data elements contained within the form in Section 14 or those contained in Table 2A of Appendix A to Subpart A of 40 CFR 51 for each stack associated with an emissions unit.

[18 AAC 50.346(b)(8) & 50.200]

[40 CFR 51.15, 51.30(a)(1) & (b)(1), & 40 CFR 51, Appendix A to Subpart A]

Section 8. Permit Changes and Renewal

- 61. Permit Applications and Submittals.** Comply with the following requirements for submitting application information to the US Environmental Protection Agency (EPA):
- 61.1. Provide a copy of each application for modification or renewal of this permit, including any compliance plan, or application addenda, at the time the application or addendum is submitted to the Department;
 - 61.2. The information shall be submitted to the Air Permits and Toxics Branch, US EPA Region 10, Mail Stop: 15-H13, 1200 Sixth Avenue, Suite 155, Seattle, WA 98101-3188.
 - 61.3. To the extent practicable, provide applications in portable document format (pdf); MS Word format (.doc); or other computer-readable format compatible with EPA's national database management system; and
 - 61.4. Maintain records as necessary to demonstrate compliance with this condition.
[18 AAC 50.040(j)(7), 50.326(a) & 50.346(b)(7)]
[40 CFR 71.10(d)(1)]
- 62. Emissions Trading.** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit.
[18 AAC 50.040(j)(4) & 50.326(j)]
[40 CFR 71.6(a)(8)]
- 63. Off Permit Changes.** Changes that are not addressed or prohibited by this permit, other than those subject to the requirements of 40 CFR Part 72 through 78 or those that are modifications under any provision of Title I of the Act, may be made without a permit revision, provided that the following requirements are met:
- 63.1. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;
 - 63.2. Provide contemporaneous written notice to EPA and the Department of each such change, except for changes that qualify as insignificant under 18 AAC 50.326(d) – (i). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change;
 - 63.3. The change shall not qualify for the shield under 40 CFR 71.6(f);
 - 63.4. Keep a record describing changes made at the stationary source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
[18 AAC 50.040(j)(4) & 50.326(j)]
[40 CFR 71.6(a)(12)]

64. Operational Flexibility. CAA Section 502(b)(10)⁷ changes may be made within the permitted stationary source without a permit revision, if the changes are not modifications under any provision of Title I of the Act and the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions): Provided, that the Permittee provides EPA and the Department with written notification no less than seven days in advance of the proposed change.

64.1. For each such change, the notification required by Condition 64 shall include a brief description of the change within the permitted stationary source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

64.2. The permit shield described in 40 CFR 71.6(f) shall not apply to any change made pursuant to Condition 64.

[18 AAC 50.040(j)(4) & 50.326(j)]
[40 CFR 71.6(a)(13)]

65. Permit Renewal. To renew this permit, the Permittee shall submit to the Department⁸ an application under 18 AAC 50.326 no sooner than January 8, 2024 and no later than January 8, 2025. The renewal application must be complete before the permit expiration date listed on the cover page of this permit. Permit expiration terminates the stationary source's right to operate unless a timely and complete renewal application has been submitted consistent with 40 CFR 71.7(b) and 71.5(a)(1)(iii).

[18 AAC 50.040(j)(3), 50.326(c) & (j)(2)]
[40 CFR 71.5(a)(1)(iii) & 71.7(b) & (c)(1)(ii)]

⁷ As defined in 40 CFR 71.2, CAA Section 502(b)(10) changes are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

⁸ Submit permit applications to the Department's Anchorage office. The current address is: Air Permit Intake Clerk, ADEC, 555 Cordova Street, Anchorage, AK 99501.

Section 9. Compliance Requirements

General Compliance Requirements

- 66.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are
- 66.1. included and specifically identified in the permit; or
 - 66.2. determined in writing in the permit to be inapplicable.
- [18 AAC 50.326(j)(3) & 50.345(a) & (b)]
- 67.** 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
- 67.1. an enforcement action;
 - 67.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
 - 67.3. denial of an operating permit renewal application.
- [18 AAC 50.040(j), 50.326(j) & 50.345(a) & (c)]
- 68.** For applicable requirements with which the stationary source is in compliance, the Permittee shall continue to comply with such requirements.
- [18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(c)(3) & 71.5(c)(8)(iii)(A)]
- 69.** It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
- [18 AAC 50.326(j)(3) & 50.345(a) & (d)]
- 70.** 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
- 70.1. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;
 - 70.2. have access to and copy any records required by the permit;
 - 70.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 70.4. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.
- [18 AAC 50.326(j)(3) & 50.345(a) & (h)]

- 71.** For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.

[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(c)(3) & 71.5(c)(8)(iii)(B)]

Section 10. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the permit application, this section of the permit contains the requirements determined by the Department not to be applicable to the stationary source.

72. Nothing in this permit shall alter or affect the following:

- 72.1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or
- 72.2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

[18 AAC 50.326(j)]
 [40 CFR 71.6(f)(3)(i) & (ii)]

73. Table B identifies the emissions units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table B becomes applicable during the permit term, comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit and/or an operating permit revision.

[18 AAC 50.326(j)]
 [40 CFR 71.6(f)(1)(ii)]

Table B - Permit Shields Granted

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
1 through 3 & 5 through 7	40 CFR 60 Subpart GG	Turbines were installed before the applicability date of October 3, 1977 and have not been modified, reconstructed, or replaced after the applicability date.
1 through 3 & 5 through 7	40 CFR 60 Subpart KKKK	Turbines were installed before the applicability date of February 18, 2005 and have not been modified, reconstructed, or replaced after the applicability date.
10	40 CFR 60 Subpart JJJ	Engine was installed before the applicability date of June 12, 2006. Therefore, this is not an affected source.
11	40 CFR 60 Subpart III: 40 CFR 60.4207	The stationary source is located in Alaska and is not accessible by the FAHS (40 CFR 60.4216(d)).
11	40 CFR 60 Subpart III: 40 CFR 60.4208(e) & (h)	EU ID 11 (model year 2011) was installed in November 2011.
11	40 CFR 60 Subpart III: 40 CFR 60.4209(b)	Engine is not equipped with a particulate filter.
11	40 CFR 60 Subpart III: 40 CFR 60.4214(a)	Engine was built after 2007, has a displacement less than 10 liters per cylinder, and is less than 2,237 kW.
11	40 CFR 60 Subpart III: 40 CFR 60.4217	No special fuel is used.
12 & 13	40 CFR 60 Subpart III	Engine was installed before the applicability date of July 11, 2005. Therefore, this is not an affected source.
1 through 3 & 5 through 7	40 CFR 63 Subpart YYYY	Turbines are not located at a major source of hazardous air pollutants.

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
10, 12, & 13	40 CFR 63 Subpart ZZZZ: 40 CFR 63.6600, 63.6601, 63.6602, 63.6610, and 63.6611	Affected source is not located at a major source of hazardous air pollutants.
10, 12, & 13	40 CFR 63 Subpart ZZZZ: 40 CFR 63.6612, 63.6615, 63.6620, 63.6630, 63.6635, and 63.6645	EU ID 10 is an emergency engine. EU IDs 12 and 13 have ratings less than 300 hp.
12 & 13	40 CFR 63 Subpart ZZZZ: 40 CFR 63.6603(b)	Engines have ratings less than 300 hp.
Stationary Source-wide	40 CFR 63.50 through 63.56	The Beluga River Power Plant is not a major source of HAPs.

[18 AAC 50.326(j)]
 [40 CFR 71.6(f)(1)(ii)]

Section 11. Visible Emissions Observation Form

This form is designed to be used in conjunction with EPA Method 9, “Visual Determination of the Opacity of Emissions from Stationary Sources.” Temporal changes in emission color, plume water droplet content, background color, sky conditions, observer position, etc. should be noted in the comments section adjacent to each minute of readings. Any information not dealt with elsewhere on the form should be noted under additional information. Following are brief descriptions of the type of information that needs to be entered on the form: for a more detailed discussion of each part of the form, refer to “Instructions for Use of Visible Emission Observation Form” (a copy is available at <https://www3.epa.gov/ttnemc01/methods/webinar8.pdf>).

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

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION AIR PERMITS PROGRAM - VISIBLE EMISSIONS OBSERVATION FORM									
Page No. _____									
Stationary Source Name		Type of Emission Unit		Observation Date		Start Time		End Time	
Emission Unit Location				Sec	0	15	30	45	Comments
				Min					
City	State	Zip		1					
Phone # (Key Contact)		Stationary Source ID Number		2					
Process Equipment		Operating Mode		3					
Control Equipment		Operating Mode		4					
Describe Emission Point/Location				5					
Height above ground level		Height relative to observer		Cinometer Reading		6			
Distance From Observer		Direction From Observer				7			
Start		End		Start		End		8	
Describe Emissions & Color						9			
Start				End				10	
Visible Water Vapor Present? If yes, determine approximate distance from the stack exit to where the plume was read						11			
No	Yes					12			
Point in Plume at Which Opacity Was Determined						13			
Describe Plume Background		Background Color				14			
Start		Start				15			
End		End				16			
Sky Conditions:						17			
Start		End				18			
Wind Speed		Wind Direction From				19			
Start		End		Start		End		20	
Ambient Temperature		Wet Bulb Temp		RH percent		21			
SOURCE LAYOUT SKETCH: 1 Stack or Point Being Read 2 Wind Direction From						22			
3 Observer Location 4 Sun Location 5 North Arrow 6 Other Stacks						23			
						24			
						25			
						26			
						27			
						28			
						29			
						30			
Range of Opacity						Minimum		Maximum	
I have received a copy of these opacity observations						Print Observer's Name			
Print Name:						Observer's Signature		Date	
Signature:						Observer's Affiliation:			
Title		Date		Certifying Organization		Certified By:		Date	
Data Reduction:									
Duration of Observation Period (minutes):				Duration Required by Permit (minutes):					
Number of Observations:				Highest Six-Minute Average Opacity (%):					
Number of Observations exceeding 20%:				Highest 18-Consecutive -Minute Average Opacity %(engines and turbines only)					
In compliance with six-minute opacity limit? (Yes or No)									
Average Opacity Summary:									
Set Number	Time		Opacity		Sum	Average	Comments		
	Start	End							

Section 12. SO₂ Material Balance Calculation

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

$$\begin{aligned}
 \text{A. } &= 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{B. } &= 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{C. } &= 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{D. } &= 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{E. } &= B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{F. } &= 20.9 - [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] = 20.9 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{G. } &= [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{H. } &= 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{I. } &= E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{SO}_2 \text{ concentration} &= A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ppm}
 \end{aligned}$$

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

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 9. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%_{dry}O_{2, exhaust}**) is obtained from oxygen meters, manufacturer's data, or from the most recent analysis under 40 CFR 60, Appendix A-2, Method 3, adopted by reference in 18 AAC 50.040(a), at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%_{dry}O_{2, exhaust}** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c)]

Section 13. ADEC Notification Form⁹

Beluga River Power Plant

AQ0106TVP04

Stationary Source (Facility) Name

Air Quality Permit Number.

Chugach Electric Association

Company Name

When did you discover the Excess Emissions/Permit Deviation?

Date: ____ / ____ / ____

Time: ____ : / ____

When did the event/deviation?

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
- Deviation from Permit Condition – Complete Section 2 and Certify
- Deviations from COBC, CO, or Settlement Agreement – Complete Section 2 and Certify

Section 1. Excess Emissions

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

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

- Start Up/Shut Down
- Natural Cause (weather/earthquake/flood)
- Control Equipment Failure
- Schedule Maintenance/Equipment Adjustment
- Bad Fuel/Coal/Gas
- Upset Condition
- Other _____

(c) **Description**

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

⁹ Revised as of September 27, 2010.

(d) **Emissions Units Involved:**

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

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

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

- Opacity _____ % Venting _____ gas/scf Control Equipment Down
 Fugitive Emissions Emission Limit Exceeded Recordkeeping Failure
 Marine Vessel Opacity Flaring Other _____

(f) **Unavoidable Emissions:**

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

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

Certify Report (go to end of form)

Section 2. Permit Deviations

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

- Emissions Unit-Specific
- Failure to Monitor/Report
- General Source Test/Monitoring Requirements
- Recordkeeping/Reporting/Compliance Certification
- Standard Conditions Not Included in the Permit
- Other Section: _____
- Generally Applicable Requirements
- Reporting/Monitoring for Diesel Engines
- Insignificant Emissions Unit
- Stationary Source Wide

(Title of section and section number of your permit).

(b) **Emissions Units Involved:**

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

EU ID	EU Name	Permit Condition/ Potential Deviation

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

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

(d) **Corrective Actions:**

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

Certification:

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

Printed Name: _____ Title: _____ Date: _____
Signature: _____ Phone Number: _____

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

To submit this report:

1. Fax to: 907-451-2187

Or

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

Or

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

Or

4. Phone Notifications: 907-451-5173

Phone notifications require a written follow-up report.

Or

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

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

[18 AAC 50.346(b)(3)]

Section 14. Emission Inventory Form

ADEC Reporting Form Emission Inventory Reporting State of Alaska Department of Environmental Conservation Division of Air Quality		Emission Inventory Year- []	
<u>Mandatory information is highlighted in bright yellow. Make additional copies as needed.</u>			
Stationary Source Detail			
Inventory start date			
Inventory end date			
ADEC ID or Permit Number			
EPA ID:			
Census Area/ Community			
Facility Name			
Facility Physical Location		Address:	
		City, State, Zip Code:	
		Latitude:	Longitude:
Owner Name & Address & contact number		Legal Description:	
		Owner Name:	
		Owner Address:	
		Phone Number:	
Mailing Contact Information		Mailing Address:	
Line of Business (NAICS)			
Line of Business (SIC)			
Facility Status:			

Emissions Unit Data			
Specifications			
ID		Design Capacity	
Description			
Emissions Unit Status			
Manufacturer		Manufactured Year	
Model Number		Serial Number	
Regulations			
Regulation/Description:			
Control Equipment (List All if applicable):			
ID			
System Description	-		
Equipment Type(s)			
Manufacturer			
Model			
Control Efficiency (%)			
Capture Efficiency (%)			
Pollutants Controlled		Reduction Efficiency (%):	
		Reduction Efficiency (%):	

Processes	
Process	Primary Process
SCC Code	(ex. 20100201)
	>
	>
	>
	>
Material Processed	
Period Start	
Period End	
Throughput (units)	
Summer %	
Fall %	

Winter %					
Spring %					
Operational Schedule					
Days/Week					
Hours/Day					
Weeks/Year					
Hours/Year					
Fuel Characteristics					
Heat Content	Elem. Sulfur Content (%)	H2S Sulfur Content		Ash Content (if applicable)	
Heating					
Heat Input	Heat Output		Heat Values Convention		
Emissions Operating Type:					
Pollutant	Emission Factor (EF)	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide (CO)					
Nitrogen Oxides NOx					
PM₁₀ Primary (PM₁₀-PRI)					
PM_{2.5} Primary (PM₂₅-PRI)					
Sulfur Dioxide (SO₂)					
Ammonia (NH₃)					
Lead and lead compounds					
Volatile Organic Compounds (VOC)					
Emissions' Release Point					
Release Point ID					
Apportion%					

Process	Secondary Process
SCC Code	(ex. 20100201)
	>
	>

	>				
	>				
Material Processed					
Period Start					
Period End					
Throughput (units)					
Summer %					
Fall %					
Winter %					
Spring %					
Operational Schedule					
Days/Week					
Hours/Day					
Weeks/Year					
Hours/Year					
Fuel Characteristics					
Heat Content	Elem. Sulfur Content (%)	H2S Sulfur Content	Ash Content (if applicable)		
Heating					
Heat Input	Heat Output	Heat Values Convention			
Emissions Operating Type:					
Pollutant	Emission Factor (EF)	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide (CO)					
Nitrogen Oxides NOx					
PM₁₀ Primary (PM₁₀-PRI)					
PM_{2.5} Primary (PM₂₅-PRI)					
Sulfur Dioxide (SO₂)					
Ammonia (NH₃)					
Lead and lead compounds					
Volatile Organic Compounds (VOC)					

Emissions' Release Point					
Release Point ID					
Apportion%					

Stack Detail (Release Point)	
> Specifications	
ID	
Type	
Description	
Stack Status	
> Stack Parameters	
Stack Height (ft)	
Stack Diameter (ft)	
Exit Gas Temp (F)	
Exit Gas Velocity (fps)	
Exit Gas Flow Rate (acfm)	
> Geographic Coordinate	
Latitude	
Longitude	
Datum	
Accuracy (meters)	
Base Elevation (meters)	

Certification:

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

Printed Name: _____ Title _____ Date _____

Signature: _____ Phone number _____

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

To submit this report:

1. Fax this form to: 907-465-5129; or
2. E-mail to: DEC.AQ.airreports@alaska.gov; or
3. Mail to: ADEC
 Air Permits Program
 PO Box 111800
 Juneau, AK 99811-1800

Or

4. Direct data entry for emission inventory can be done through the Air Online System (AOS). A myAlaska account is needed to gain access and a profile needs to be set up in Permittee Portal.

<http://dec.alaska.gov/Applications/Air/airtoolsweb/>.

[18 AAC 50.346(b)(9)]