



Hilcorp Alaska, LLC

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3800 Centerpoint Drive
Suite 1400
Anchorage, AK 99503

Phone: 907/777-8300
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December 5, 2024

Alaska Department of Environmental Conservation
Air Permits Program
ATTN: Application Intake
555 Cordova Street
Anchorage, AK 99501

Subject: Hilcorp Alaska, LLC – Northstar Production Facility
Air Quality Operating Permit No. AQ0503TVP03 Application for Renewal

Dear Application Intake:

Please find attached the Hilcorp Alaska, LLC (Hilcorp) application for renewal of Air Quality Operating Permit No. AQ0503TVP03 for Northstar Production Facility. Under Condition 92 of the permit, an application must be submitted no sooner than December 10, 2023 and no later than December 10, 2024. Hilcorp understands that submittal by the December 10, 2024 date represents a timely application consistent with 40 CFR 71.5(a)(1)(iii) and completeness will be evaluated by the Alaska Department of Environmental Conservation (ADEC) according to 40 CFR 71.5(a)(2).

Hilcorp believes that this submittal constitutes a complete air quality operating permit application according to the requirements of 40 CFR 71.5 and 18 AAC 50.326. Hilcorp will continue to comply with all applicable requirements with which Northstar Production Facility is in compliance. Hilcorp will meet new requirements that become effective during the permit term on a timely basis.

We appreciate the ADEC's efforts in processing this operating permit renewal application. Please contact Drew Anderson at (907) 777-8488 or ananderson@hilcorp.com with any questions or concerns.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Anthony McConkey', written over a light blue circular stamp.

Anthony McConkey
Asset Team Lead
Hilcorp Alaska, LLC

Alaska Department of Environmental Conservation
Air Permit Program – Attn: Application Intake
December 5, 2024
Page 2 of 2

Enclosure: Northstar Production Facility Air Quality Operating Permit Renewal Application

cc: Electronic Copy
US EPA Region 10
M/S OAW 150
1200 Sixth Avenue, Suite 900
Seattle, WA, 98101

Drew Anderson, Hilcorp
Jeanette Brena, Boreal



Hilcorp Alaska, LLC

**Northstar Production Facility
Application for Renewal of an Air Quality
Operating Permit**

Prepared for:
Hilcorp Alaska, LLC

December 2024



B O R E A L

Northstar Production Facility

Application for Renewal of an Air Quality Operating Permit

Prepared for:

Hilcorp Alaska, LLC

3800 Centerpoint Dr., Suite 1400
Anchorage, AK 99503

Prepared by:

Boreal Environmental Services, Inc.

4300 B Street, Suite 510
Anchorage, AK 99503





TABLE OF CONTENTS

Section A – Stationary Source

Form A1: Stationary Source (General Information)

Form A4: Title V Air Operating Permit Renewal Application Information

Attachment A-1: Compliance Certification

Section B – Emission Units

Form B: Emission Unit Listing for this Application

Form B1: Emission Unit Detail Form – External Combustion Equipment

Form B2: Emission Unit Detail Form – Internal Combustion Equipment

Form B3: Emission Unit Detail Form – Incinerators

Form B4: Emission Unit Detail Form – Volatile Liquid Storage Tanks

Form B5: Emission Unit Detail Form – Miscellaneous Emission Units

Section C – Pollution Control Devices

Not Applicable

Section D – Emissions Summary

Form D1: Potential Annual Emissions (After Controls/Limitations)

Form D2: Potential Annual Emissions (Before Controls/Limitations)

Form D3: Expected Actual Annual Emissions (After Controls/Limitations)

Section E – Regulatory Requirements

Form E1: Stationary Source-Wide Applicable Requirements

Form E3: Title V Condition Change Request

Form E4: Permit Shield Request

Form E5: Alternative Monitoring Procedures (AMP) From

Permits

Permit No. AQ0503TVP03

Permit No. AQ0503MSS04

Permit No. AQ0503CPT07 Revision 1

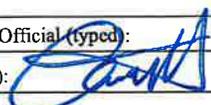


Section A

Stationary Source

Form A1:	Stationary Source (General Information)
Form A4:	Title V Air Operating Permit Renewal Application Information
Attachment A-1:	Compliance Certification

FORM A1
Stationary Source (General Information)

GENERAL INFORMATION		
1. Permittee:		
Permittee Name: Hilcorp Alaska, LLC		
Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400		
Mailing Address Line 2		
City: Anchorage	State: AK	Zip Code: 99503
2. Stationary Source Name: Northstar Production Facility		
3. Stationary Source Physical Address:		
Physical Address Line 1: Seal Island - Six miles offshore north of Point Storkerson in the Beaufort Sea		
Physical Address Line 2		
City:	State: AK	Zip Code:
4. Location:	Latitude: 70° 29' 39" N	Longitude: 148° 42' 15" W (NAD83)
5. Primary SIC Code: 1311	SIC Code Description: Crude Petroleum and Natural Gas Production	Primary NAICS Code: 211111 - Crude Petroleum and Natural Gas Extraction
6. Current/Previous Title V Air Permit No.: AQ0503TVP03		Expiration Date: June 10, 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: Hilcorp Alaska, LLC		Name/Title: Hilcorp Alaska, LLC
Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400		Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99503	City: Anchorage State: AK Zip Code: 99503
Permittee's Responsible Official: Please see attached sheet.		Designated Agent:
Name/Title:		Name/Title: CT Corporation Systems
Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400		Mailing Address Line 1: 9360 Glacier Hwy., Suite 202
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99503	City: Juneau State: AK Zip Code: 99801
Stationary Source and Building Contact:		Fee Contact:
Name/Title: Drew Anderson / Environmental Engineer		Name/Title: Hilcorp Alaska, LLC / Accounts Payable
Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400		Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99503	City: Anchorage State: AK Zip Code: 99503
Phone: (907) 777-8488	Email: ananderson@hilcorp.com	Phone: Email:
Permit Contact:		Person or Firm that Prepared Application:
Name/Title: Drew Anderson / Environmental Engineer		Name/Title: Jeanette Brena, P.E. / Boreal Environmental Services
Mailing Address Line 1: 3800 Centerpoint Drive, Suite 1400		Mailing Address Line 1: 4300 B Street, Suite 510
Mailing Address Line 2		Mailing Address Line 2
City: Anchorage	State: AK Zip Code: 99503	City: Anchorage State: AK Zip Code: 99503
Phone: (907) 777-8488	Email: ananderson@hilcorp.com	Phone: (907) 227-5569 Email: jbrena@boreal-services.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):	Anthony McConkey	Title: Asset Team Lead
X Signature (blue ink):		Date: 12/5/24

FORM A1
Stationary Source (General Information)

9. Contact Information

Permittee's Responsible Officials:

- 1) Luke Saugier
Title: Senior Vice President
Address: 3800 Centerpoint Drive, Suite 1400, Anchorage, AK, 99503
- 2) Trudi Hallett
Title: Asset Team Lead
Address: 3800 Centerpoint Drive, Suite 1400, Anchorage, AK, 99503
- 3) Chris Kanyer
Title: Asset Team Lead
Address: 3800 Centerpoint Drive, Suite 1400, Anchorage, AK, 99503
- 4) Anthony McConkey
Title: Asset Team Lead
Address: 3800 Centerpoint Drive, Suite 1400, Anchorage, AK, 99503
- 5) Jill Fisk
Title: Asset Team Lead
Address: 3800 Centerpoint Drive, Suite 1400, Anchorage, AK, 99503

FORM A4
Title V Air Operating Permit Renewal Application Information

Permit Number: AQ0503TVP03

1.	Permit Contact: Name	Drew Anderson
	Title	Environmental Engineer
	Mailing Address Line 1	3800 Centerpoint Dr. Suite 1400
	Mailing Address Line 2	Anchorage, AK 99503
	Phone Number	(907) 777-8488
	Email	ananderson@hilcorp.com
2.	Were there any changes to stationary source General Information (Form A1)? If yes, complete and submit a Form A1.	Yes, please see 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, please see Form B.
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.
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.

FORM A4

Title V Air Operating Permit Renewal Application Information

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 Table D-1a (primarily fixing errors in previous emission calculations).
	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 attached compliance certification. Hilcorp will continue to comply with all applicable requirements with which Hilcorp is in compliance. Hilcorp will meet new requirements that become effective during the permit term on a timely basis.
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, please see attached Form E3.
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, please see attached Form E3.
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, please see attached Form E3.
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, please see attached Forms B and E4.

FORM A4
Title V Air Operating Permit Renewal Application Information

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.]	Yes, please see attached Form E3.
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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.

Anthony McConkey
Name of Responsible Official

Asset Team Lead
Title


Signature (blue ink)

12/5/24
Date

Attachment A-1: Compliance Certification
 Northstar Production Facility -- Operating Permit No. AQ0503TVP03
 Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status [40 CFR 71.5(c)(9)]
No.	Summary/Description		
Section 3. State Requirements			
Visible Emissions Standard			
1	<p>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 8, 11 through 13, 16 through 18, and 22, Group B Snow Melters and Heaters, and Group C Heaters, Boilers and Turbines listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.</p> <p>1.1. For EU IDs 1 through 5, 13, and 16 through 18, burn only gas as fuel. Monitoring for these emissions units shall consist of a statement in each operating report under Condition 85 indicating whether each of these emissions units burned only gas during the period covered by the report. Report under Condition 84 if any fuel other than gas is burned.</p> <p>1.2. For EU IDs 6 through 8 and Group C heaters and boilers, monitor, record, and report in accordance with Conditions 3 through 5.</p> <p>a. For EU IDs 6 and 7, no less than one surveillance shall be conducted per 400 unit-hours of operation (emergency and non-emergency hours combined) for each emissions unit.</p> <p>b. For EU ID 8, no less than one surveillance per 1,000 unit-hours of operation shall be conducted.</p> <p>1.3. For each of Group B snow melters and heaters, and Group C turbines, as long as the emissions unit does not exceed the limit in Condition 23, monitoring shall consist of an annual compliance certification under Condition 86 with the visible emissions standard.</p> <p>1.4. For EU ID 22, monitoring shall consist of an annual compliance certification under Condition 86 with the visible emissions standard based on reasonable inquiry.</p> <p>1.5. For EU IDs 11 and 12, monitor, record, and report in accordance with Condition 6.</p>	In Compliance	Records Review and Field verification/Interview
2	<p>Incinerator Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, through the exhaust effluent of the incinerator, EU ID 9c, to reduce visibility by more than 20 percent averaged over any six consecutive minutes.</p> <p>2.1. No less than once during each calendar year the incinerator operates and upon the Department's request, observe the exhaust of EU ID 9c for visible emissions for 18 consecutive minutes to obtain a minimum of 72 observations in accordance with Method 9 of 40 CFR 60, Appendix A.</p> <p>2.2. Record and report in accordance with Conditions 4.1.a through 5.2.a.</p> <p>2.3. If any monitoring under Condition 2.1 was not performed, report under Condition 84 within three days of the date the monitoring was required.</p>	In Compliance	Records Review
Visible Emissions Monitoring, Recordkeeping and Reporting			
3	<p>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 6 through 8 and Group C heaters and boilers for visible emissions using the Method 9 Plan under Condition 3.2.</p> <p>3.1. The Permittee may for each unit elect to continue the visible emissions monitoring schedule in effect from the previous permit at the time a renewed permit is issued, if applicable.</p> <p>3.2. 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.</p> <p>a. First Method 9 Observation. Except as provided in Condition 3.1, observe exhaust for 18 minutes within six months after the issue date of this permit.</p> <p>(i) For any unit replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.</p> <p>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.</p> <p>c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under Condition 3.2.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:</p> <p>(i) within six months after the preceding observation, or</p> <p>(ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following six months after the preceding observation.</p> <p>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:</p> <p>(i) within twelve months after the preceding observation; or</p> <p>(ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following twelve months after the preceding observation.</p> <p>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 3.2.b, until the criteria in Condition 3.2.c for semiannual monitoring are met.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
4	<p>Visible Emission Recordkeeping. When required by any of Condition 1.2, or in the event of replacement of any of EU IDs 6 through 8 and Group C heaters and boilers during the permit term, the Permittee shall keep records as follows:</p> <p>4.1. When using the Method 9 Plan of Condition 3.2,</p> <p>a. the observer shall record</p> <p>(i) the name of the stationary source, emission unit and location, emission unit type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 11;</p> <p>(ii) the time, estimated distance to the emission location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating mode (<i>load or fuel consumption rate or best estimate if unknown</i>) on the sheet at the time opacity observations are initiated and completed;</p> <p>(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;</p> <p>(iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation record in Section 11, and</p> <p>(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.</p> <p>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 the sum by 24; record the average opacity on the sheet.</p> <p>c. Calculate and record the highest 6-minute and 18-consecutive minute averages observed.</p>	In Compliance	Records Review
5	<p>Visible Emissions Reporting. When required by Condition 1.2, or in the event of replacement of any of EU IDs 6 through 8 and Group C heaters and boilers during the permit term, the Permittee shall report as follows:</p> <p>5.1. Include in each operating report required under Condition 85:</p> <p>a. for each emissions unit under the Method 9 Plan,</p> <p>(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</p> <p>(ii) a summary to include:</p> <p>(A) number of days observations were made;</p> <p>(B) highest six- and 18-consecutive-minute average opacities observed; and</p> <p>(C) dates when one or more observed six-minute average opacities were greater than 20 percent.</p> <p>b. a summary of any monitoring or recordkeeping required under Conditions 3 and 4 that was not done.</p> <p>5.2. Report under Condition 84:</p> <p>a. the results of Method 9 observations that exceed an average of 20 percent opacity for any six-minute period; and</p> <p>b. if any monitoring under Condition 3 was not performed when required, report within three days of the date the monitoring was required.</p>	In Compliance	Records Review
6	<p>Visible Emissions Monitoring, Recordkeeping, and Reporting. The Permittee shall observe one daylight flare event within 12 months after the preceding flare event observation or within 12 months after the permit effective date, whichever is later. If no flare event exceeds 18 minutes within that 12-month period, then the Permittee shall observe the next daylight flare event.</p> <p>6.1. Monitor flare events using Method 9.</p> <p>6.2. Record the following information for observed events:</p> <p>a. the flare(s) EU ID number;</p> <p>b. results of the Method 9 observations;</p> <p>c. reason(s) for flaring;</p> <p>d. date, beginning and ending time of event; and</p> <p>e. volume of gas flared</p> <p>6.3. Monitoring of a flare event may be postponed for safety for weather reasons, or because a qualified observer is not available. If more than 12 months have elapsed since the last qualifying flare event was monitored, and monitoring of a flare event is postponed for any of the reasons described in this condition, the Permittee shall include in the next operating report required by Condition 85, an explanation of the reason that the flare event was not monitored. If no flare events meeting this definition occur during a reporting period then no monitoring or reporting is required.</p> <p>6.4. Attach copies of the records required by Condition 6.2 with the operating report required by Condition 85 for the period covered by that report.</p> <p>6.5. Report under Condition 84 whenever the opacity standard in Condition 1 is exceeded.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
 Northstar Production Facility -- Operating Permit No. AQ0503TVP03
 Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
Particulate Matter Emissions Standards			
7	<p>Industrial Process and Fuel-Burning Equipment Particulate Matter. The Permittee shall not cause or allow particulate matter emitted from EU IDs 1 through 8, 11 through 13, 16 through 18, 22, Group B Snow Melters and Heaters, and Group C Heaters, Boilers and Turbines listed in Table A to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.</p> <p>7.1. For EU IDs 6 through 8, monitor, record, and report in accordance with Conditions 8 through 12.</p> <p>7.2. For Group C Heaters and Boilers, monitor, record, and report in accordance with Conditions 10 through 12.</p> <p>7.3. For Group B Snow Melters and Heaters, and Group C Turbines, as long as they do not exceed the respective limits in Condition 23, monitoring shall consist of an annual compliance certification under Condition 86 with the particulate matter standard.</p> <p>7.4. For EU IDs 11 and 12, the Permittee must annually certify compliance under Condition 86 with the particulate matter standard.</p> <p>7.5. For EU IDs 1 through 5, 13, and 16 through 18, burn only gas as fuel. Monitoring for these emission units shall consist of a statement in each operating report under Condition 85 indicating whether each of these emission units fired gas as the primary fuel during the period covered by the report. Report under Condition 84 if any fuel is burned other than gas.</p> <p>7.6. For EU ID 22, monitor, record, and report according to Condition 86 with the particulate matter emissions standard based on reasonable inquiry.</p>	In Compliance	Records Review Field Verification/Interview
Particulate Matter Monitoring, Recordkeeping and Reporting			
8	<p>Particulate Matter Monitoring. The Permittee shall conduct source tests on diesel engines EU IDs 6 through 8 to determine the concentration of particulate matter in the exhaust of an emission unit as follows:</p> <p>8.1. Except as allowed in Condition 8.4, within six months of exceeding the criteria of Conditions 8.2.a or 8.2.b, either</p> <p>a. conduct a particulate matter source test according to requirements set out in Section 6; or</p> <p>b. make repairs so that emissions no longer exceed the criteria of Condition 8.2; to show that emissions are below those criteria, observe emissions as described in Condition 3.2 under load conditions comparable to those when the criteria were exceeded.</p> <p>8.2. Conduct the test or make repairs according to Condition 8.1 if</p> <p>a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or</p> <p>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.</p> <p>8.3. 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.</p> <p>8.4. The automatic particulate matter source test requirements in Conditions 8.1 and 8.2 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.</p>	In Compliance	Records Review
9	<p>Particulate Matter Reporting. The Permittee shall report as follows:</p> <p>9.1. Report under Condition 84</p> <p>a. the result of any PM source test that exceeded the PM emissions limit; or</p> <p>b. if one of the criteria of Condition 8.2 was exceeded and the Permittee did not comply with either Condition 8.1.a or 8.1.b, this must be reported by the day following the day compliance with Condition 8.1 was required;</p> <p>9.2. Report observations in excess of the threshold of Conditions 8.2.b within 30 days of the end of the month in which the observations occur;</p> <p>9.3. In each operating report under Condition 85, include for the period covered by the report:</p> <p>a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 8.2;</p> <p>b. a summary of the results of any PM testing under Condition 8; and</p> <p>c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 8.2, if they were not already submitted.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
10	<p>Particulate Matter Monitoring. The Permittee shall conduct source tests on Group C heaters and boilers to determine the concentration of particulate matter in the exhaust of each emissions unit as follows:</p> <p>10.1. Except as allowed under Condition 10.3, conduct a particulate matter source test according to the requirements set out in Section 6 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.</p> <p>10.2. 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 measured during each one-hour test run. Submit a copy of these observations with the source test report.</p> <p>10.3. The particulate matter source test requirement in Condition 10.1 is waived for an emissions unit if:</p> <p>a. a particulate matter source test on that unit has shown compliance with the particulate matter standard during the permit term; or</p> <p>b. take corrective action and conduct two 18-minute visible emissions observations in a consecutive six-month period to show that the excess visible emissions described in Condition 10.1 no longer occur.</p>	In Compliance	Records Review
11	<p>Particulate Matter Recordkeeping. The Permittee shall keep records of the results of any PM testing and visible emissions observations conducted under Condition 10.</p>	In Compliance	Records Review
12	<p>Particulate Matter Reporting. The Permittee shall report as follows:</p> <p>12.1. In each operating report required by Condition 85, include for the period covered by the report:</p> <p>a. the dates, EU ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 10.1.</p> <p>b. a summary of the results of any PM testing and visible emissions observations conducted under Condition 10.</p> <p>12.2. Report as excess emissions, in accordance with Condition 81, any time the results of a source test for PM exceed the PM emission limit stated in Condition 7.</p>	In Compliance	Records Review
Sulfur Compound Emission Standards			
13	<p>Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from EU IDs 1 through 8, 11 through 13, 16 through 18, and 22; Group B snow melters and heaters; and Group C heaters, boilers, and turbines to exceed 500 ppm averaged over three hours.</p>	In Compliance	Records Review
Sulfur Compound Monitoring, Recordkeeping, and Reporting			
14	<p>Sulfur Compound Monitoring and Recordkeeping. The Permittee shall comply with the following:</p> <p>14.1. The Permittee shall do one of the following for each shipment of fuel:</p> <p>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</p> <p>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</p> <p>(i) test the fuel for sulfur content; or</p> <p>(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.</p> <p>14.2. Fuel testing under Condition 14.1 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).</p> <p>14.3. 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).</p>	In Compliance	Records Review
15	<p>Sulfur Compound Reporting. The Permittee shall report as follows:</p> <p>15.1. If SO₂ emissions calculated under Condition 14.3 exceed 500 ppm, the Permittee shall report under Condition 84. When reporting under this condition, include the calculation under Section 12 or Method 19.</p> <p>15.2. The Permittee shall include in the report required by Condition 85</p> <p>a. a list of the fuel grades received at the stationary source during the reporting period;</p> <p>b. for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and</p> <p>c. for fuel with a sulfur content greater than 0.75 percent, the calculated SO₂ emissions in ppm.</p>	In Compliance	Records Review
16	<p>Sulfur Compound Monitoring. The Permittee shall either</p> <p>16.1. obtain a semiannual statement from the fuel supplier of the fuel total sulfur level in ppm; or</p> <p>16.2. analyze a representative sample of the fuel semiannually to determine the sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or other listed method approved in 18 AAC 50.035(b)-(c) or 40 CFR 60.17 incorporated by reference in 18 AAC 50.040(a)(1).</p>	In Compliance	Records Review
17	<p>Sulfur Compound Recordkeeping. The Permittee shall keep records of the statement from the fuel supplier or the sulfur content analysis required under Conditions 16.1 or 16.2.</p>	In Compliance	Records Review
18	<p>Sulfur Compound Reporting. The Permittee shall report as follows:</p> <p>18.1. Report as excess emissions, in accordance with Condition 84, whenever the fuel combusted causes sulfur compound emissions to exceed the standard of Condition 13.</p> <p>18.2. Include copies of the records required by Condition 17 with the operating report required by Condition 85 for the period covered by the report.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
Preconstruction Permit Requirements			
19	<p>Notification. The Permittee shall provide unique identification and labels on each EU listed in Table A and at the stationary source. Maintain additional information on EU category, subcategory, and EU Identification Number as applicable, in on-site logs available to the Department's compliance officers for:</p> <p>19.1. Stationary EUs, Table A, Group A; 19.2. Portable Equipment, Table A, Group B; 19.3. Intermittent Well Servicing Equipment, Table A, Group C: a. Internal Combustion Engines between 400 to 600 brake horsepower (bhp), and b. Internal Combustion Engines larger than 600 bhp 19.4. Keep records of all on-site equipment. Maintain equipment inventories for EUs listed in Table A, Group A (Stationary EUs).</p>	In Compliance	Field Verification/Interview
20	<p>Used Oil. Do not burn used oil at the stationary source.</p>	In Compliance	Field Verification/Interview
21	<p>General Ambient Air Quality Provisions. Comply with the following provisions to protect the nitrogen dioxide (NO₂), SO₂, PM with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM-10), and carbon monoxide (CO) air quality standards:</p> <p>21.1. Stack Configuration: a. Construct and maintain vertical, uncapped exhaust stacks for: all permanent EUs; all portable EUs rated at or above 40 bhp; all intermittent engines rated at or above 400 bhp; and all intermittent heaters/boilers with a heat input rating of 2.8 MMBtu/hr or more. This condition does not preclude the use of flapper valve rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume. b. Maintain the minimum exhaust stack heights listed in Table B.</p>	In Compliance	Field Verification/Interview
22	<p>Fuel Sulfur Limits. 22.1. Limit the H₂S content of the fuel gas burned in any EU to no more than 300 parts per million by volume (ppmv) at any time. a. Monitor, record, and report in accordance with Conditions 16, 17, and 18.2. b. Report in accordance with Condition 84 if the limit in Condition 22.1 is exceeded 22.2. Burn only ultra low sulfur diesel (ULSD) fuel in Group C EUs, all intermittently used oil field service equipment such as internal combustion engines, boilers/heaters rated at less than 400 hp or 2.8 MMBtu/hr, and all other non-road diesel fired engines. a. Maintain dedicated fuel tanks for the EUs described in Condition 22.2. b. Attach vendor receipts to the operating report required by Condition 85 that confirm that the diesel fuel delivered to the fuel tanks in Condition 22.2.a is ultra low sulfur diesel fuel. c. Report in accordance with Condition 84 whenever fuel other than ULSD is burned in any emission unit in Condition 22.2. 22.3. Burn diesel fuel containing no more than 0.1 percent of sulfur by weight in diesel-fired Group A and Group B EUs. a. Monitor, record, and report the sulfur content of the diesel fuel required by Conditions 14.1, 14.2, and 15.2.a. b. Report in accordance with Condition 84 if the limit in Condition 22.3 is exceeded.</p>	In Compliance	Records Review
23	<p>Operating Limits for Ambient Air Protection. Comply with the operating limits specified in Table C for each EU.</p>	In Compliance	Records Review
24	<p>Monitoring and Recording for Compliance with Condition 23. 24.1. Monitor and record the hours of operation each calendar month for EU IDs 1 through 8 and 22. Record monthly the cumulative 12-month rolling hours of operation for each month by the end of the following month. 24.2. For each equipment pool subject to a cumulative rated capacity limit (bhp or MMBtu/hr), record the date, time, rated capacity, and duration each EU is in service, and the cumulative total capacity used for the equipment pool for operations each day the limit applied. In lieu of monitoring and recording the time, duration, and total capacity, the Permittee may assume continuous operation for either each day or 12-hour shift the EU operates and the nameplate equipment load or vendor specified maximum load. Alternatively, for Portable Equipment listed in Section 1, Group B, and for Intermittent Equipment in Section 1, Group C, if diesel fuel burned on the island during a day is less than 1,158 gallons, then listed only the total fuel burned on the island for the day. 24.3. For each EU or equipment pool subject to annual diesel fuel use limits, measure and record the total volume of diesel fuel delivered to the EU or equipment pool each calendar month. For the turbines (in Group C) subject to daily fuel use limits, measure and record the volume of diesel fuel used each day. Fuel use may be estimated by using the maximum fuel rating for the unit and the hours of operation. a. Flow meters and totalizers, if used, must be calibrated and certified to within ± 5 percent. b. Provide a statement of calibration or certification in the operating report described in the operating permit required by Condition 85, and note the date of last calibration or certification.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
24	<p>24.4. For the high pressure flare (EU ID 11) and low pressure flare (EU ID 12), measure and record the combined hourly, daily and monthly flaring rates, and the 12-month rolling flaring for each month by the end of the following month. Include pilot, purge, and produced gases in the flaring rate measurements.</p> <p>24.5. For the Turbines (EU IDs 1 through 5), calculate and record the daily NO_x emissions based on hours of operation and emission factors for specific temperature and load ranges listed in Section 15. Calculate and record the total NO_x emissions for EU IDs 1 and 2 (GE LM2500 Turbines) and EU IDs 3, 4, and 5 (Solar Mars Turbines) for each month and 12-month rolling period by the end of the following month by summing the NO_x emissions for each day the EUs operate during the time period.</p> <p>a. Use the updated emission factors from source testing conducted under Condition 26.3b to calculate emissions as required in Condition 24.5. Only emission factors from Department approved source test results shall be used.</p>	In Compliance	Records Review
25	<p>Reporting for Compliance with Condition 23: Report in the operating report required in Condition 85:</p> <p>25.1. For each of the EUs in Conditions 25.1.a through 25.1.c that are subject to an hourly operational limit (e.g., MMscf, bhp, or MMBtu), list the limit and the highest hourly recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded.</p> <p>a. EU IDs 11 and 12 (High Pressure Flare and Low Pressure Flare) listed in Group A;</p> <p>b. Cranes, Heaters and Snow Melters listed in Group B, the inventory of the portable EUs including capacity; and</p> <p>c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C, the inventory of the portable EUs including capacity.</p> <p>25.2. For each of the following EUs subject to a daily operation limit (e.g., hours, MMscf, or gallons), list the limit and the highest daily recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded for:</p> <p>a. the MMscf of fuel gas burned in EU IDs 11 and 12;</p> <p>b. the diesel fuel burned in the Group C turbines; and</p> <p>c. Alternatively, if diesel fuel burned on the island during a day is less than 1,158 gallons, then report only the total fuel burned on the island for the day.</p> <p>25.3. For each of the following EUs subject to a 12-month rolling total operation limit (e.g., hours, cubic feet, gallons, or MMscf) list the limit, the monthly, and 12-month rolling total for each month of the reporting period:</p> <p>a. EU IDs 6, 7, 8, 11, 12, and 22 listed in Group A;</p> <p>b. Heaters and Snow Melters listed in Group B;</p> <p>c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C; and</p> <p>d. Alternatively, for Portable Equipment listed in Table A, Group B, and for Intermittent Equipment in Table A, Group C, if diesel fuel burned on the island each day is less than 1,158 gallons, report only the total fuel burned on the island for the month and 12-month rolling total.</p> <p>25.4. For each of the following equipment pools subject to a tons per year limit of NO_x, list the limit, and 12-month rolling total for each month of the reporting period:</p> <p>a. EU IDs 1 and 2 (GE LM250 Turbines) listed in Table A, Group A;</p> <p>b. EU IDs 3, 4, and 5 (Solar Turbines) listed in Group A.</p>	In Compliance	Records Review
26	<p>Nitrogen Oxides (NO_x) BACT.</p> <p>26.1. Install and operate as BACT for the following fuel burning equipment at Northstar.</p> <p>a. EU IDs 6 and 7 (Generators) with variable fuel injection timing retard as incorporated by the manufacturer;</p> <p>b. EU IDs 1 and 2 (Turbines) with dry low NO_x combustion technology; and</p> <p>c. EU IDs 3, 4, and 5 (Turbines) with SoLoNO_x dry low NO_x combustion technology.</p> <p>26.2. Comply with the following not-to-exceed NO_x emission limits:</p> <p>a. For EU IDs 1 and 2:</p> <p>(i) 25 ppmv corrected to 15 percent oxygen and 24.3 lb/hr per unit, expressed as NO₂, 0°F or greater, and</p> <p>(ii) 43 lb/hr per unit, expressed as NO₂ at less than 0°F</p> <p>b. For EU IDs 3, 4, and 5:</p> <p>(i) 42 ppmv corrected to 15 percent oxygen and 21.7 lb/hr per unit, expressed as NO₂, in low emission operations and at 0°F or greater; and</p> <p>(ii) 83.4 lb/hr per unit, expressed as NO₂, at less than 0°F or when not operating in low emission operation.</p> <p>c. For EU IDs 6 and 7, NO_x emissions shall not exceed 13 grams per kilowatt-hour (g/kWh);</p> <p>26.3. Monitor compliance as follows:</p> <p>a. For EU IDs 3 through 5, monitor emissions mode (low, intermediate, or full) using continuous tracking of gas producer speed through the control panel. Record the date, time and duration for which each of EU IDs 3, 4, and 5 is in each mode.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
26	<p>b. NO_x Recurring Testing. The Permittee shall conduct NO_x source tests in accordance with Section 6 and as follows:</p> <p>(i) No later than five years after the previous source tests, conduct NO_x source tests on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) during summer months (April through September) and during winter months (October through March).</p> <p>(ii) At least once during the life of this permit, conduct a NO_x source test on EU ID 6 or 7.</p> <p>(iii) NO_x source tests shall be conducted at no less than three loads to include the highest achievable load.</p> <p>(iv) The source tests shall consist of three 1-hour runs at each load.</p> <p>26.4. Report in accordance with Condition 84 any time a source test result (the average of the three 1-hour runs) exceeds a limit in Condition 26.2.a, 26.2.b, or 26.2.c.</p>	In Compliance	Records Review
27	<p>Carbon Monoxide (CO) BACT.</p> <p>27.1. Install and operate as BACT for the following fuel burning equipment:</p> <p>a. EU ID 9c (Incinerator) with secondary combustion chamber; and</p> <p>b. EU ID 11 (high pressure flare) and EU ID 12 (low pressure flare) with air-assist or sonic design and smokeless flare technology.</p> <p>27.2. Comply with the following not to exceed CO emission limits:</p> <p>a. For EU IDs 1 and 2:</p> <p>(i) 25 ppmv corrected to 15 percent oxygen and 14.8 lb CO/hr per unit at 0°F or greater;</p> <p>(ii) 38 lb CO/hr per unit at less than 0°F; and</p> <p>(iii) a cumulative total of 143 tons CO per 12-month rolling period.</p> <p>b. EU IDs 3, 4, and 5:</p> <p>(i) 50 ppmv CO corrected to 15 percent oxygen and 15.7 lb/hr unit in low emission operations at 0°F or greater;</p> <p>(ii) 37.1 lb CO/hr per unit in low emissions operations and at less than 0°F;</p> <p>(iii) 367 lb CO/hr per unit when not operating in low emission operations; and</p> <p>(iv) a cumulative total of 3,000 hours when not operating in low emissions operations per 12-month rolling period.</p> <p>c. For EU IDs 6 and 7 (Emergency Generator), no greater than 13.2 lb/hr per unit.</p> <p>d. For EU ID 8 (Fire Water Pump), no greater than 6.4 lb/hr.</p> <p>e. For EU IDs 11 and 12 (flares), no greater than 0.37 lb/MMBtu.</p> <p>27.3. Monitor compliance as follows:</p> <p>a. For EU IDs 3, 4, and 5, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Section 15. Calculate and record the total CO emission rates for EU IDs 3, 4, and 5 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day. If the cumulative total CO emission rate exceeds 504 tons per 12-month rolling period, reassess CO best available control technology for EU IDs 3, 4, and 5 and submit to the Department with 90 days of discovery.</p> <p>b. For EU IDs 1 and 2, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Section 15. Calculate and record the total CO emission rates for Units 1 and 2 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day the units operate during the time period to ascertain compliance with the limit listed in Condition 27.2.a(iii).</p> <p>c. For EU IDs 11 and 12, operate the equipment according to specific design parameters provided by the manufacturer. Keep a copy of the manufacturer's design parameters on site and make them available to the Department personnel on request.</p> <p>d. CO Recurring Testing. The Permittee shall conduct CO source tests in accordance with Methods 10 and 3A, respectively. Use Method 19 to convert CO emission concentrations to emission rates. Perform the source test in accordance with Section 6 and as follows:</p> <p>(i) Conduct a CO source test on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) each time a test is conducted under Condition 26.3.b(i).</p> <p>(ii) Conduct a CO source test at least once during the life of this permit on EU ID 8 and EU ID 6 or 7.</p> <p>(iii) CO source tests shall be conducted at no less than three loads to include the lowest operating load.</p> <p>(iv) The source tests shall consist of three 1-hour runs at each load.</p> <p>e. Use the updated CO emissions factors from CO source testing conducted under Condition 27.3.d to calculate CO tpy emissions as required in Conditions 27.3.a and 27.3.b. Only emission factors from Department approved source test results shall be used.</p> <p>27.4. Report in accordance with Condition 84 any time a source test result (the average of the three 1-hour runs) exceeds a limit in Condition 27.2.a(i), 27.2.a(ii), 27.2.b(i), 27.2.b(ii), 27.2.b(iii), 27.2.c or 27.2.d.</p> <p>27.5. If CO emissions from EU IDs 3, 4, and 5 exceed a cumulative total of 504 tons per 12-month rolling period, submit a current best BACT reassessment for EU IDs 3, 4, and 5 within 90 days of discovery.</p> <p>27.6. Report in the operating report required in Condition 85:</p> <p>a. For EU IDs 3, 4, and 5, the cumulative 12-month rolling total hours of operation in each emissions mode; and</p> <p>b. The cumulative monthly and 12-month rolling total CO emissions from EU IDs 1 and 2 and EU IDs 3, 4, and 5.</p>	In Compliance	Records Review
	<p>d. CO Recurring Testing. The Permittee shall conduct CO source tests in accordance with Methods 10 and 3A, respectively. Use Method 19 to convert CO emission concentrations to emission rates. Perform the source test in accordance with Section 6 and as follows:</p> <p>(i) Conduct a CO source test on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) each time a test is conducted under Condition 26.3.b(i).</p> <p>(ii) Conduct a CO source test at least once during the life of this permit on EU ID 8 and EU ID 6 or 7.</p> <p>(iii) CO source tests shall be conducted at no less than three loads to include the lowest operating load.</p> <p>(iv) The source tests shall consist of three 1-hour runs at each load.</p> <p>e. Use the updated CO emissions factors from CO source testing conducted under Condition 27.3.d to calculate CO tpy emissions as required in Conditions 27.3.a and 27.3.b. Only emission factors from Department approved source test results shall be used.</p> <p>27.4. Report in accordance with Condition 84 any time a source test result (the average of the three 1-hour runs) exceeds a limit in Condition 27.2.a(i), 27.2.a(ii), 27.2.b(i), 27.2.b(ii), 27.2.b(iii), 27.2.c or 27.2.d.</p> <p>27.5. If CO emissions from EU IDs 3, 4, and 5 exceed a cumulative total of 504 tons per 12-month rolling period, submit a current best BACT reassessment for EU IDs 3, 4, and 5 within 90 days of discovery.</p> <p>27.6. Report in the operating report required in Condition 85:</p> <p>a. For EU IDs 3, 4, and 5, the cumulative 12-month rolling total hours of operation in each emissions mode; and</p> <p>b. The cumulative monthly and 12-month rolling total CO emissions from EU IDs 1 and 2 and EU IDs 3, 4, and 5.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification

Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
28	<p>Sulfur Dioxide (SO₂ BACT).</p> <p>28.1. Comply with the following fuel sulfur limits as representative of BACT:</p> <p>a. H₂S content of fuel gas shall not exceed 300 ppmv; and</p> <p>b. Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.</p> <p>28.2. Comply with the following sulfur content of the diesel fuel as BACT:</p> <p>a. Sulfur content of fuel oil shall not exceed 0.1 percent by weight; and</p> <p>b. Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2.a.</p>	In Compliance	Records Review
29	<p>Volatile Organic Compound (VOC) BACT.</p> <p>29.1. Install and operate as BACT:</p> <p>a. Unit 9c (Incinerator) with secondary combustion chamber;</p> <p>b. Units 11 and 12 (high pressure and low pressure flares) with air-assist or sonic design and smokeless flare technology;</p> <p>c. Water Injection Tanks and Slop Oil Tank with a sealed system design vented to the flaring system; and</p> <p>d. Portable Fuel Oil Storage Tanks with conservation vents.</p> <p>29.2. Operate and maintain each pump, pressure relief device, open-ended valve or line, valve compressor and flange, or other connector in VOC or wet gas service, and each natural gas processing device or system in accordance with good operational practices. Tag and repair all leaking connectors, pumps and compressors in VOC or wet gas service as soon as practicable. Maintain a log of preventive maintenance, surveillance activities, and repairs.</p>	In Compliance	Records Review
30	<p>PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT.</p> <p>30.1. Install and operate as BACT:</p> <p>a. fuel burning equipment with good operation practices;</p> <p>b. EU ID 9c with secondary combustion chamber;</p> <p>c. EU IDs 11 and 12 with air-assist or sonic design and smokeless flare technology.</p> <p>30.2. Comply with the following surrogate PM-10 emission limits as representative of BACT. Visible emissions (VE) from:</p> <p>a. EU IDs 1 through 5 (Turbines) shall not exceed 10 percent opacity for greater than three minutes in any hour; and</p> <p>b. All industrial processes, incinerators, and fuel-burning equipment shall comply with the applicable state VE and grain loading standards in Conditions 1, 2, and 7.</p> <p>30.3. For EU IDs 1 through 5, monitor and report in accordance with Condition 1.1 and as follows</p> <p>a. For EU IDs 1 through 5, record all observations of visible emissions (excluding condensed water vapor).</p> <p>b. If continuous visible emissions (excluding condensed water vapor) are observed for longer than three minutes, initiate corrective action within 24 hours to eliminate visible emissions.</p> <p>(i) Keep a written record of the starting date, the completion date, and a description of the actions taken to eliminate the visible emissions;</p> <p>(ii) Observe the emissions unit at least once each day for the next seven operating days to ensure that the corrective action has been successful in eliminating visible emissions. After seven operating days, if the corrective actions taken do not eliminate the visible emissions, then observe the emission unit using EPA Method 9 in 40 CFR 60, Appendix A-4 within 24 hours. Conduct this observation for 18 minutes to obtain 72 consecutive 15-second opacity observations. As necessary, take additional corrective actions to eliminate visible emissions and repeat the monitoring, recordkeeping, and reporting steps of Condition 30.3.b until visible emissions are eliminated.</p> <p>c. Record and report as required under Conditions 4.1, 5.1, and 5.2.a except report results compared to the 10 percent opacity limit instead of 20 percent opacity.</p> <p>d. Provide a copy of the records required under Condition 30.3.b(i) in the operating report required in Condition 85.</p>	In Compliance	Records Review
	<p>30.3. For EU IDs 1 through 5, monitor and report in accordance with Condition 1.1 and as follows</p> <p>a. For EU IDs 1 through 5, record all observations of visible emissions (excluding condensed water vapor).</p> <p>b. If continuous visible emissions (excluding condensed water vapor) are observed for longer than three minutes, initiate corrective action within 24 hours to eliminate visible emissions.</p> <p>(i) Keep a written record of the starting date, the completion date, and a description of the actions taken to eliminate the visible emissions;</p> <p>(ii) Observe the emissions unit at least once each day for the next seven operating days to ensure that the corrective action has been successful in eliminating visible emissions. After seven operating days, if the corrective actions taken do not eliminate the visible emissions, then observe the emission unit using EPA Method 9 in 40 CFR 60, Appendix A-4 within 24 hours. Conduct this observation for 18 minutes to obtain 72 consecutive 15-second opacity observations. As necessary, take additional corrective actions to eliminate visible emissions and repeat the monitoring, recordkeeping, and reporting steps of Condition 30.3.b until visible emissions are eliminated.</p>	In Compliance	Records Review and Field Verification/Interview
	<p>c. Record and report as required under Conditions 4.1, 5.1, and 5.2.a except report results compared to the 10 percent opacity limit instead of 20 percent opacity.</p> <p>d. Provide a copy of the records required under Condition 30.3.b(i) in the operating report required in Condition 85.</p>	In Compliance	Records Review and Field Verification/Interview
31	<p>Verification of Equipment Specifications and Maintenance of Equipment. The Permittee shall install and maintain EU IDs 11, 12, 13, and 23 according to the manufacturer's or operator's maintenance procedures. Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make records available to the Department personnel upon request. The records may be kept in electronic format.</p>	In Compliance	Records Review Field Verification/Interview
32	<p>The Permittee shall limit the total combined emissions of HAPs from EU IDs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase from EU IDs 11, 12, 13, and 23 to less than 39 tons in any 12 consecutive months. The Permittee shall ensure compliance with the limit in Condition 32 as follows:</p> <p>32.1. Route all gas from the reboiler and the flash tank of the dehydrator (EU IDs 13 and 23) to the low pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates.</p> <p>32.2. Flare all gas from EU IDs 13 and 23 in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer's operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%.</p> <p>32.3. EU ID 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours and except for periods of startup, shutdown, or malfunction.</p> <p>32.4. Report in each quarterly facility operating report in Condition 85 an affirmation that Conditions 32.1 through 32.3 are met.</p>	In Compliance	Records Review Field Verification/Interview

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
32	<p>32.5. Within 90 days of the issue date for Minor Permit AQ0503MSS04 the Permittee shall conduct a visible emission observation in accordance with 40 C.F.R. 60 Appendix A, Method 22. The Method 22 observation period shall not be less than 2 hours in duration. Observation of the flares may be postponed for safety or weather reasons. If visible emissions are noted for a total of more than 5 minutes during the Method 22 observation:</p> <p>a. Determine whether the flares are being properly operated and maintained.</p> <p>b. Initiate corrective actions, if necessary, to eliminate visible emissions from the emission unit within 24 hours of the Method 22 observation;</p> <p>c. Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce visible emissions; and</p> <p>d. After completing the corrective actions, conduct a follow-up visible emissions observation in accordance with 40 C.F.R. 60 Appendix A, Method 22 within three days. The Method 22 visible emissions observation period shall not be less than two hours in duration. The 3-day time limit to conduct observations may be extended by the Department for sufficient cause.</p> <p>32.6. Report in accordance with Condition 84 if any of Conditions 32 through 32.5 are not met.</p>	In Compliance	Records Review
Insignificant Emission Units			
33	<p>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:</p> <p>33.1. VE 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.</p> <p>33.2. PM 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.</p> <p>33.3. 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.</p>	In Compliance	Records Review and Field Verification/Interview
	<p>33.4. General MR&R for Insignificant Emission Units</p> <p>a. The Permittee shall submit the compliance certifications of Condition 86 based on reasonable inquiry;</p> <p>b. The Permittee shall comply with the requirements of Condition 67;</p> <p>c. The Permittee shall report in the operating report required by Condition 85 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</p> <p>d. No other monitoring, recordkeeping or reporting is required.</p>	In Compliance	Records Review
Section 4. Federal Requirements			
NSPS Subpart A			
34	<p>NSPS Subpart A Notification. For any affected facility or existing facility regulated under NSPS requirements in 40 C.F.R. 60, the Permittee shall furnish the Department and EPA written or electronic notification of:</p> <p>34.1. A notification of the date construction (or reconstruction as defined under 40 CFR 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form</p> <p>34.2. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date</p> <p>34.3. Any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies unless that change is specifically exempted under an applicable subpart or in 40 C.F.R. 60.14(e), postmarked 60 days or as soon as practicable before the change is commenced and shall include:</p> <p>a. information describing the precise nature of the change,</p> <p>b. present and proposed emission control systems,</p> <p>c. productive capacity of the facility before and after the change, and</p> <p>d. the expected completion date of the change;</p> <p>34.4. A notification of any proposed replacement of components of an existing facility, 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:</p> <p>a. the name and address of owner or operator,</p> <p>b. the location of the existing facility,</p> <p>c. a brief description of the existing facility and the components that are to be replaced,</p> <p>d. a description of the existing and proposed air pollution control equipment,</p> <p>e. an estimate of the fixed capital cost of the replacements, and of constructing a comparable entirely new facility,</p> <p>f. the estimated life of the existing facility after the replacements, and</p> <p>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.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
35	NSPS Subpart A Startup, Shutdown, & Malfunction Requirements. The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs 1 through 5, any malfunction of the air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU IDs 1 through 5 is inoperative.	In Compliance	Field Verification/Interview
36	NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report. Each Permittee required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts and limits are in Condition 42.6) and-or summary report form (see Condition 37) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information: 36.1. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period. 36.2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of EU IDs 1 through 5; the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted. 36.3. The date and time identifying each period during which a Continuous Monitoring System (CMS) was inoperative except for zero and span checks and the nature of any repairs or adjustments. 36.4. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.	In Compliance	Records Review
37	NSPS Subpart A Summary Report Form. The summary report form shall contain the information and be in the format shown in figure 1 of 40 CFR 60.7 (see Attachment 1) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. 37.1. If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in Condition 36 need not be submitted unless requested by the Administrator. 37.2. If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Condition 36 shall both be submitted.	In Compliance	Records Review
38	NSPS Subpart A Performance (Source) Tests. The Permittee shall conduct source tests according to Section 6 and as required in this condition on any affected facility. 38.1. Except as specified in paragraphs (a)(1),(a)(2), (a)(3), and (a)(4) of 40 CFR 60.8, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by 40 CFR Part 60, and at such other times as may be required by the Administrator, the Permittee shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s). 38.2. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. 38.3. Tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.	In Compliance	Records Review

Attachment A-1: Compliance Certification

Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
38	<p>38.4. Provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the Permittee shall notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.</p> <p>38.5. Provide or cause to be provided, performance testing facilities as follows:</p> <p>a. Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.</p> <p>b. Safe sampling platform(s),</p> <p>c. Safe access to sampling platform(s), and</p> <p>d. Utilities for sampling and testing equipment</p> <p>38.6. Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.</p>	In Compliance	Records Review
39	<p>NSPS Subpart A Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU IDs 1 through 5 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Administrator will determine whether acceptable operating and maintenance procedures are being used based on information available, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU IDs 1 through 5.</p>	In Compliance	Field Verification/Interview
40	<p>NSPS Subpart A Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in Conditions 42.1 and 42.6, nothing in 40 CFR Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU IDs 1 through 5 would have been in compliance with applicable requirements of 40 CFR Part 60 if the appropriate performance or compliance test or procedure had been performed.</p>	N/A	Advisory Provision
41	<p>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 42 or 43. 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.</p>	In Compliance	Field Verification/Interview
NSPS Subpart GG			
42	<p>For EU IDs 1 through 5, comply with the following applicable requirements of NSPS Subpart GG.</p> <p>42.1. The Permittee shall not allow the exhaust gas concentration of NO_x to exceed:</p> <p>a. 220 ppmv (at 15 percent O₂ and on a dry basis) for each of EU IDs 1 and 2; and</p> <p>b. 172 ppmv (at 15 percent O₂ and on a dry basis) for each of EU IDs 3 through 5.</p> <p>42.2. Stationary gas turbines are exempt from Condition 42.1 when being fired with an emergency fuel.</p> <p>42.3. Monitoring. The Permittee shall comply with the following:</p> <p>a. Periodic Testing. For each turbine subject to Condition 42 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall comply with Conditions 42.3.a(i) and 42.3.a(ii).</p> <p>(i) For existing turbines whose latest emissions source test results were certified as less than or equal to 90 percent of the NO_x limit in Condition 42.1, the Permittee shall conduct a NO_x source test according to the criteria below:</p> <p>(A) Within 5 years of the latest performance test, or</p> <p>(B) Within 1 year after exceeding 400 hours of operation in a 12- month period if the last source test occurred greater than 4 years prior to the exceedance.</p> <p>(ii) For existing turbines whose latest emissions source test results were certified as greater than 90 percent of the NO_x limit in Condition 42.1, the Permittee shall conduct a NO_x source test annually until two consecutive tests show results certified at less than or equal to 90 percent of the NO_x limit in Condition 42.1.</p>	In Compliance	Records Review
		In Compliance	Records Review
		In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
42	<p>b. For NOx source testing, the Permittee shall comply with the following:</p> <p>(i) The owner or operator shall conduct the performance tests using either EPA Method 20, ASTM D6522-00, or EPA Method 7E and either EPA Method 3 or 3A in appendix A to 40 CFR 60, to determine NOx and diluent concentration.</p> <p>(ii) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.</p> <p>(iii) Notwithstanding Condition 42.3.b(ii), the owner or operator may test at fewer points than are specified in Method 1 or Method 20 if the conditions of 40 CFR 60.335(a)(5)(i) and (ii) are met.</p> <p>(iv) Other acceptable alternative reference methods and procedures are given in 40 CFR 60.335(c).</p> <p>(v) Each test run required under Condition 42.3.b(vi) shall be at least 21 minutes.</p> <p>(vi) The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in Condition 42.1 and shall meet the performance test requirements of 40 CFR 60.8 as follows:</p> <p>(A) For each run of the performance test, the mean nitrogen oxides emission concentration (NO_{xo}) corrected to 15 percent O₂ shall be corrected to ISO standard conditions using the equation in 40 CFR 60.335(b)(1).</p> <p>(B) The 3-run performance test required must be performed within 5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in 40 CFR 60.331).</p>	In Compliance	Records Review
	<p>c. Substituting Test Data. The Permittee may perform emissions source testing on only one of a group of similarly configured turbines to satisfy the requirements of Condition 42.3.a if:</p> <p>(i) the Permittee demonstrates that the results are less than or equal to 90 percent of the emission limit of Condition 42.1, and are projected under Condition 42.3.d to be less than or equal to 90 percent of the limit at maximum load; and</p> <p>(ii) for any source test done after the effective date of this permit, the Permittee identifies in a source test plan under Condition 76</p> <p>(A) the turbine to be tested;</p> <p>(B) the other turbines in the group that are to be represented by the test; and</p> <p>(C) why the turbine to be tested is representative, including that each turbine in the group</p> <p>(1) is located at a stationary source operated and maintained by the Permittee;</p> <p>(2) is tested under close to identical ambient conditions;</p> <p>(3) is the same make and model and has identical injectors and combustor;</p> <p>(4) uses the same fuel type from the same source.</p>	In Compliance	Records Review
	<p>d. Load. The Permittee shall comply with the following:</p> <p>(i) In the source test plan state whether or not the test is scheduled when maximum NOx emissions are expected.</p> <p>(ii) If the highest operating rate during the source test is less than the maximum load of the tested turbine or another turbine represented by the test data, for each such turbine the Permittee shall provide to the Department as an attachment to the source test report</p> <p>(A) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and</p> <p>(B) a demonstration based on the additional test information that projects the test results from Condition 42.3.b to predict the highest load at which emissions will comply with the limit in Condition 42.1.</p> <p>(iii) The Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the limit of Condition 42.1;</p> <p>(iv) The Permittee shall comply with a written finding prepared by the Department that</p> <p>(A) the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load,</p> <p>(B) the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than maximum load, and the Permittee must not exceed the highest load at which compliance is predicted, or</p> <p>(C) the Permittee must retest during a period of greater expected demand on the turbine.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
42	<p>(v) The Permittee may revise a load limit by submitting results of a more recent test done at a higher load, and, if necessary, the accompanying information and demonstration described in Condition 42.3.d(ii); the new limit is subject to any new Department finding under Condition 42.3.d(iv).</p> <p>(vi) In order to perform an emission test required by Conditions 42.3.a and 42.3.b, the Permittee may operate a turbine at a higher load than that prescribed by Conditions 42.3.d(ii) through 42.3.d(iv).</p> <p>(vii) For the purposes of Conditions 42.3 through 42.5, maximum load means the hourly average load that is the smallest of</p> <p>(A) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;</p> <p>(B) the highest load allowed by an enforceable condition that applies to the turbine; or</p> <p>(C) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.</p>	In Compliance	Records Review
	<p>42.4. NOx Recordkeeping. The Permittee shall keep records as follows:</p> <p>a. The Permittee shall comply with the following for each turbine for which a demonstration under Condition 42.3.d(ii) does not show compliance with the limit of Condition 42.1 at maximum load.</p> <p>(i) The Permittee shall keep records of</p> <p>(A) load; or</p> <p>(B) as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.</p> <p>(ii) Records in Condition 42.4.a shall be hourly or otherwise as approved by the Department.</p> <p>(iii) Within one month after submitting a demonstration under Condition 42.3.d(ii)(B) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under Condition 42.3.d(iv), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.</p>	In Compliance	Records Review
	<p>42.5. NOx Reporting. The Permittee shall report as follows</p> <p>a. In each operating report under Condition 85 the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under Condition 42.3.d(ii) through 42.3.d(v)</p> <p>(i) the load limit;</p> <p>(ii) the turbine identification; and</p> <p>(iii) the highest load recorded under Condition 42.4.a during the period covered by the operating report.</p> <p>b. The Permittee shall report under Condition 84 if</p> <p>(i) a test result exceeds the emission standard;</p> <p>(ii) testing required under Condition 42.3.b is not performed, or</p> <p>(iii) a turbine was operated at a load exceeding that allowed by Conditions 42.3.d(iii) and 42.3.d(iv); exceeding a load limit is deemed a single violation rather than multiple violations of both monitoring and the underlying emission limit.</p>	In Compliance	Records Review
	<p>42.6 NSPS Subpart GG Sulfur Standard. No owner or operator subject to the provisions of NSPS Subpart GG shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).</p>	In Compliance	Records Review
	<p>42.7. Monitoring. The Permittee shall comply with the following:</p> <p>a. Monitor the total sulfur content of the fuel being fired in the turbine, except as provided in Condition 42.7.b. The sulfur content of the fuel must be determined using total sulfur methods described in Condition 42.7.f. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86 (all of which are incorporated by reference-see 40 CFR 60.17), which measure the major sulfur compounds may be used.</p> <p>b. Notwithstanding the provisions of Condition 42.7.a, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u), regardless of whether an existing custom schedule approved by the administrator for Subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:</p> <p>(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or</p> <p>(ii) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR 75 is required.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status		
No.	Summary/Description		[40 CFR 71.5(c)(9)]		
42	<p>c. For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.</p> <p>d. The frequency of determining the sulfur content of the fuel shall be as follows: (i) Gaseous fuel. For owners and operators that elect not to demonstrate sulfur content using options in Condition 42.7.b, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day. (ii) Custom schedules. Notwithstanding the requirements of Condition 42.7.d(i), operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in 40 CFR 60.334(i)(3)(i) and (i)(3)(ii), custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in Condition 42.6. (A) The two custom sulfur monitoring schedules set forth in 40 CFR 60.334(i)(3)(i)(A) through (D) and in 40 CFR 60.334(i)(3)(ii) are acceptable, without prior Administrative approval.</p>	In Compliance	Records Review		
	<p>e. For each affected unit that elects to periodically determine the fuel sulfur content under NSPS Subpart GG, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with Condition 36. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under Condition 36, periods of excess emissions and monitor downtime that shall be reported are defined as follows: (i) Sulfur dioxide. If the owner or operator is required to monitor the sulfur content of the fuel under Condition 42.7.a or 42.7.c: (A) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. (B) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample. (ii) Emergency fuel. Each period during which an exemption provided in Condition 42.2 is in effect shall be included in the report required in Condition 36. For each period, the type, reasons, and duration of the firing of the emergency fuel shall be reported.</p>			In Compliance	Records Review
	<p>f. Analyze the samples for the total sulfur content of the fuel using ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator. g. The fuel analyses required under Condition 42.7.f may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.</p>				
NSPS Subpart IIII					
43	<p>NSPS Subpart IIII Emission Standards. For EU ID 22, comply with the following applicable requirements of NSPS Subpart IIII. 43.1. The Permittee must comply with the following emission standards, for all pollutants: a. NMHC + NOx: 4.0 g/kW-hr b. CO: 5.0 g/kW/hr c. PM: 0.30 g/kW-hr 43.2. Performance tests conducted in-use must meet the NTE standards as indicated in 40 CFR 60.4212. 43.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in Condition 43.1 over the entire life of the engine.</p>	In Compliance	Records Review Field Verification/Interview		
	<p>NSPS Subpart IIII Compliance Requirements 43.4. You must do all of the following, except as permitted under Condition 43.6: 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; c. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you. 43.5. You must comply with the emission standards specified in Condition 43.1 by purchasing an engine certified to the emission standards in Condition 43.1. The engine must be installed and configured according to the manufacturer's emission related specifications, except as permitted in Condition 43.6.</p>			In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
43	<p>43.6. 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:</p> <p>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.</p> <p>NSPS Subpart IIII Testing Requirements</p> <p>43.7. Owners and operators who conduct performance tests pursuant to NSPS Subpart IIII must do so according to paragraphs (a) through (e) of 40 CFR 60.4212.</p>	In Compliance	Records Review
40 CFR Part 61 NESHAP Subpart A & M			
44	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.	In Compliance	Records Review
Emission Units Subject to Federal NESHAPS Subpart A			
45	For EU ID 23, comply with the applicable requirements of 40 CFR 63 Subpart A in accordance with the provisions for applicability of Subpart A in Subpart HH, Table 2	In Compliance	Records Review
46	For EU IDs 6 through 8, 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.	In Compliance	Records Review
NESHAP Subpart HH			
47	<p>NESHAP Subpart HH Applicability. For EU ID 23, comply with the following applicable requirements of NESHAP Subpart HH.</p> <p>47.1. Emissions for major source determination purposes can be estimated using the maximum natural gas or hydrocarbon liquid throughput, as appropriate, calculated in Conditions 47.1.a through 47.1.b. As an alternative to calculating the maximum natural gas or hydrocarbon liquid throughput, the owner or operator of a new or existing source may use the facility's design maximum natural gas or hydrocarbon liquid throughput to estimate the maximum potential emissions.</p> <p>a. The owner or operator shall maintain records of the annual facility natural gas or hydrocarbon liquid throughput each year and upon request submit such records to the Administrator. If the facility annual natural gas or hydrocarbon liquid throughput increases above the maximum natural gas or hydrocarbon liquid throughput calculated in 40 CFR 63.760(a)(1)(i)(A) or (a)(1)(i)(B), the maximum natural gas or hydrocarbon liquid throughput must be recalculated using the higher throughput multiplied by a factor of 1.2.</p> <p>b. The owner or operator shall determine the maximum values for other parameters used to calculate emissions as the maximum for the period over which the maximum natural gas or hydrocarbon liquid throughput is determined in accordance with 40 CFR 63.760(a)(1)(i)(A) or (B). Parameters, other than glycol circulation rate, shall be based on either highest measured values or annual average. For estimating maximum potential emissions from glycol dehydration units, the glycol circulation rate used in the calculation shall be the unit's maximum rate under its physical and operational design consistent with the definition of potential to emit in 40 CFR 63.2.</p> <p>47.2. Any source that determines it is not a major source but has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months.</p>	In Compliance	Records Review
	<p>NESHAP Subpart HH General Standards</p> <p>47.3. Except as specified in Condition 47.4, the owner or operator shall comply with the standards specified in Conditions 47.3.a through 47.3.c.</p> <p>a. Determine the optimum glycol circulation rate using the equation under 40 CFR 63.764(d)(2)(i).</p> <p>b. Operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined in accordance with Condition 47.3.a. If the TEG dehydration unit is unable to meet the sales gas specification for moisture content using the glycol circulation rate determined in accordance with Condition 47.3.a, the owner or operator must calculate an alternate circulation rate using GRIGLYCalc™, Version 3.0 or higher. The owner or operator must document why the TEG dehydration unit must be operated using the alternate circulation rate and submit this documentation with the initial notification in accordance with 40 CFR 63.775(c)(7).</p> <p>c. Maintain a record of the determination specified in Condition 47.3.b in accordance with the requirements in Condition 47.9 and submit the Initial Notification in accordance with the requirements in 40 CFR 63.775(c)(7). If operating conditions change and a modification to the optimum glycol circulation rate is required, the owner or operator shall prepare a new determination in accordance with Condition 47.3.a or 47.3.b and submit the information specified under 40 CFR 63.775(c)(7)(ii) through (v).</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
47	<p>47.4. The owner or operator is exempt from the requirements of Condition 47.3 if the criteria listed in Condition 47.4.a or 47.4.b are met, except that the records of the determination of these criteria must be maintained as required in Condition 47.8.</p> <p>a. The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in Condition 47.6.a; or</p> <p>b. The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in Condition 47.6.b.</p> <p>47.5. At all times the owner or operator 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. 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.</p> <p>NESHAP Subpart HH Test Methods, Compliance Procedures, and Compliance Demonstrations</p> <p>47.6. Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.</p> <p>a. The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either Condition 47.6.a(i) or 47.6.a(ii).</p> <p>(i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.</p> <p>(ii) The owner or operator shall document, to the Administrator's satisfaction, the actual annual average natural gas flowrate to the glycol dehydration unit.</p> <p>b. The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either Condition 47.6.b(i) or 47.6.b(ii). Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.</p> <p>(i) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRIGLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRIGLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or</p> <p>(ii) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in 40 CFR 63.772(a)(1)(i) or (ii), or an alternative method according to 40 CFR 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.</p> <p>NESHAP Subpart HH Recordkeeping Requirements</p> <p>47.7. Each owner or operator of a facility subject to NESHAP Subpart HH shall maintain records as follows:</p> <p>a. The owner or operator of an affected source subject to the provisions of NESHAP Subpart HH shall maintain files of all information (including all reports and notifications) required by NESHAP Subpart HH. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.</p> <p>(i) All applicable records shall be maintained in such a manner that they can be readily accessed.</p> <p>(ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.</p> <p>(iii) The remaining 4 years of records may be retained offsite.</p> <p>(iv) Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.</p>	In Compliance	Records Review
		In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
47	<p>47.8. An owner or operator of a glycol dehydration unit that meets the exemption criteria in Condition 47.4.a or 47.4.b shall maintain the records specified in Condition 47.8.a or 47.8.b, as appropriate, for that glycol dehydration unit.</p> <p>a. The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with Condition 47.6.a, or</p> <p>b. The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with Condition 47.6.b.</p> <p>47.9. The owner or operator of an area source not located within a UA plus offset and UC boundary must keep a record of the calculation used to determine the optimum glycol circulation rate in accordance with Condition 47.3.a or 47.3.b, as applicable.</p> <p>47.10. The owner or operator of an affected source subject to NESHAP Subpart HH shall maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control equipment and monitoring equipment. The owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 47.5, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.</p> <p>NESHAP Subpart HH Reporting Requirements</p> <p>47.11. Notification of process change. Whenever a process change is made, the owner or operator shall submit a report within 180 days after the process change is made. The report shall include:</p> <p>a. A brief description of the process change; and</p> <p>b. A description of any modification to standard procedures or quality assurance procedures.</p> <p>47.12. All reports must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).</p>	In Compliance	Records Review
NESHAP Subpart ZZZZ			
48	<p>NESHAP Subpart ZZZZ Applicability. For EU IDs 6 through 8 and 22, comply with the following applicable requirements of NESHAP Subpart ZZZZ.</p> <p>48.1. For EU ID 22, the Permittee must meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60 Subpart IIII. No further requirements apply for EU ID 22 under Condition 48 and 40 CFR 63.</p>	In Compliance	Records Review
48	<p>NESHAP Subpart ZZZZ Emission Limitations, Operating Limitations, and Other Requirements</p> <p>48.2. For EU IDs 6 through 8,</p> <p>a. You must meet the following requirements, except during periods of startup:</p> <p>(i) Change oil and filter every 1,000 hours of operation or annually, whichever comes first;</p> <p>(ii) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>(iii) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p> <p>b. Sources have 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 Condition 48.2.a(i).</p> <p>c. You must 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.</p> <p>NESHAP Subpart ZZZZ General Requirements</p> <p>48.3. You must be in compliance with the requirements under Condition 48 at all times.</p> <p>48.4. 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.</p> <p>NESHAP Subpart ZZZZ Requirements for Demonstration of Continuous Compliance with Emission Limitations, Operating Limitations, and Other Requirements</p> <p>48.5. You must demonstrate continuous compliance with each requirement in Condition 48.2.a by:</p> <p>a. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or</p> <p>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.</p> <p>NESHAP Subpart ZZZZ Reporting Requirements</p> <p>48.6. You must report each instance in which you did not meet the requirements in Table 8 to NESHAP Subpart ZZZZ that apply to you.</p> <p>48.7. You must report all deviations as defined in NESHAP Subpart ZZZZ in the monitoring report required by Condition 85.</p>	In Compliance	Records Review
		In Compliance	Records Review Field Verification/Interview
		In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
48	NESHAP Subpart ZZZZ Recordkeeping Requirements 48.8. For EU IDs 6 through 8, 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. 48.9. Your records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1). 48.10. 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. 48.11. 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).	In Compliance	Records Review
40 CFR Part 82			
49-51	Protection of Stratospheric Ozone, 40 C.F.R. 82 49. Subpart F – Recycling and Emissions Reduction. Comply with the applicable standards for recycling and emission reduction of refrigerants in 40 CFR 82 Subpart F. 50. Subpart G – Significant New Alternatives. Comply with the applicable prohibitions in 40 CFR 82.174. 51. Subpart H – Halons Emissions Reduction. Comply with the applicable prohibitions in 40 CFR 82.270.	In Compliance	Field Verification/Interview
General NSPS and NESHAP Requirements			
52	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). 52.1. 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).	In Compliance	Records Review
53	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).	N/A	Advisory Provision
54	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).	In Compliance	Records Review
55	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 85 for the period covered by the report, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10. 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.	In Compliance	Records Review
56	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.	In Compliance	Records Review
Section 5. General Conditions			
Standard Terms and Conditions			
57	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.	N/A	Advisory Provision
58	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.	N/A	Advisory Provision
59	The permit does not convey any property rights of any sort, not any exclusive privilege.	N/A	Advisory Provision
60	Administration Fees. The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-403.	In Compliance	Accounting Records Review

Attachment A-1: Compliance Certification

Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
61	<p>Assessable Emissions. The Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The 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 greater than 10 tons per year. The quantity for which fees will be assessed is lesser of</p> <p>61.1. the stationary source's assessable potential to emit of 2,879 TPY; or</p> <p>61.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by</p> <p>a. an enforceable test method described in 18 AAC 50.220;</p> <p>b. material balance calculations;</p> <p>c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or</p> <p>d. other methods and calculations approved by the Department, including appropriate vendor-provided emissions factors when sufficient documentation is provided.</p>	In Compliance	Accounting Records Review
62	<p>Assessable Emission Estimates. Emission fees will be assessed as follows:</p> <p>62.1. 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</p> <p>62.2. 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 61.1.</p>	In Compliance	Records Review
63	<p>Good Air Pollution Control Practice. The Permittee shall do the following for EU IDs 9c and 11 through 13 and Group C heaters and boilers:</p> <p>63.1. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;</p> <p>63.2. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and</p> <p>63.3. keep a copy of either the manufacturer's or the operator's maintenance procedures.</p>	In Compliance	Records Review
64	<p>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.</p>	In Compliance	Field Verification/Interview
65	<p>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.</p> <p>65.1. The Permittee shall keep records of</p> <p>a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and</p> <p>b. any additional precautions that are taken</p> <p>(i) to address complaints described in Condition 65.1.a or to address the results of Department inspections that found potential problems; and</p> <p>(ii) to prevent future dust problems.</p> <p>65.2. The Permittee shall report according to Condition 67.</p>	In Compliance	Field Verification/Interview
66	<p>Stack Injection. The Permittee shall not release materials other than process emissions, products or combustion, or, materials introduced to control pollutant emissions from a stack at a 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.</p>	In Compliance	Field Verification/Interview
67	<p>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.</p> <p>67.1. Monitoring, Recordkeeping, and Reporting for Condition 67:</p> <p>a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 84.</p> <p>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 67.</p> <p>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</p> <p>(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 67; or</p> <p>(ii) the Department notifies the Permittee that it has found a violation of Condition 67.</p> <p>d. The Permittee shall keep records of</p> <p>(i) the date, time, and nature of all emissions complaints received;</p> <p>(ii) the name of the person or persons that complained, if known;</p> <p>(iii) a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 67; and</p> <p>(iv) any corrective actions taken or planned for complaints attributable to emissions from the stationary source.</p>	In Compliance	Records Review Field Verification/Interview

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
67	e. With each stationary source operating report under Condition 85, 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.	In Compliance	Records Review Field Verification/Interview
68	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 standard listed in Condition 26, 27, 42, 43 or 49 (refrigerants), 68.1. take all reasonable steps to minimize levels of emissions that exceed the standard, and 68.2. report in accordance with Condition 84; the report must include information on the steps taken to mitigate emissions and corrective measures taken or to be taken.	In Compliance	Records Review
Open Burning Requirements			
69	Open Burning. If the Permittee conducts open burning at this stationary source, the Permittee shall comply with the requirements of 18 AAC 50.065. 69.1. The Permittee shall keep written records to demonstrate that the Permittee complies with the limitations in this condition and requirements of 18 AAC 50.065. Upon request by the Department, submit copies of the records. 69.2. Compliance with this condition shall be an annual certification conducted under Condition 86.	In Compliance	Field Verification/Interview
Section 6. General Source Testing and Monitoring Requirements			
70	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.	In Compliance	Records Review
71	Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing. 71.1. at a point or points that characterize the actual discharge into the ambient air; and 71.2. at the maximum rated burning or operating capacity of the emission unit or another rate determined by the Department to characterize the actual discharge into the ambient air.	In Compliance	Records Review
72	Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit: 72.1. 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 C.F.R. 60. 72.2. 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 C.F.R. 61. 72.3. 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 C.F.R. 63. 72.4. 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 and may use the form in Section 11 to record data. 72.5. 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 C.F.R. 60, Appendix A. 72.6. Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202. 72.7. Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.	In Compliance	Records Review
73	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 emission unity type, corrected to standard conditions (dry gas at 68°F and an absolute pressure of 760 millimeters of mercury).	N/A	Advisory Provision
74	Test Exemption. Compliance with Conditions 76, 77 and 78 is not required for Method 9 Plan (Condition 3.2) observations.	N/A	Advisory Provision
75	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.	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
76	Test Plans. Except as provided in Condition 74, 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 emission 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 70 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 performed without resubmitting the plan.	In Compliance	Records Review
77	Test Notification. Except as provided in Condition 74, 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.	In Compliance	Records Review
78	Test Reports. Except as provided in Condition 74, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the <i>Source Test Report Outline</i> , adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 81. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.	In Compliance	Records Review
79	Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in Conditions 7 and 33.2, the three-hour average is determined using the average of three one-hour test runs.	In Compliance	Records Review
Section 7. General Recordkeeping and Reporting Requirements			
Recordkeeping Requirements			
80	Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including: 80.1. Copies of all reports and certifications submitted pursuant to this section of the permit; and 80.2. 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.	In Compliance	Records Review
Reporting Requirements			
81	Certification. The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: " <i>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.</i> " 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. 81.1. The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 78.1.a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.	In Compliance	Records Review
82	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. 82.1. 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/ .	In Compliance	Records Review
83	Information Requests. The Permittee shall furnish 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.	In Compliance	Records Review

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
84	<p>Excess Emissions and Permit Deviation Reports.</p> <p>84.1. Except as provided in Condition 67, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:</p> <p>a. In accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report</p> <p>(i) emissions that present a potential threat to human health or safety; and</p> <p>(ii) excess emissions that the Permittee believes to be unavoidable;</p> <p>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;</p>	In Compliance	Records Review
84	<p>c. Report all other excess emissions and permit deviations</p> <p>(i) within 30 days after the end of the month during which the emissions or deviation occurred, except as provided in Condition 84.1.c(iii); or</p> <p>(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 84.1.c(i); and</p> <p>(iii) for failure to monitor, as required in other applicable conditions of this permit.</p>	In Compliance	Records Review
	<p>84.2. 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.</p> <p>84.3. If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.</p>	In Compliance	Records Review
85	<p>Operating Reports. During the life of this permit, the Permittee shall submit to the Department an original and one copy of an operating report by May 15 for the period January 1 to March 31, by August 15 for the period April 1 to June 30, by November 15 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31 of the previous year.</p> <p>85.1. 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.</p> <p>85.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 85.1, the Permittee shall identify</p> <p>a. the date of the deviation;</p> <p>b. the equipment involved;</p> <p>c. the permit condition affected;</p> <p>d. a description of the excess emissions or permit deviation; and</p> <p>e. any corrective action or preventive measures taken and the date(s) of such actions; or</p> <p>85.3. when excess emissions or permit deviations have already been reported under Condition 84 the Permittee shall cite the date or dates of those reports.</p> <p>85.4. The operating report must include, for the period covered by the report, a listing of emissions monitored under Conditions 3.2.e and 42.3.a(ii) which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report.</p> <p>a. the date of the emissions;</p> <p>b. the equipment involved;</p> <p>c. the permit condition affected; and</p> <p>d. the monitoring result which triggered the additional monitoring.</p> <p>85.5. 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.</p>	In Compliance	Records Review
86	<p>Annual Compliance Certification. Each year by March 31, the Permittee shall compile and submit to the Department an original and one copy of an annual compliance certification report.</p> <p>86.1. Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:</p> <p>a. identify each term or condition set forth in Section 3 through Section 9, that is the basis of the certification;</p> <p>b. briefly describe each method used to determine the compliance status;</p> <p>c. state whether compliance is intermittent or continuous; and</p> <p>d. identify each deviation and take it into account in the compliance certification;</p> <p>86.2. 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.</p> <p>86.3. In addition, submit a copy of the report directly to the US EPA Region 10, ATTN: Air Toxics and Enforcement Section, Mail Stop: 20-C04, 1200 Sixth Avenue, Suite 155, Seattle, WA 98101-3188.</p>	In Compliance	Records Review

Attachment A-1: Compliance Certification

Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
87	<p>Emissions 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:</p> <p>87.1. Each year by April 30, if the stationary source's potential to emit for the previous calendar year equals or exceeds:</p> <ul style="list-style-type: none"> a. 250 tpy of NH₃, PM₁₀, PM_{2.5} or VOCs; or b. 2,500 tpy of CO, NO_x or SO₂. <p>87.2. 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:</p> <ul style="list-style-type: none"> 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. <p>87.3. For reporting under Condition 87.2, 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.</p> <p>87.4. 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.</p>	In Compliance	Records Review
Section 8. Permit Changes and Renewal			
88	<p>Permit Applications and Submittals. Comply with the following requirements for submitting application information to the US Environmental Protection Agency (EPA):</p> <p>88.1. 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;</p> <p>88.2. 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.</p> <p>88.3. 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</p> <p>88.4. Maintain records as necessary to demonstrate compliance with this condition.</p>	In Compliance	Records Review
89	<p>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.</p>	N/A	Advisory Provision
90	<p>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:</p> <p>90.1. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;</p> <p>90.2. 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;</p> <p>90.3. The change shall not qualify for the shield under 40 CFR 71.6(f);</p> <p>90.4. 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.</p>	In Compliance	Records Review
91	<p>Operational Flexibility. CAA Section 502(b)(10) 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.</p> <p>91.1. For each such change, the notification required by Condition 91 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.</p> <p>91.2. The permit shield described in 40 CFR 71.6(f) shall not apply to any change made pursuant to Condition 91.</p>	In Compliance	Records Review
92	<p>Permit Renewal. To renew this permit, the Permittee shall submit to the Department an application under 18 AAC 50.326 no sooner than December 10, 2023 and no later than December 10, 2024. 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).</p>	In Compliance	Records Review
Section 9. Compliance Requirements			
93	<p>Compliance with permit terms and conditions is considered to be compliance with those requirements that are</p> <p>93.1. included and specifically identified in the permit; or</p> <p>93.2. determined in writing in the permit to be inapplicable.</p>	N/A	Advisory Provision

Attachment A-1: Compliance Certification
Northstar Production Facility -- Operating Permit No. AQ0503TVP03
Title V Renewal Application

Permit Condition		Compliance Status	Method Used to Determine Status
No.	Summary/Description		[40 CFR 71.5(c)(9)]
94	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 94.1. an enforcement action; 94.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or 94.3. denial of an operating permit renewal application.	N/A	Advisory Provision
95	For applicable requirements with which the stationary source is in compliance, the Permittee shall continue to comply with such requirements.	N/A	Advisory Provision
96	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.	N/A	Advisory Provision
97	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 97.1. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept; 97.2. have access to and copy any records required by the permit; 97.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and 97.4. sample or monitor substance or parameters to assure compliance with the permit or other applicable requirements.	In Compliance	Field Verification/Interview
98	For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.	N/A	Advisory Provision



Section B

Emission Units

Form B:	Emission Unit Listing for This Application
Form B1:	Emission Unit Detail Form – External Combustion Equipment
Form B2:	Emission Unit Detail Form – Internal Combustion Equipment
Form B3:	Emission Unit Detail Form – Incinerators
Form B4:	Emission Unit Detail Form – Volatile Liquid Storage Tanks
Form B5:	Emission Unit Detail Form – Miscellaneous Emission Units

FORM B
Emission Unit Listing For This Application

Permit Number: AQ0503TVP03

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)					
24	Produced Water Surge Tank (T-3020)	Storage Tank	1,000 barrels	Startup 2001	Move from insignificant list to Table A of the permit; units are subject to BACT under Condition 29.1c.
25	Well Cleanout Tank (T-6140)	Storage Tank	500 barrels	Startup 2001	
Emission Units To Be MODIFIED By This Application					
9c	Incinerator	ACS CA0300	2.8 MMBtu/hr (Fuel Gas) 360 lb/hr (Waste)	Startup February 2015	Update emissions unit description to remove stack information.
11 & 12	High Pressure (HP) Flare and Low Pressure (LP) Flare	Corona (Pilot, Purge, Produced Gas)	25.5 MMscf/hr	Startup 10/6/2001	Update rating based on the limit in Table C of the permit which is for both units, combined.
19	Diesel Storage Tank	Storage Tank	2,800 barrels	Startup 2001	Move from Table A of the permit to the insignificant list.
20	TEG Storage Tank	Storage Tank	250 barrels	Startup 2001	
21	Corrosion Inhibitor Tank	Storage Tank	250 barrels	Startup 2001	
23	TEG Dehydration Unit	Dehydrator	600 MMscf/day	Startup 2001	Update emissions unit description.
--	Group B-Crane	Unknown	250 hp	Startup 9/22/2007	Update rating based on the limit in Table C of the permit.
Emission Units To Be DELETED By This Application					

FORM B
Emission Unit Listing For This Application

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
Group A – Stationary Emissions Units				
1	Turbine (Compressor)	GE LM2500	32,715 hp	Startup 10/24/2001
2	Turbine (Compressor)	GE LM2500	32,715 hp	Startup 2/08/2002
3	Turbine (Generator)	Solar Mars 90	11,892 kW	Startup 10/9/2001
4	Turbine (Generator)	Solar Mars 90	11,892 kW	Startup 10/6/2001
5	Turbine (Generator)	Solar Mars 90	11,892 kW	Startup 10/1/2001
6	Diesel Engine (Generator)	Cummins QSK 60-G6	2,180 kW	Startup 2002
7	Diesel Engine (Generator)	Cummins QSK 60-G6	2,180 kW	Startup 2002
8	Firewater Pump Engine	Cummins KTA19	755 hp	Startup 2000
13	Glycol Reboiler	Natco	5.0 MMBtu/hr	Startup 10/7/2001
16	Space Heater, Warehouse	James P. Sheldon Co. Inc.	0.70 MMBtu/hr	Startup 2001
17	Space Heater, Warehouse	James P. Sheldon Co. Inc.	1.075 MMBtu/hr	Startup 2001
18	Space Heater, Warehouse	James P. Sheldon Co. Inc.	1.082 MMBtu/hr	Startup 2001
22	Firewater Pump	Cummins 1760	160 hp	Startup 7/20/2012
Group B – Portable Equipment				
--	Snow Melters	Unknown	10.0 MMBtu/hr	Various
--	Heaters	Various	3.0 MMBtu/hr	09/20/2006 & 09/10/2006
Group C – Intermittent Well Servicing Equipment				
--	IC Engines 400-600 hp	Various	1,675 hp	Various
--	IC Engines >600 hp	Various	1,475 hp	Various
--	Heaters and Boilers	Various	21.5 MMBtu/hr	Various
--	Turbines	Various	6,200 bhp	Various

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
19	Diesel Storage Tank	2,800 barrels	Startup 2001	18 AAC 50.326(e) – potentials < rates - NSPS K, Ka – not a petroleum liquid - NSPS Kb – maximum true vapor pressure < 3.5 kPa - NSPS Kc – constructed before 10/4/2023
20	TEG Storage Tank	250 barrels	Startup 2001	
21	Corrosion Inhibitor Tank	250 barrels	Startup 2001	
T-S3-8207	Diesel Day Tank, for EU ID 6	400 gallons	Unknown	18 AAC 50.326(e) – potentials < rates - NSPS K, Ka – not a petroleum liquid - NSPS Kb – < 19,800 gallons - NSPS Kc – constructed before 10/4/2023
T-9208	Diesel Day Tank, for EU ID 22	3,000 gallons	Unknown	
N/A	Hector’s Welding Fuel Tank	400 gallons	Unknown	
T-4008	Methanol Storage Tank	6,340 gallons	Unknown	
T-4001	Corrosion Inhibitor Tank	5,292 gallons	Unknown	
T-4002	Corrosion Inhibitor Tank	5,592 gallons	Unknown	
T-4003	Corrosion Inhibitor Tank	5,547 gallons	Unknown	
T-4004	Corrosion Inhibitor Tank	5,547 gallons	Unknown	
T-4005	Corrosion Inhibitor Tank	5,548 gallons	Unknown	
T-4006	Corrosion Inhibitor Tank	6,340 gallons	Unknown	
T-4007	Corrosion Inhibitor Tank	6,340 gallons	Unknown	

FORM B2

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 1 & 2 // Base Scenario
2.	Date installation/construction commenced ¹	Startup dates: 10/24/2001 & 2/8/2002
3.	Date installed	
4.	Emission Unit serial number	Not Available (N-GT-2325A & N-GT-2325B)
5.	Special control requirements? [if yes, describe]	Dry Low NO _x Combustion Technology (inherent to design of the turbine)
6.	Manufacturer and model number	GE LM2500
7.	Type of combustion device	Turbine (Compressor)
8.	Rated design capacity (horsepower rating for engines)	32,715 hp, each
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)
Fuel Gas	Approximately 148 Mscf/hr, each

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.1.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.5.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 16 through 18.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on units.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 35.1 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the 12-month rolling NO _x emissions limit of 234 tons (combined) for EU IDs 1 and 2.	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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
AQ0503TVP03 - Conditions 26.1b & 26.2a	AQ0503CPT07 Rev. 1, Conditions 16.1b & 16.2a	Nitrogen Oxides (NO _x) BACT	Operate unit with dry low NO _x combustion technology and comply with the NO _x emissions limits: - 25 ppmv @ 15% O ₂ and 24.3 lb/hr per unit, expressed as NO ₂ at 0°F or greater; and - 43 lb/hr per unit, expressed as NO ₂ , at less than 0°F.	Yes.	Monitor, record, and report in accordance with Conditions 26.3b and 26.4.
AQ0503TVP03 - Condition 27.2a	AQ0503CPT07 Rev. 1, Condition 17.1a	Carbon Monoxide (CO) BACT	Comply with the CO emissions limits: - 25 ppmv @ 15% O ₂ and 14.8 lb/hr at 0°F or greater; - 38 lb/hr per unit at less than 0°F; and - a cumulative total of 143 tons per 12-month rolling period.	Yes.	Monitor, record, and report as required in Conditions 27.3b and 27.3d, 27.3e, 27.4, and 27.6b.
AQ0503TVP03 - Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 - Conditions 30.1a & 30.2	AQ0503CPT07 Rev. 1, Conditions 20.1a & 20.2	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	- Operate with good operating practices. - Do not exceed 10 percent opacity for greater than three minutes in any one hour; and comply with the visible emissions and particulate matter standards listed in Conditions 1 and 7.	Yes.	Monitor, record, and report as required in Conditions 1.1, 7.5, and 30.3.
AQ0503TVP03 - Condition 35	40 CFR 60.7(b), Subpart A	NSPS Subpart A Startup, Shutdown, & Malfunction Requirements	Maintain records of the occurrence and duration of any start-up, shutdown, or malfunction.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 36 & 37	40 CFR 60.7(c) & (d), Subpart A	NSPS Subpart A Excess Emissions and Monitoring Systems Performance / Summary Report	Submit an excess emissions and monitoring systems performance report and/or summary report form to the Administrator semiannually.	Yes.	Submit reports in accordance with Conditions 36.1 through 36.4, 37.1, and 37.2.

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
AQ0503TVP03 – Condition 38	40 CFR 60.8(a), Subpart A	NSPS Subpart A Performance (Source) Tests	Conduct source tests as required and provide a written report.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 39	40 CFR 60.11(d), Subpart A	NSPS Subpart A Good Air Pollution Control Practices	At all times, including periods of startup, shutdown, and malfunction, maintain and operate units in a manner consistent with good air pollution control practice for minimizing emissions.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 40	40 CFR 60.11(g), Subpart A	NSPS Subpart A Credible Evidence	For submitting compliance certifications or establishing a violation, nothing in 40 CFR 60 shall preclude the use of any credible evidence or information relevant to whether units would have been in compliance if the appropriate test or procedure had been performed.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 41	40 CFR 60.12, Subpart A	NSPS Subpart A Concealment of Emissions	Do not build, erect, install, or use any article, machine, equipment, or process that conceals emissions.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 42.1	40 CFR 60.332(a)(2) & (d), Subpart GG	NSPS Subpart GG NO _x Standard	Do not allow the exhaust gas concentration of NO _x to exceed 220 ppmv @ 15% O ₂ dry exhaust basis.	Yes.	Monitor, record, and report in accordance with Conditions 42.3 through 42.5.
AQ0503TVP03 – Condition 42.6	40 CFR 60.333, Subpart GG	NSPS Subpart GG Sulfur Standard	Do not burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 wt%S _{fuel} (8000 ppmw).	Yes.	Monitor, record, and report in accordance with Condition 42.7.

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, 60.332(a)(1)	EU IDs 1 and 2 are not Electric Utility Gas Turbines as defined in Subpart GG.
40 CFR 60 Subpart GG, 60.334(a), (b), & (d)	EU IDs 1 and 2 do not use water or steam injection.
40 CFR 60 Subpart GG, 60.334(e), (f)	EU IDs 1 and 2 were not constructed after July 8, 2004.
40 CFR 60 Subpart GG, 60.334(h)(2)	Hilcorp has not claimed an allowance for fuel bound nitrogen to calculate the applicable NO _x emission limit under 40 CFR 60.332.
40 CFR 60 Subpart KKKK	Construction, modification, or reconstruction of EU IDs 1 and 2 commenced prior to the applicability date of February 18, 2005.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 3, 4, & 5 // Base Scenario
2.	Date installation/construction commenced ¹	Startup dates: 10/9/2001, 10/6/2001, & 10/1/2001
3.	Date installed	
4.	Emission Unit serial number	Not Available (N-GN-4020A, N-GN-4020B, N-GN-4020C)
5.	Special control requirements? [if yes, describe]	SoLoNO _x Dry Low NO _x Combustion Technology (inherent to design of the turbine)
6.	Manufacturer and model number	Solar Mars 90
7.	Type of combustion device	Turbine (Generator)
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	11,892 kW, each

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)
Fuel Gas	Approximately 117 Mscf/hr, each

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.1.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.5.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 16 through 18.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on units.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 35.1 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv at any time.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, 18.2.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the 12-month rolling NO _x emissions limit of 249 tons (combined) for EU IDs 3 through 5.	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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
AQ0503TVP03 - Conditions 26.1c & 26.2b	AQ0503CPT07 Rev. 1, Conditions 16.1c & 16.2b	Nitrogen Oxides (NO _x) BACT	Operate with SoloNOx dry low NOx combustion technology and comply with the NOx emissions limits: - 42 ppmv @ 15% O ₂ and 21.7 lb/hr per unit, expressed as NO ₂ at 0°F or greater; and - 83.4 lb/hr per unit, expressed as NO ₂ , at less than 0°F or when not operating in low emissions operation.	Yes.	Monitor, record, and report in accordance with Conditions 26.3 and 26.4.
AQ0503TVP03 - Condition 27.2b	AQ0503CPT07 Rev. 1, Condition 17.2b	Carbon Monoxide (CO) BACT	Comply with the CO emissions limits: - 50 ppmv @ 15% O ₂ and 15.7 lb/hr per unit at 0°F or greater; - 37.1 lb/hr per unit in low emissions operation and less than 0°F; - 367 lb/hr per unit when not operating in low emissions operations; and - a cumulative total of 3,000 hours when not operating in low emissions operation per 12-month rolling period. If CO emissions exceed a cumulative total of 504 tons per 12-month rolling period, submit a current best BACT reassessment within 90 days of discovery.	Yes.	Monitor, record, and report as required in Conditions 27.3a, 27.3d, 27.3e, 27.4, 27.5, and 27.6.
AQ0503TVP03 - Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 - Conditions 30.1a & 30.2	AQ0503CPT07 Rev. 1, Conditions 20.1a & 20.2	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	- Operate with good operating practices. - Do not exceed 10 percent opacity for greater than three minutes in any one hour; and comply with the visible emissions and particulate matter standards listed in Conditions 1 and 7.	Yes.	Monitor, record, and report as required in Conditions 1.1, 7.5, and 30.3.

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
AQ0503TVP03 - Condition 35	40 CFR 60.7(b), Subpart A	NSPS Subpart A Startup, Shutdown, & Malfunction Requirements	Maintain records of the occurrence and duration of any start-up, shutdown, or malfunction.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 36 & 37	40 CFR 60.7(c) & (d), Subpart A	NSPS Subpart A Excess Emissions and Monitoring Systems Performance / Summary Report	Submit an excess emissions and monitoring systems performance report and/or summary report form to the Administrator semiannually.	Yes.	Submit reports in accordance with Conditions 36.1 through 36.4, 37.1, and 37.2.
AQ0503TVP03 - Condition 38	40 CFR 60.8(a), Subpart A	NSPS Subpart A Performance (Source) Tests	Conduct source tests as required and provide a written report.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 39	40 CFR 60.11(d), Subpart A	NSPS Subpart A Good Air Pollution Control Practices	At all times, including periods of startup, shutdown, and malfunction, maintain and operate units in a manner consistent with good air pollution control practice for minimizing emissions.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 40	40 CFR 60.11(g), Subpart A	NSPS Subpart A Credible Evidence	For submitting compliance certifications or establishing a violation, nothing in 40 CFR 60 shall preclude the use of any credible evidence or information relevant to whether units would have been in compliance if the appropriate test or procedure had been performed.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 41	40 CFR 60.12, Subpart A	NSPS Subpart A Concealment of Emissions	Do not build, erect, install, or use any article, machine, equipment, or process that conceals emissions.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 42.1	40 CFR 60.332(a)(2) & (d), Subpart GG	NSPS Subpart GG NO _x Standard	Do not allow the exhaust gas concentration of NO _x to exceed 172 ppmv @ 15% O ₂ dry exhaust basis.	Yes.	Monitor, record, and report in accordance with Conditions 42.2 through 42.5.

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
AQ0503TVP03 -Condition 42.6	40 CFR 60.333, Subpart GG	NSPS Subpart GG Sulfur Standard	Do not burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 wt% _{fuel} (8000 ppmw).	Yes.	Monitor, record, and report in accordance with Condition 42.7.

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, 60.332(a)(1)	EU IDs 3 through 5 are not an Electric Utility Gas Turbine as defined in Subpart GG.
40 CFR 60 Subpart GG, 60.334(a), (b), & (d)	EU IDs 3 through 5 do not use water or steam injection.
40 CFR 60 Subpart GG, 60.334(e), (f)	EU ID 3 through 5 were not constructed after July 8, 2004.
40 CFR 60 Subpart GG, 60.334(h)(2)	Hilcorp has not claimed an allowance for fuel bound nitrogen to calculate the applicable NO _x emission limit under 40 CFR 60.332.
40 CFR 60 Subpart KKKK	Construction, modification, or reconstruction of EU IDs 3 through 5 commenced prior to the applicability date of February 18, 2005.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 6 & 7 // Base Scenario
2.	Date installation/construction commenced ¹	Startup date: 2002
3.	Date installed	
4.	Emission Unit serial number	Not Available (N-GN-8001A, N-GN-8001B)
5.	Special control requirements? [if yes, describe]	Variable Fuel Injection Timing Retard (inherent to the design of the engine)
6.	Manufacturer and model number	Cummins QSK 60-G6
7.	Type of combustion device	Generator Engine
8.	Rated design capacity (horsepower rating for engines)	N/A
9.	Rated design capacity (heat input, MMBtu/hr rating for turbines)	N/A
10.	If used for power generation, electrical output (kW)	2,180 kW, each

- 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 149 gal/hour, each

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.2.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.1.
AQ0503TVP03 – Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 35.0 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Burn diesel fuel with no more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 – Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the 12-month rolling operation limit of 1,000 hours (combined).	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.
AQ0503TVP03 – Conditions 26.1a & 26.2c	AQ0503CPT07 Rev. 1, Conditions 16.1a & 16.2c	Nitrogen Oxides (NOx) BACT	Operate with variable injection timing retard as incorporated by the manufacturer. NO _x emissions shall not exceed 13 g/kWh.	Yes.	Monitor, record, and report in accordance with Conditions 26.3b and 26.4.

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
AQ0503TVP03 -Condition 27.2c	AQ0503CPT07 Rev. 1, Condition 17.2c	Carbon Monoxide (CO) BACT	Comply with the CO emissions limit: 13.2 lb/hr, per unit.	Yes.	Monitor, record, and report in accordance with Conditions 27.3d(ii), 27.3e and 27.4.
AQ0503TVP03 -Condition 28.2a	AQ0503CPT07 Rev. 1, Condition 18.2a	Sulfur Dioxide (SO ₂) BACT	The sulfur content of diesel fuel should not exceed 0.1 percent by weight.	Yes.	Monitor, record, and report as required in Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 - Conditions 30.1a & 30.2b	AQ0503CPT07 Rev. 1, Conditions 20.1a & 20.2b	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	<ul style="list-style-type: none"> - Operate with good operating practices. - Comply with the visible emissions and particulate matter standards listed in Conditions 1 and 7. 	Yes.	Monitor, record, and report as required in Conditions 1.2 and 7.1.
AQ0503TVP03 - Condition 46	40 CFR 63.6665 & Table 8, Subpart ZZZZ	NESHAP Subpart A General Requirements	Comply with the applicable requirements of Subpart A in accordance with the provisions for applicability in Subpart ZZZZ, Table 8.	Yes.	Annual Compliance Audit.
AQ0503TVP03 -Condition 48.2a & b	40 CFR 63.6603(b) & Table 2d, Item 1, Subpart ZZZZ	NESHAP Subpart ZZZZ Work and Management Practices Standards	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 replace as necessary; and inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. Sources have the option to utilize an oil analysis program to extend the oil change requirement.	Yes.	Record, and report in accordance with 48.6 through 48.11. <i>Regulation change – please capture the new requirement for oil changes to be within 1 year + 30 days instead of annually.</i>
AQ0503TVP03 - Condition 48.2c	40 CFR 63.6625(h) & Table 2d, Subpart ZZZZ	NESHAPs Subpart ZZZZ Operation Requirements	Minimize the engine's time spent at idle during startup and the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.	Yes.	Annual Compliance Audit.

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
AQ0503TVP03 -Condition 48.4	40 CFR 63.6605(b), Subpart ZZZZ	NESHAP's Subpart ZZZZ Good Air Pollution Control Practices	At all times operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Yes.	Annual Compliance Audit.
AQ0503TVP03 -Condition 48.5	40 CFR 63.6625(e)(4), 63.6640(a) & Table 6 Item 9, Subpart ZZZZ	NESHAP's Subpart ZZZZ Operation and Maintenance Requirements	Operate and maintain the stationary RICE and after-treatment control device according to either the manufacturer's emission-related written instructions or a maintenance plan.	Yes.	Record, and report in accordance with 48.6 through 48.11.

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	EU IDs 6 and 7 commenced construction, modification, or reconstruction prior to the applicability date of July 11, 2005.
40 CFR 63 Subpart ZZZZ, 63.6600, 63.6601, 63.6602, 63.6610, 63.6611, 63.6625(d), 63.6645(b)-(f), operating limits under Table 2b per 63.6603(a)	Northstar Production Facility is not a major source of HAPs emissions. EU IDs 6 and 7 are not subject to any numerical emission standards.
40 CFR 63 Subpart ZZZZ, 63.6604, 63.6612, 63.6615, 63.6620, 63.6625(g), 63.6630, 63.6635, 63.6640(b) & (d), 63.6650(a)-(e), 63.6655(a) & (d), Table 2d, Item 3	Northstar Production Facility is not accessible by the FAHS. Per 40 CFR 63.6603(b), EU IDs 6 and 7 are not subject to numerical CO emission limitations but must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 hp in Table 2d.
40 CFR 63 Subpart ZZZZ, 63.6625(a)-(c) & (f), 63.6640(f), 63.6650(g) & (h), 63.6655(b), (c) & (f)	EU IDs 6 and 7 are not emergency engines. EU IDs 6 and 7 are subject only to maintenance practices and need not perform monitoring or performance tests, nor use CEMS or CPMS. Northstar Production Facility does not use landfill/digester gas.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 8 // Base Scenario
2.	Date installation/construction commenced ¹	Startup date: 2000
3.	Date installed	
4.	Emission Unit serial number	Not Available (N-P-9101)
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Cummins KTA19
7.	Type of combustion device	Firewater Pump
8.	Rated design capacity (horsepower rating for engines)	755 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 39 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.2.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.1.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 17.3 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Do not burn diesel fuel with more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the 12-month rolling operation limit of 104 hours.	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.
AQ0503TVP03 - Condition 27.2d	AQ0503CPT07 Rev. 1, Condition 17.2d	Carbon Monoxide (CO) BACT	Comply with the not-to-exceed CO emissions limit of 6.4 lb/hr.	Yes.	Monitor and record in accordance with Conditions 27.3d(ii), 27.3e, and 27.4.

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
AQ0503TVP03 - Condition 28.2a	AQ0503CPT07 Rev. 1, Condition 18.2a	Sulfur Dioxide (SO ₂) BACT	The sulfur content of diesel fuel should not exceed 0.1 percent by weight.	Yes.	Monitor, record, and report as required in Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 - Conditions 30.1a & 30.2b	AQ0503CPT07 Rev. 1, Conditions 20.1a & 20.2b	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	<ul style="list-style-type: none"> - Operate with good operating practices. - Comply with the visible emissions and particulate matter standards listed in Conditions 1 and 7. 	Yes.	Monitor, record, and report as required in Conditions 1.2 and 7.1.
AQ0503TVP03 - Condition 46	40 CFR 63.6665 & Table 8, Subpart ZZZZ	NESHAP Subpart A General Requirements	Comply with the applicable requirements of Subpart A in accordance with the provisions for applicability in Subpart ZZZZ, Table 8.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Conditions 48.2a & b	40 CFR 63.6603(b) & Table 2d, Item 1, Subpart ZZZZ	NESHAP Subpart ZZZZ Work and Management Practices Standards	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 replace as necessary; and inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. Sources have the option to utilize an oil analysis program to extend the oil change requirement.	Yes.	Record, and report in accordance with 48.6 through 48.11. <i>Regulation change – please capture the new requirement for oil changes to be within 1 year + 30 days instead of annually.</i>
AQ0503TVP03 - Condition 48.2c	40 CFR 63.6625(h) & Table 2d, Subpart ZZZZ	NESHAPs Subpart ZZZZ Operation Requirements	Minimize the engine's time spent at idle during startup and the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 48.4	40 CFR 63.6605(b), Subpart ZZZZ	NESHAPs Subpart ZZZZ Good Air Pollution Control Practices	At all times operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Yes.	Annual Compliance Audit.

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
AQ0503TVP03 -Condition 48.5	40 CFR 63.6625(e)(4), 63.6640(a) & Table 6 Item 9, Subpart ZZZZ	NESHAP's Subpart ZZZZ Operation and Maintenance Requirements	Operate and maintain the stationary RICE and after-treatment control device according to either the manufacturer's emission-related written instructions or a maintenance plan.	Yes.	Record, and report in accordance with 48.6 through 48.11.

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	EU ID 8 commenced construction, modification, or reconstruction prior to the applicability date of July 11, 2005.
40 CFR Part 63 Subpart ZZZZ, 63.6600, 63.6601, 63.6602, 63.6610, 63.6611, 63.6625(d), 63.6645(b)-(f), operating limits under Table 2b per 63.6603(a)	Northstar Production Facility is not a major source of HAPs emissions. EU ID 8 is not subject to any numerical emission standards.
40 CFR Part 63 Subpart ZZZZ, 63.6604, 63.6612, 63.6615, 63.6620, 63.6625(g), 63.6630, 63.6635, 63.6640(b) & (d), 63.6650(a)-(e), 63.6655(a) & (d), Table 2d, Item 3	Northstar Production Facility is not accessible by the FAHS. Per 40 CFR 63.6603(b), EU ID 8 is not subject to numerical CO emission limitations but must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 hp in Table 2d.
40 CFR Part 63 Subpart ZZZZ, 63.6625(a)-(c) & (f), 63.6640(f), 63.6650(g) & (h), 63.6655(b), (c) & (f)	EU ID 8 is subject only to maintenance practices and need not perform monitoring or performance tests, nor use CEMS or CPMS. Northstar Production Facility does not use landfill/digester gas.

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 B3
Emission Unit Detail Form - Incinerators

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 9c // Base Scenario
2.	Date installation/construction commenced ¹	2007
3.	Date installed	Startup date: February 2015
4.	Emission Unit serial number	Not Available (N-INC-8610)
5.	Special control requirements? [if yes, describe]	Secondary Combustion Chamber (inherent to design of the incinerator)
6.	Manufacturer	Advanced Combustion Systems, Inc.
7.	Waste classification	Solid
8.	Type of incinerator	Standard Vertical Secondary Chamber
9.	Charge information:	
	batch or continuous	Batch
	charge method	Manual
	charge measurement method	Weighed
10.	Primary combustion chamber information:	
	temperature (°F)	1400 °F
	rated heat input (MMBtu/hr)	1.2 MMBtu/hr
	type/grade fuel(s)	Fuel Gas
11.	Secondary combustion chamber information:	
	temperature (°F)	1800 °F
	gas residency time [attach calculations]	
	rated heat input (MMBtu/hr)	1.6 MMBtu/hr
	type/grade fuel(s)	Fuel Gas
12.	Automatically controlled auxiliary burners?	Yes
13.	Interlock system to control charging?	No
14.	Air lock system?	No
15.	Waste heat boiler?	No
16.	Maximum flue gas outlet temperature (°F)	890 °F
17.	Rated capacity (tons material /day)	4.32 tons/day (360 lb/hr)
18.	Emergency bypass stack?	No
19.	Incinerator design efficiency (%) [attach calculations]	Unknown

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.

FORM B3
Emission Unit Detail Form - Incinerators

20. Incinerated materials:

Material	Origin of material	Weight percentage (%)	Heating value (Btu/lb)
Municipal Solid Waste	Onsite	TBD	9.95 MMBtu/ton
Industrial Waste	Onsite	TBD	9.95 MMBtu/ton
Fuel Gas	Field	TBD	1,210 Btu/scf

21. Attach diagram.

N/A

22. Attach energy balance equations for the materials incinerated.

N/A

FORM B3
Emission Unit Detail Form - Incinerators

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
AQ0503TVP03 - Condition 2	18 AAC 50.050(a)	Visible Emissions Standard	Do not cause or allow VE, excluding condensed water vapor, from unit to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Conditions 2.1 through 2.3.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 19.8 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv at any time.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, 18.2.
AQ0503TVP03 - Condition 27.1a	AQ0503CPT07 Rev. 1, Condition 17.1a	Carbon Monoxide (CO) BACT	Install and operate unit with a secondary combustion chamber.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 - Condition 29.1a	AQ0503CPT07 Rev. 1, Condition 19.1a	Volatile Organic Compounds (VOC) BACT	Install and operate unit with a secondary combustion chamber.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Conditions 30.1a & b & 30.2b	AQ0503CPT07 Rev. 1, Conditions 20.1a & b & 20.2b	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	<ul style="list-style-type: none"> - Operate with good operating practices. - Install and operate unit with a secondary combustion chamber. - Comply with the visible emissions standard listed in Condition 2. 	Yes.	Annual Compliance Audit.

FORM B3
Emission Unit Detail Form - Incinerators

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
AQ0503TVP03 – Condition 63	18 AAC 50.346(b)(5)	Good Air Pollution Control Practices	Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures; keep records of any maintenance that would have a significant effect on emissions; and keep a copy of either the manufacturer's or the operator's maintenance procedures.	Yes.	Annual Compliance Audit.

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

FORM B3
Emission Unit Detail Form - Incinerators

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 E, Ea, & Eb	EU ID 9c has a charging rate of less than 50 tons per day.
40 CFR 60 Subpart Ec	EU ID 9c does not combust hospital/medical/infectious waste.
40 CFR 60 Subpart O	EU ID 9c does not combust sewage sludge.
40 CFR 60 Subpart AAAA	EU ID 9c has a charging rate of less than 35 tons per day.
40 CFR 60 Subpart CCCC	EU ID 9c did not commence construction after June 4, 2010 and did not commence reconstruction or modification after August 7, 2013.
40 CFR 60 Subpart EEEE	EU ID 9c is excluded from the subpart as a commercial and industrial solid waste incineration unit per 40 CFR 60.2887(d).
40 CFR 61 Subpart E	EU ID 9c does not process mercury ore, use mercury chlor-alkali cells, or incinerate or dry wastewater treatment plant sludge.
40 CFR 62 Subpart FFF	EU ID 9c has a charging rate of less than 250 tons per day.
40 CFR 62 Subpart III	EU ID 9c commenced construction after November 30, 1999.
40 CFR 62 Subpart JJJ	EU ID 9c has a charging rate of less than 35 tons per day.
18 AAC 50.050(b)	EU ID 9c has a charging rate of less than 1,000 pounds per hour and does not combust wastewater treatment plant sludge.

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 B5
Emission Unit Detail Form - Miscellaneous Emission Units

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 11 & 12 // Base Scenario
2.	Date installation/construction commenced	Startup date: 10/6/2001
3.	Date installed	
4.	Emission Unit serial number	Not Available
5.	Special control requirements? [if yes, describe]	Air-Assist or Sonic Design and Smokeless Technology (inherent to design of flare)
6.	Description of process: EU ID 11 - Corona High Pressure (HP) flare EU ID 12 - Corona Low Pressure (LP) flare	
7.	Continuous or batch process? [if batch, maximum batches per hour]	Continuous

8. Raw material usage: [for EACH raw material used, enter]:

Material	Maximum design capacity (lbs/batch or lbs/hr)
Fuel Gas	25.5 MMscf/hr, combined

9. Production data: [for EACH product, enter]:

Product	Maximum design capacity (lbs/batch or lbs/hr)
N/A	N/A

10. Attach any additional information necessary to describe this process and its operating and usage parameters, both short-term and annual.

FORM B5

Emission Unit Detail Form - Miscellaneous Emission Units

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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Conditions 1.5.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.4.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	The Permittee shall not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 16 through 18.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on units.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv at any time.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits, combined: - 25.5 MMscf/hr - 200.5 MMscf/day - 1,332 MMscf per 12-months rolling	Yes.	Monitor, record, and report as required in Conditions 24 and 25.
AQ0503TVP03 - Conditions 27.1b & 27.2e	AQ0503CPT07 Rev. 1, Conditions 17.1b & 17.2f	Carbon Monoxide (CO) BACT	Install and operate with air-assist or sonic design and smokeless flare technology and comply with the following CO emissions limit: 0.37 lb/MMBtu.	Yes.	Monitor in accordance with Condition 27.3c.

FORM B5
Emission Unit Detail Form - Miscellaneous Emission Units

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
AQ0503TVP03 - Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 - Condition 29.1b	AQ0503CPT07 Rev. 1, Condition 19.1b	Volatile Organic Compounds (VOC) BACT	Install and operate units with air-assist or sonic design and smokeless flare technology.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Conditions 30.1a & c & 30.2b	AQ0503CPT07 Revision 1, Conditions 20.1a & c & 20.2b	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	<ul style="list-style-type: none"> - Operate with good operating practices. - Install and operate as BACT with air-assist or sonic design and smokeless flare technology. - Comply with the visible emissions and particulate matter standards in Conditions 1 and 7. 	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 31	AQ0503MSS04, Condition 2	ORLs to Avoid PSD Modification and HAP Major Source Classification	Maintain unit according to the manufacturer's maintenance procedures. Keep a copy of the procedure onsite and make available to the Department personnel upon request.	Yes.	Annual Compliance Audit.

FORM B5
Emission Unit Detail Form - Miscellaneous Emission Units

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
AQ0503TVP03 – Conditions 32 & 32.1 through 32.3	AQ0503MSS04, Conditions 4 & 4.1 through 4.3	ORLs to Avoid PSD Modification and HAP Major Source Classification	<p>Limit the total combined emissions of HAPs for EU IDs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase to less than 39 tons in any 12 consecutive months.</p> <ul style="list-style-type: none"> - Route all gas from the reboiler and the flash tank of the dehydrator to the low pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates. - Flare all gas from the dehydrator in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer’s operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%. - EU ID 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours and except for periods of startup, shutdown, or malfunction. 	Yes.	Monitor, record, and report in accordance with Conditions 32.4 through 32.6.
AQ0503TVP03 – Condition 63	18 AAC 50.346(b)(5)	Good Air Pollution Control Practices	<p>Perform regular maintenance considering the manufacturer’s or the operator’s maintenance procedures; keep records of any maintenance that would have a significant effect on emissions; and keep a copy of either the manufacturer’s or the operator’s maintenance procedures.</p>	Yes.	Annual Compliance Audit.

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

FORM B5

Emission Unit Detail Form - Miscellaneous Emission Units

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
N/A	

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

FORM B1

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 13 // Base Scenario
2.	Date installation/construction commenced	Startup date: 10/7/2001
3.	Date installed	
4.	Emission Unit serial number	Not Available
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer	Natco
7.	Description of emission unit, including type of boiler/heater and firing method: Glycol Reboiler	
8.	Rated design capacity (heat input, MMBtu/hr)	5.0 MMBtu/hr
9.	Maximum steam production rate (lbs/hr)	N/A
10.	Maximum steam pressure (psi)	N/A
11.	Maximum steam temperature (°F)	N/A

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

Fuel	Maximum hourly firing rate (specify units)
Fuel Gas	Approximately 4.1 Mscf/hr

13.	Is waste heat utilized for any purpose? If yes, describe: N/A
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FORM B1

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

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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.1.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.5.
AQ0503TVP03 – Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 16 through 18.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 35.1 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv at any time.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.
AQ0503TVP03 – Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.

FORM B1
Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

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
AQ0503TVP03 – Conditions 30.1a & 30.2b	AQ0503CPT07 Rev. 1, Conditions 20.1a & 20.2b	PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT	<ul style="list-style-type: none"> - Operate with good operating practices. - Comply with the visible emissions and particulate matter standards listed in Conditions 1 and 7. 	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 31	AQ0503MSS04, Condition 2	ORLs to Avoid PSD Modification and HAP Major Source Classification	Maintain unit according to the manufacturer's maintenance procedures. Keep a copy of the procedure onsite and make available to the Department personnel upon request.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Conditions 32 & 32.1-32.3	Minor Permit AQ0503MSS04, Conditions 4 & 4.1-4.3	ORLs to Avoid PSD Modification and HAP Major Source Classification	<p>Limit the total combined emissions of HAPs for EU IDs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase to less than 39 tons in any 12 consecutive months.</p> <ul style="list-style-type: none"> - Route all gas from the reboiler and the flash tank of the dehydrator to the low pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates. - Flare all gas from the dehydrator in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer's operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%. - EU ID 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours and except for periods of startup, shutdown, or malfunction. 	Yes.	Monitor, record, and report in accordance with Conditions 32.4 through 32.6.

FORM B1
Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

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
AQ0503TVP03 – Condition 63	18 AAC 50.346(b)(5)	Good Air Pollution Control Practices	Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures; keep records of any maintenance that would have a significant effect on emissions; and keep a copy of either the manufacturer's or the operator's maintenance procedures.	Yes.	Annual Compliance Audit.

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

FORM B1

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

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 D, Da, & Db	The heat input capacity of EU ID 13 is below the applicability threshold.
40 CFR 60 Subpart Dc	The heat input capacity of EU ID 13 is below the applicability threshold.
40 CFR 63 Subpart JJJJJ	EU ID 13 is gas-fired as defined in 40 CFR 63.11237 and is not subject per 40 CFR 63.11195(e).

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

FORM B1

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 16, 17, & 18 // Base Scenario
2.	Date installation/construction commenced	Startup date: 2001
3.	Date installed	
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer	James P. Sheldon Co. Inc.
7.	Description of emission unit, including type of boiler/heater and firing method: Space Heaters, Warehouse	
8.	Rated design capacity (heat input, MMBtu/hr)	0.70 MMBtu/hr, 1.075 MMBtu/hr, & 1.082 MMBtu/hr
9.	Maximum steam production rate (lbs/hr)	N/A
10.	Maximum steam pressure (psi)	N/A
11.	Maximum steam temperature (°F)	N/A

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

Fuel	Maximum hourly firing rate (specify units)
Fuel Gas	Approximately 0.6 Mscf/hr, 0.9 Mscf/hr, & 0.9 Mscf/hr

13.	Is waste heat utilized for any purpose? If yes, describe: N/A
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FORM B1
Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.1.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.5.
AQ0503TVP03 – Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 10.0 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv at any time.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.

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

FORM B1

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

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 D, Da, & Db	The heat input capacities of EU IDs 16 through 18 are below the applicability threshold.
40 CFR 60 Subpart Dc	The heat input capacities of EU IDs 16 through 18 are below the applicability threshold.
40 CFR 63 Subpart JJJJJ	EU IDs 16 through 18 are gas-fired as defined in 40 CFR 63.11237 and are not subject per 40 CFR 63.11195(e).

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 22 // Base Scenario
2.	Date installation/construction commenced ¹	Startup date: 7/20/2012
3.	Date installed	
4.	Emission Unit serial number	Not Available (N-P-7501B)
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Cummins 1760
7.	Type of combustion device	Firewater Pump
8.	Rated design capacity (horsepower rating for engines)	160 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 8.2 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor and report in accordance with Condition 1.4.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor and report in accordance with Condition 7.6.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 21.1	AQ0503CPT07 Rev. 1, Condition 10.1	Ambient Air Quality Protection Requirements	Construct and maintain vertical, uncapped exhaust stacks and maintain the minimum exhaust stack height of 17.3 m above grade.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Do not burn diesel fuel with more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the 12-month rolling operation limit of 1,000 hours.	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.
AQ0503TVP03 - Condition 41	40 CFR 60.12, Subpart A	NSPS Subpart A Concealment of Emissions	Do not build, erect, install, or use any article, machine, equipment, or process that conceals emissions.	Yes.	Annual Compliance Audit.

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
AQ0503TVP03 - Condition 43	40 CFR 60.4200(a)(2)(ii), Subpart III	NSPS Subpart III Applicability and General Requirements	Comply with the applicable requirements in Conditions 43.1 through 43.6.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Conditions 43.1, 43.3, & 43.5	40 CFR 60.4201(a), 60.4204(b), 60.4206, & 60.4211(c), Subpart III	NSPS Subpart III Emission Standards	Do not exceed the exhaust emission standards: NMHC + NO _x : 4.0 g/kW-hr; CO: 5.0 g/kW/hr; PM: 0.30 g/kW-hr. Comply with the emission standards by purchasing an engine certified to the emission standards. Operate and maintain stationary CI ICE that achieve the emission standards over the entire life of the engine.	Yes.	Annual Compliance Audit. Unit is certified to Tier 3 standards.
AQ0503TVP03 - Condition 43.4	40 CFR 60.4211(a)(1)-(3), Subpart III	NSPS Subpart III Compliance Requirements	Except as permitted under Condition 43.6, the engine must be installed and configured according to the manufacturer's emission-related specifications.	Yes.	Annual Compliance Audit.
AQ0503TVP03 - Condition 48.1	40 CFR 63.6590(c)(6)	NESHAP Subpart ZZZZ Applicability	Meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart III.	Yes.	Annual Compliance Audit.

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

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, 60.4204(c), 60.4205(b), (d)-(e), 60.4207, 60.4209, 60.4211(d), 60.4213, 60.4214	EU ID 16 has a displacement less than 10 liters per cylinder, is not required to conduct performance tests, is a certified engine, is a fire pump engine, is not equipped with a particulate filter, and is located in an area of Alaska not accessible by the FAHS.

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 B5
Emission Unit Detail Form - Miscellaneous Emission Units

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 23 // Base Scenario
2.	Date installation/construction commenced	Startup date: 2001
3.	Date installed	
4.	Emission Unit serial number	Not Available
5.	Special control requirements? [if yes, describe]	No
6.	Description of process: Triethylene Glycol Dehydrator with all vents routed to LP Flare	
7.	Continuous or batch process? [if batch, maximum batches per hour]	Continuous

8. Raw material usage: [for EACH raw material used, enter]:

Material	Maximum design capacity (lbs/batch or lbs/hr)
Raw Gas	600 MMscf/day

9. Production data: [for EACH product, enter]:

Product	Maximum design capacity (lbs/batch or lbs/hr)
N/A	N/A

10. Attach any additional information necessary to describe this process and its operating and usage parameters, both short-term and annual.

FORM B5

Emission Unit Detail Form - Miscellaneous Emission Units

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 Requirements	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Methods Used to Demonstrate Compliance
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 31	AQ0503MSS04, Condition 2	ORLs to Avoid PSD Modification and HAP Major Source Classification	Maintain unit according to the manufacturer's maintenance procedures. Keep a copy of the procedure onsite and make available to the Department personnel upon request.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Conditions 32 & 32.1-32.3	AQ0503MSS04, Conditions 4 & 4.1-4.3	ORLs to Avoid PSD Modification and HAP Major Source Classification	<p>Limit the total combined emissions of HAPs for EU IDs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase to less than 39 tons in any 12 consecutive months.</p> <ul style="list-style-type: none"> - Route all gas from the reboiler and the flash tank of the dehydrator to the low pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates. - Flare all gas from the dehydrator in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer's operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%. - EU ID 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours and except for periods of startup, shutdown, or malfunction. 	Yes.	Monitor, record, and report in accordance with Conditions 32.4 through 32.6.
AQ0503TVP03 – Condition 45	40 CFR 63.764(a), Table 2, Subpart HH	NESHAP Subpart A General Requirements	Comply with the applicable requirements of 40 CFR 63 Subpart A in accordance with Table 2 to NESHAP Subpart HH.	Yes.	Annual Compliance Audit.

FORM B5
Emission Unit Detail Form - Miscellaneous Emission Units

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
AQ0503TVP03 - Condition 47.2	40 CFR 63.760(c), Subpart HH	NESHAP Subpart HH Major Source Determination	Update the major source determination within 1 year of the prior determination, and each year thereafter, using gas composition data measured during the preceding 12 months.	Yes.	Not applicable. Northstar Production Facility potential emissions of HAPs do not exceed 5 tons per year of a single HAP or 12.5 tons per year of a combination of HAP.
AQ0503TVP03 - Conditions 47.3 & 47.4	40 CFR 63.764(d) & (e), Subpart HH	NESHAP Subpart HH General Standards	Determine the optimum glycol circulation rate using the equation in 40 CFR 63.764(d)(2)(i) if the unit is not exempt from the requirements.	Yes.	Monitor, record, and report in accordance with Conditions 47.6 through 47.12, as applicable.
AQ0503TVP03 - Condition 47.5	40 CFR 63.764(j), Subpart HH	NESHAP Subpart HH Good Air Pollution Control Practices	At all times operate and maintain the unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Yes.	Annual Compliance Audit.

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

FORM B5

Emission Unit Detail Form - Miscellaneous Emission Units

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

Non-Applicable Requirements ¹	Reason for non-applicability and citation/basis
40 CFR 63 Subpart HH, 63.764(c), 63.766, 63.769, 63.775(b), 63.775(d)(3), & 63.775(e)	Northstar Production Facility is not a major source of HAP emissions.
40 CFR 63 Subpart HH, 63.764(d)(1), & 63.775(c)(2)-(6)	Northstar Production Facility is not located within a UA plus offset and UC boundary.
40 CFR 63 Subpart HH, 63.765, 63.771, 63.772(e)-(i), 63.773, 63.774(b)(3)-(8), 63.774(b)(10)-(11), 63.774(c), 63.774(e), 63.774(h), 63.775(d)(1)-(2), 63.775(d)(4)-(6), 63.775(d)(8), 63.775(d)(11)-(14), & 63.775(g)(1)	Northstar Production Facility is not required to control for air emissions as specified in 40 CFR 63.764(c)(1)(i) or (d)(1)(i).
40 CFR 63 Subpart HH, 63.766, 63.769, 63.772(a), & 63.774(d)(2)	Northstar Production Facility is not a major source of HAP emissions and therefore according to 40 CFR 63.760(b)(2), storage vessels, ancillary equipment, and compressors are not subject to this subpart.
40 CFR 63 Subpart HH, 63.772(d)	EU ID 23 is not a small glycol dehydration unit.

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 B4
Emission Unit Detail Form – Volatile Liquid Storage Tanks

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 24 (T-3020) // Base Scenario
2.	Date installation/construction commenced	2001
3.	Date installed	2001
4.	Special control requirements? [if yes, describe]	No
5.	Rated capacity (gallons)	42,000
6.	Tank height (ft)	23.5
7.	Tank diameter (ft)	18
8.	Tank age (years)	23
9.	Submerged fill pipe?	N/A
10.	Type of tank (specify)	Produced Water Tank
11.	Underground?	No
	If underground, specify type of tube and vapor return.	N/A
12.	Above ground vapor control information:	
	Pipe material	N/A
	Pipe size	N/A
	Piping drainage (continuous drain downward or condensate collection tank – if condensate collection, attach a description)	N/A
	Isolation valve installed in piping?	N/A
13.	Pressure vacuum relief valves:	
	Vent pressure settings (psia)	N/A
	Months in which relief valves removed (specify)	N/A
14.	Pressure conservation vent? [if yes, specify pressure setting – psia]	N/A
15.	Fixed roof tanks:	
	Roof color	N/A
	Shell color	N/A
	Average vapor space height (ft)	N/A
	Shell condition (specify)	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

	Emission Unit ID Number	24
16	Floating roof tanks:	
	Type of construction (specify)	N/A
	Condition (specify)	N/A
	Tank color	N/A
	Deck type (specify)	N/A
17.	External floating roof tanks, seal type (specify)	N/A
18.	Internal floating roof tanks:	
	Seal type (specify)	N/A
	Number of columns	N/A
	Effective column diameter (ft)	N/A
	Total deck seam length (ft)	N/A
	Deck fitting types – access hatch	
	bolted cover, gasketed	N/A
	unbolted cover, gasketed	N/A
	unbolted cover, ungasketed	N/A
	Deck fitting types - Automatic gauge float well	
	bolted cover, gasketed	N/A
	unbolted cover, gasketed	N/A
	unbolted cover, ungasketed	N/A
	Deck fitting types – column well	
	Built up column – sliding cover, gasketed	N/A
	Built up column – sliding cover, ungasketed	N/A
	Pipe column – flexible fabric sleeve seal	N/A
	Pipe column – sliding cover, gasketed	N/A
	Pipe column – sliding cover, ungasketed	N/A
	Deck fitting types – ladder well	
	Sliding cover, gasketed	N/A
	Sliding cover, ungasketed	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

	Emission Unit ID Number	EU ID 24
	Deck fitting types – simple well or pipe	
	Slotted pipe – sliding cover, gasketed	N/A
	Slotted pipe – sliding cover, ungasketed	N/A
	Sample well – slit fabric seal, 10% open area	N/A
	Stub drain – 1-inch diameter	N/A
	Deck fitting type – roof leg or hanger will	
	Adjustable	N/A
	Fixed	N/A
	Deck fitting type – vacuum breaker	
	Weighted mechanical actuation, gasketed	N/A
	Weighted mechanical actuation, ungasketed	N/A
19.	Maximum liquid loading rate (gal/hr)	N/A
20.	Submerged fill at out-loading (describe)	N/A
21.	Material(s) stored	
	Type of material	Produced Water
	Normal annual throughput (gal/yr)	N/A
	Normal turnovers per year	N/A
	Density (lbs/gal)	N/A
	Molecular weight	N/A
	Average storage temperature (°F)	N/A
	Vapor pressure (psi)	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

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
AQ0503TVP03 – Condition 29.1c	AQ0503CPT07 Rev. 1, Condition 19.1c	Volatile Organic Compounds (VOC) BACT	Install and operate the water injection and sloop oil tank with a sealed system design vented to the flaring system.	Yes.	Field Verification/Interview.

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 B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

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 K	EU ID 24 commenced construction after the applicability date of May 19, 1978.
40 CFR 60 Subpart Ka	EU ID 24 commenced construction after the applicability date of July 23, 1984.
40 CFR 60 Subpart Kb	Subpart Kb does not apply to storage vessels greater than 151 m ³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or a capacity greater than 75 m ³ but less than 151 m ³ and with a maximum true vapor pressure less than 15.0 kPa.
40 CFR 60 Subpart Kc	EU ID 24 commenced construction prior to applicability date of October 4, 2023 and has not been modified or reconstructed thereafter.

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 B4
Emission Unit Detail Form – Volatile Liquid Storage Tanks

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	EU ID 25 (T-6140) // Base Scenario
2.	Date installation/construction commenced	2001
3.	Date installed	2001
4.	Special control requirements? [if yes, describe]	No
5.	Rated capacity (gallons)	21,000
6.	Tank height (ft)	16
7.	Tank diameter (ft)	18
8.	Tank age (years)	15.75
9.	Submerged fill pipe?	N/A
10.	Type of tank (specify)	Well Cleanout Tank
11.	Underground?	No
	If underground, specify type of tube and vapor return.	N/A
12.	Above ground vapor control information:	
	Pipe material	N/A
	Pipe size	N/A
	Piping drainage (continuous drain downward or condensate collection tank – if condensate collection, attach a description)	N/A
	Isolation valve installed in piping?	N/A
13.	Pressure vacuum relief valves:	
	Vent pressure settings (psia)	N/A
	Months in which relief valves removed (specify)	N/A
14.	Pressure conservation vent? [if yes, specify pressure setting – psia]	N/A
15.	Fixed roof tanks:	
	Roof color	N/A
	Shell color	N/A
	Average vapor space height (ft)	N/A
	Shell condition (specify)	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

	Emission Unit ID Number	25
16	Floating roof tanks:	
	Type of construction (specify)	N/A
	Condition (specify)	N/A
	Tank color	N/A
	Deck type (specify)	N/A
17.	External floating roof tanks, seal type (specify)	N/A
18.	Internal floating roof tanks:	
	Seal type (specify)	N/A
	Number of columns	N/A
	Effective column diameter (ft)	N/A
	Total deck seam length (ft)	N/A
	Deck fitting types – access hatch	
	bolted cover, gasketed	N/A
	unbolted cover, gasketed	N/A
	unbolted cover, ungasketed	N/A
	Deck fitting types - Automatic gauge float well	
	bolted cover, gasketed	N/A
	unbolted cover, gasketed	N/A
	unbolted cover, ungasketed	N/A
	Deck fitting types – column well	
	Built up column – sliding cover, gasketed	N/A
	Built up column – sliding cover, ungasketed	N/A
	Pipe column – flexible fabric sleeve seal	N/A
	Pipe column – sliding cover, gasketed	N/A
	Pipe column – sliding cover, ungasketed	N/A
	Deck fitting types – ladder well	
	Sliding cover, gasketed	N/A
	Sliding cover, ungasketed	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

	Emission Unit ID Number	EU ID 25
	Deck fitting types – simple well or pipe	
	Slotted pipe – sliding cover, gasketed	N/A
	Slotted pipe – sliding cover, ungasketed	N/A
	Sample well – slit fabric seal, 10% open area	N/A
	Stub drain – 1-inch diameter	N/A
	Deck fitting type – roof leg or hanger will	
	Adjustable	N/A
	Fixed	N/A
	Deck fitting type – vacuum breaker	
	Weighted mechanical actuation, gasketed	N/A
	Weighted mechanical actuation, ungasketed	N/A
19.	Maximum liquid loading rate (gal/hr)	N/A
20.	Submerged fill at out-loading (describe)	N/A
21.	Material(s) stored	
	Type of material	Various Hydrocarbons & Liquids
	Normal annual throughput (gal/yr)	N/A
	Normal turnovers per year	N/A
	Density (lbs/gal)	N/A
	Molecular weight	N/A
	Average storage temperature (°F)	N/A
	Vapor pressure (psi)	N/A

FORM B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

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
AQ0503TVP03 – Condition 29.1c	AQ0503CPT07 Rev. 1, Condition 19.1c	Volatile Organic Compounds (VOC) BACT	Install and operate the water injection and sloop oil tank with a sealed system design vented to the flaring system.	Yes.	Field Verification/Interview.

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 B4

Emission Unit Detail Form – Volatile Liquid Storage Tanks

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 K	EU ID 25 commenced construction after the applicability date of May 19, 1978.
40 CFR 60 Subpart Ka	EU ID 25 commenced construction after the applicability date of July 23, 1984.
40 CFR 60 Subpart Kb	Subpart Kb does not apply to storage vessels greater than 151 m ³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or a capacity greater than 75 m ³ but less than 151 m ³ and with a maximum true vapor pressure less than 15.0 kPa.
40 CFR 60 Subpart Kc	EU ID 25 commenced construction prior to applicability date of October 4, 2023 and has not been modified or reconstructed thereafter.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group B – Portable Equipment, Crane // Base Scenario
2.	Date installation/construction commenced ¹	N/A
3.	Date installed	9/22/2007
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Unknown
7.	Type of combustion device	Crane (Nonroad Engine)
8.	Rated design capacity (horsepower rating for engines)	250 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 13 gal/hr

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Do not burn diesel fuel with more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the cumulative rated capacity limit of 250 hp.	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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
18 AAC 50.055	Mobile internal combustion engines are not included in the “fuel-burning equipment” definition in 18 AAC 50.990. Therefore, the requirements in 18 AAC 50.055 do not apply to mobile internal combustion engines.

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

FORM B1

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group B – Portable Equipment, Snow Melters // Base Scenario
2.	Date installation/construction commenced	N/A
3.	Date installed	Various
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer	Various
7.	Description of emission unit, including type of boiler/heater and firing method: Diesel Fired Snow Melters	
8.	Rated design capacity (heat input, MMBtu/hr)	10.0 MMBtu/hr, combined
9.	Maximum steam production rate (lbs/hr)	N/A
10.	Maximum steam pressure (psi)	N/A
11.	Maximum steam temperature (°F)	N/A

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

Fuel	Maximum hourly firing rate (specify units)
Diesel	Approximately 73 gal/hr, combined

13.	Is waste heat utilized for any purpose? If yes, describe: N/A
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FORM B1
Emission Unit Detail Form – External Combustion Equipment (Boilers and Heaters)

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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.3.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.3.
AQ0503TVP03 – Conditions 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Do not burn diesel fuel with more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 – Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits: - 10 MMBtu/hr, cumulative rated capacity - 164,422 gallons per 12-month rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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

FORM B1

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

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 Subparts D, Da, Db, & Dc	Group B – Portable Equipment, Snow Melters are not stationary sources.
40 CFR 63 Subpart JJJJJ	Group B – Portable Equipment, Snow Melters meet the definition of temporary boiler and are not subject per 40 CFR 63.11195.

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

FORM B1

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group B-Portable Equipment, Heaters // Base Scenario
2.	Date installation/construction commenced	N/A
3.	Date installed	9/20/2006, 9/10/2006 & 9/10/2006
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer	Various
7.	Description of emission unit, including type of boiler/heater and firing method: Diesel-Fired Heaters	
8.	Rated design capacity (heat input, MMBtu/hr)	3.0 MMBtu/hr, combined
9.	Maximum steam production rate (lbs/hr)	N/A
10.	Maximum steam pressure (psi)	N/A
11.	Maximum steam temperature (°F)	N/A

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

Fuel	Maximum hourly firing rate (specify units)
Diesel	Approximately 22 gal/hr, combined

13.	Is waste heat utilized for any purpose? If yes, describe: N/A
-----	--

FORM B1

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

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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.3.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.3.
AQ0503TVP03 – Conditions 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 22.3	AQ0503CPT07 Rev. 1, Condition 11.3	Ambient Air Quality Protection Requirements	Do not burn diesel fuel with more than 0.1 percent of sulfur by weight.	Yes.	Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2a.
AQ0503TVP03 – Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits - 3 MMBtu/hr, cumulative rated capacity - 162,038 gallons per 12-months rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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

FORM B1

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

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 Subparts D, Da, Db, & Dc	Group B-Portable Equipment, Heaters are not stationary sources.
40 CFR 63 Subpart JJJJJ	Group B-Portable Equipment, Heaters are not boilers as defined in 40 CFR 63.11237.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group C-Intermittent Well Servicing Equipment, I.C. Engines 400 to 600 hp // Base Scenario
2.	Date installation/construction commenced ¹	Various
3.	Date installed	Various
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Various
7.	Type of combustion device	I.C. Engines (Nonroad Engines)
8.	Rated design capacity (horsepower rating for engines)	1,675 hp, combined
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 86 gal/hour, combined

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
-----	---

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
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 22.2	AQ0503CPT07 Rev. 1, Condition 11.2	Ambient Air Quality Protection Requirements	Burn only ULSD fuel and maintain dedicated fuel tanks.	Yes.	Monitor, record, and report in accordance with Conditions 22.2b and c.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits: - 1,675 bhp, cumulative rated capacity - 106,032 gallons per 12-month rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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
18 AAC 50.055	Mobile internal combustion engines are not included in the “fuel-burning equipment” definition in 18 AAC 50.990. Therefore, the requirements in 18 AAC 50.055 do not apply to mobile internal combustion engines.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group C-Intermittent Well Servicing Equipment, I.C. Engines > 600 hp // Base Scenario
2.	Date installation/construction commenced ¹	Various
3.	Date installed	Various
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Various
7.	Type of combustion device	I.C. Engines (Nonroad Engines)
8.	Rated design capacity (horsepower rating for engines)	1,475 hp, combined
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 75 gal/hr, combined

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
-----	---

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
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 22.2	AQ0503CPT07 Rev. 1, Condition 11.2	Ambient Air Quality Protection Requirements	Burn only ULSD fuel and maintain dedicated fuel tanks.	Yes.	Monitor, record, and report in accordance with Conditions 22.2b and c.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits: - 1,475 bhp, cumulative rated capacity - 56,713 gallons per 12-month rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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
18 AAC 50.055	Mobile internal combustion engines are not included in the “fuel-burning equipment” definition in 18 AAC 50.990. Therefore, the requirements in 18 AAC 50.055 do not apply to mobile internal combustion engines.

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

FORM B1

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

Permit Number: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group C-Intermittent Well Servicing Equipment, Heaters and Boilers // Base Scenario
2.	Date installation/construction commenced	Various
3.	Date installed	Various
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer	Various
7.	Description of emission unit, including type of boiler/heater and firing method: Diesel-Fired Heaters and Boilers	
8.	Rated design capacity (heat input, MMBtu/hr)	21.5 MMBtu/hr, combined
9.	Maximum steam production rate (lbs/hr)	N/A
10.	Maximum steam pressure (psi)	N/A
11.	Maximum steam temperature (°F)	N/A

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

Fuel	Maximum hourly firing rate (specify units)
Diesel	Approximately 157 gal/hr, combined

13.	Is waste heat utilized for any purpose? If yes, describe: N/A
-----	--

FORM B1

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

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
AQ0503TVP03 – Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.2.
AQ0503TVP03 – Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.2.
AQ0503TVP03 – Conditions 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 22.2	AQ0503CPT07 Rev. 1, Condition 11.2	Ambient Air Quality Protection Requirements	Burn only ULSD fuel and maintain dedicated fuel tanks.	Yes.	Monitor, record, and report in accordance with Conditions 22.2b and c.
AQ0503TVP03 – Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits: - 21.5 MMBtu/hr, cumulative rated capacity - 479,719 gallons per 12-month rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.
AQ0503TVP03 – Condition 63	18 AAC 50.346(b)(5)	Good Air Pollution Control Practices	Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures: keep records of any maintenance that would have a significant effect on emissions; and keep a copy of either the manufacturer's or the operator's maintenance procedures.	Yes.	Annual Compliance Audit.

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

FORM B1

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

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 Subparts D, Da, Db, & Dc	Group C-Intermittent Well Servicing Equipment, Diesel-Fired Heaters and Boilers are not stationary sources.
40 CFR 63 Subpart JJJJJ	Group C-Intermittent Well Servicing Equipment, Diesel-Fired Heaters and Boilers are temporary boilers or they are not boilers as defined in 40 CFR 63.11237.

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: AQ0503TVP03

1.	Emission Unit ID Number // Operating Scenario	Group C-Intermittent Well Servicing Equipment, Turbines // Base Scenario
2.	Date installation/construction commenced ¹	N/A
3.	Date installed	Various
4.	Emission Unit serial number	N/A
5.	Special control requirements? [if yes, describe]	No
6.	Manufacturer and model number	Various
7.	Type of combustion device	Turbines
8.	Rated design capacity (horsepower rating for engines)	6,200 bhp, combined
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 317 gal/hr, combined

12.	Describe any specific modifications to the emission unit that must be addressed in the permit: N/A
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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
AQ0503TVP03 - Condition 1	18 AAC 50.055(a)(1)	Visible Emissions Standard	Do not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 1.3.
AQ0503TVP03 - Condition 7	18 AAC 50.055(b)(1)	Particulate Matter Emissions Standard	Do not cause or allow particulate matter emitted to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 7.3.
AQ0503TVP03 - Condition 13	18 AAC 50.055(c)	Sulfur Compound Emissions Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ , to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Conditions 14 and 15.
AQ0503TVP03 - Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 - Condition 22.2	AQ0503CPT07 Rev. 1, Condition 11.2	Ambient Air Quality Protection Requirements	Burn only ULSD fuel and maintain dedicated fuel tanks.	Yes.	Monitor, record, and report in accordance with Conditions 22.2b and c.
AQ0503TVP03 - Condition 23	AQ0503CPT07 Rev. 1, Condition 12	Ambient Air Quality Protection Requirements	Comply with the following limits: - 6,200 bhp, cumulative rated capacity - 3,262 gallons/day - 16,311 gallons, 12-month rolling	Yes.	Monitor, record, and report in accordance with Conditions 24 and 25.

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 & KKKK	Group C-Intermittent Well Servicing Equipment, Turbines are not stationary.

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).]



Section C

Pollution Control Devices

Not Applicable



Section D

Emissions Summary

Forms D1:	Potential Annual Emissions (After Controls/Limitations)
Forms D2:	Potential Annual Emissions (Before Controls/Limitations)
Forms D3:	Expected Actual Annual Emissions (After Controls/Limitations)

Table D-1a. Significant Emission Unit Inventory - Limited Potential Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emissions Unit Name	Limited Potential Emissions (tpy)							CO ₂ e	HAPs ¹
		NO _x	CO	PM ₁₀	VOC	SO ₂	SO _x	CO ₂ e		
Significant Emissions Units										
<i>Group A - Stationary Emissions Units</i>										
1	Turbine (Compressor)	234.00	143.00	5.19	1.65	32.83		92.028	0.81	
2	Turbine (Compressor)			5.19	1.65	32.83		92.028	0.81	
3	Turbine (Generator) - Low		431.84	4.09	1.30	25.86		72.494	0.64	
4	Turbine (Generator) - Low			4.09	1.30	25.86		72.494	0.64	
5	Turbine (Generator) - Low	249.00		4.09	1.30	25.86		72.494	0.64	
3	Turbine (Generator) - Not Low			--	--	--		--	--	
4	Turbine (Generator) - Not Low			--	--	--		--	--	
5	Turbine (Generator) - Not Low			--	--	--		--	--	
6	Diesel Generator									
7	Diesel Generator	31.24	6.60	0.13	0.58	1.05		1.674	1.6E-02	
8	Firewater Pump	0.85	0.33	1.0E-02	1.7E-02	2.8E-02		45	4.3E-04	
9c	Incinerator	3.38	8.74	5.60	2.42	2.48		3,040	5.26	
11	High Pressure (HP) Flare									
12	Low Pressure (LP) Flare	54.80	298.17	21.35	531.87	33.66		94,365	1.97	
13	Glycol Reboiler	1.81	1.52	0.14	0.10	0.91		2,564	3.4E-02	
16	Space Heater, Warehouse	0.25	0.21	1.9E-02	1.4E-02	0.13		359	4.8E-03	
17	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.1E-02	0.20		551	7.3E-03	
18	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.2E-02	0.20		555	7.4E-03	
22	Firewater Pump	0.48	0.12	1.7E-02	1.2E-02	5.7E-02		92	2.2E-03	
23	Dehydrator	0	0	0	0	0		0	0	
24	Produced Water Tank	0	0	0	0	0		0	0	
25	Well Cleanout Tank	0	0	0	0	0		0	0	
<i>Group B - Portable Equipment</i>										
N/A	Crane	0	0	0	0	0		0	0	
N/A	Snow Melters	1.64	0.41	0.25	0.03	1.15		1,843	4.2E-03	
N/A	Heaters	1.62	0.41	0.25	0.03	1.13		1,816	4.1E-03	
<i>Group C - Intermittent Well Servicing Equipment</i>										
N/A	I.C. Engines 400 - 600 hp	0	0	0	0	0		0	0	
N/A	I.C. Engines > 600 hp	0	0	0	0	0		0	0	
N/A	Heaters and Boilers	4.80	1.20	0.74	8.2E-02	5.0E-02		5,376	1.2E-02	
N/A	Turbines	0.98	3.7E-03	1.3E-02	4.6E-04	1.7E-03		183	1.4E-03	
Significant Unit Total		585.64	1,443.71	51.21	542.39	184.27		514,001	10.85	
Insignificant Emissions Units										
19	Diesel Storage Tank	0	0	0	2.8E-03	0		0	3.0E-06	
20	TEG Storage Tank	0	0	0	1.2E-04	0		0	0	
21	Corrosion Inhibitor Storage Tank	0	0	0	1.3E-02	0		0	2.8E-05	
N/A	Diesel Day Tank, for EU ID 6	0	0	0	2.1E-05	0		0	2.3E-08	
N/A	Diesel Day Tank, for EU ID 22	0	0	0	2.1E-05	0		0	2.3E-08	
N/A	Diesel Fuel Tank, Hector's Welding	0	0	0	2.1E-05	0		0	2.3E-08	
N/A	Methanol Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0		0	9.6E-05	
Insignificant Unit Total		0	0	0	9.3E-02	0		0	8.0E-04	
Total Assessable Emissions		585.64	1,443.71	51.21	542.49	184.27		514,001	10.85	
		Major	Major	Minor	Major	N/A		N/A	N/A	
				2,807.31						

Notes:

¹ The highest individual HAP is Hydrochloric Acid with HAP emissions of 5.0 tpy.

Table D-1b. Significant Emission Unit Inventory - Unlimited Potential Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emissions Unit Name	Unlimited Potential Emissions (tpy)						CO ₂ e	HAPs
		NO _x	CO	PM ₁₀	VOC	SO ₂	SO _x		
Significant Emissions Units									
<i>Group A - Stationary Emissions Units</i>									
1	Turbine (Compressor)	188.34	166.44	5.19	1.65	32.83	92.028	0.81	
2	Turbine (Compressor)	188.34	166.44	5.19	1.65	32.83	92.028	0.81	
3	Turbine (Generator) - Low	--	--	4.09	1.30	25.86	72.494	0.64	
4	Turbine (Generator) - Low	--	--	4.09	1.30	25.86	72.494	0.64	
5	Turbine (Generator) - Low	--	--	4.09	1.30	25.86	72.494	0.64	
3	Turbine (Generator) - Not Low	365.3	1,607.5	--	--	--	--	--	
4	Turbine (Generator) - Not Low	365.3	1,607.5	--	--	--	--	--	
5	Turbine (Generator) - Not Low	365.3	1,607.5	--	--	--	--	--	
6	Diesel Generator	273.7	57.8	1.1	5.1	9.2	14.665	0.14	
7	Diesel Generator	273.7	57.8	1.1	5.1	9.2	14.665	0.14	
8	Firewater Pump	71.8	28.0	0.9	1.5	2.4	3.787	3.6E-02	
9c	Incinerator	3.4	8.7	5.6	2.4	2.5	3.040	5.26	
11	High Pressure (HP) Flare	9,190	50,004	3,581	89,196	5,645	15,825,191	330.0	
12	Low Pressure (LP) Flare								
13	Glycol Reboiler	1.81	1.52	0.14	0.10	0.91	2,564	3.4E-02	
16	Space Heater, Warehouse	0.25	0.21	1.9E-02	1.4E-02	0.13	359	4.8E-03	
17	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.1E-02	0.20	551	7.3E-03	
18	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.2E-02	0.20	555	7.4E-03	
22	Firewater Pump	4.22	1.04	0.15	0.10	0.50	803	1.9E-02	
23	Dehydrator	0	0	0	0	0	0	0	
24	Produced Water Tank	0	0	0	0	0	0	0	
25	Well Cleanout Tank	0	0	0	0	0	0	0	
<i>Group B - Portable Equipment</i>									
N/A	Crane	0	0	0	0	0	0	0	
N/A	Snow Melters	6.39	1.60	0.98	0.11	4.48	7,166	1.6E-02	
N/A	Heaters	1.92	0.48	0.30	3.3E-02	1.34	2,150	4.9E-03	
<i>Group C - Intermittent Well Servicing Equipment</i>									
N/A	I.C. Engines 400 - 600 hp	0	0	0	0	0	0	0	
N/A	I.C. Engines > 600 hp	0	0	0	0	0	0	0	
N/A	Heaters and Boilers	13,775	3.44	2.12	0.23	0.14	15,407	3.5E-02	
N/A	Turbines	167.28	0.63	2.28	7.8E-02	0.29	31,102	0.24	
Significant Unit Total		11,481.32	55,320.84	3,618.01	89,217.59	5,819.36	16,323,543	339.52	
Insignificant Emissions Units									
19	Diesel Storage Tank	0	0	0	2.8E-03	0	0	3.0E-06	
20	TEG Storage Tank	0	0	0	1.2E-04	0	0	0	
21	Corrosion Inhibitor Storage Tank	0	0	0	1.3E-02	0	0	2.8E-05	
N/A	Diesel Day Tank, for EU ID 6	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Diesel Day Tank, for EU ID 22	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Diesel Fuel Tank, Hector's Welding	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Methanol Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
Insignificant Unit Total		11,481.32	55,320.84	3,618.01	89,217.68	5,819.36	16,323,543	339.52	
Total Emissions		11,481.32	55,320.84	3,618.01	89,217.68	5,819.36	16,323,543	339.52	

Table D-1c. Emissions Unit Inventory Summary - Estimated Actual Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emissions Unit Name	Estimated Actual Emissions (tpy)							HAPs
		NO _x	CO	PM ₁₀	VOC	SO ₂	CO ₂ e	HAPs	
Significant Emissions Units									
<i>Group A - Stationary Emissions Units</i>									
1	Turbine (Compressor)	207.30	101.50	5.10	1.62	32.29	90.526	0.79	
2	Turbine (Compressor)			5.00	1.59	31.61	88.624	0.78	
3	Turbine (Generator)								
4	Turbine (Generator)	126.80	296.80	8.10	2.58	51.25	143.690	1.26	
5	Turbine (Generator)								
6	Diesel Generator	0.49	1.0E-01	2.0E-03	9.2E-03	1.7E-02	26	2.5E-04	
7	Diesel Generator	0.49	1.0E-01	2.0E-03	9.0E-03	1.6E-02	26	2.5E-04	
8	Firewater Pump	0.22	8.4E-02	2.6E-03	4.4E-03	7.1E-03	11	1.1E-04	
9c	Incinerator	1.07	1.05	0.22	0.12	0.56	1.477	0.15	
11	High Pressure (HP) Flare	8.5E-03	4.6E-02	3.3E-03	8.2E-02	5.2E-03	15	3.0E-04	
12	Low Pressure (LP) Flare								
13	Glycol Reboiler	1.81	1.52	0.14	1.0E-01	0.91	2.564	3.4E-02	
16	Space Heater, Warehouse	0.25	0.21	1.9E-02	1.4E-02	0.13	359	4.8E-03	
17	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.1E-02	0.20	551	7.3E-03	
18	Space Heater, Warehouse	0.39	0.33	3.0E-02	2.2E-02	0.20	555	7.4E-03	
22	Firewater Pump	2.6E-02	6.3E-03	9.1E-04	6.3E-04	3.0E-03	5	1.2E-04	
23	Dehydrator	0	0	0	0	0	0	0	
24	Produced Water Tank	0	0	0	0	0	0	0	
25	Well Cleanout Tank	0	0	0	0	0	0	0	
<i>Group B - Portable Equipment</i>									
N/A	Crane	0	0	0	0	0	0	0	
N/A	Snow Melters	0	0	0	0	0	0	0	
N/A	Heaters	6.6E-02	1.6E-02	1.0E-02	1.1E-03	4.6E-02	74	1.7E-04	
<i>Group C - Intermittent Well Servicing Equipment</i>									
N/A	I.C. Engines 400 - 600 hp	0	0	0	0	0	0	0	
N/A	I.C. Engines > 600 hp	0	0	0	0	0	0	0	
N/A	Heaters and Boilers	0.12	3.1E-02	1.9E-02	2.1E-03	1.3E-03	140	3.2E-04	
N/A	Turbines	0	0	0	0	0	0	0	
Significant Unit Total		339.44	402.14	18.67	6.17	117.25	328.645	3.04	
Insignificant Emissions Units									
19	Diesel Storage Tank	0	0	0	2.8E-03	0	0	3.0E-06	
20	TEG Storage Tank	0	0	0	1.2E-04	0	0	0	
21	Corrosion Inhibitor Storage Tank	0	0	0	1.3E-02	0	0	2.8E-05	
N/A	Diesel Day Tank, for EU ID 6	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Diesel Day Tank, for EU ID 22	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Diesel Fuel Tank, Hector's Welding	0	0	0	2.1E-05	0	0	2.3E-08	
N/A	Methanol Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
N/A	Corrosion Inhibitor Storage Tank	0	0	0	9.6E-03	0	0	9.6E-05	
Insignificant Unit Total		0	0	0	9.3E-02	0	0	8.0E-04	
Total Emissions		339.44	402.14	18.67	6.26	117.25	328.645	3.04	

Table D-2a. HAPs Summary - Limited Potential Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

Hazardous Air Pollutant	Limited Potential Emissions (tpy)																			
	EU ID 1	EU ID 2	EU ID 3	EU ID 4	EU ID 5	EU ID 6 & 7	EU ID 8	EU ID 9c	EU ID 11 & 12 ¹	EU ID 13 ¹	EU ID 16	EU ID 17	EU ID 18	EU ID 22	Group C		Total			
																Heaters, Boilers		Turbines	IEU Misc. Tanks	
Acetaldehyde	3.1E-02	3.1E-02	2.5E-02	2.5E-02	2.5E-02	2.6E-04	6.9E-06	2.9E-02	6.7E-03	2.9E-02	4.3E-04							0.17		
Acrolein	5.0E-03	5.0E-03	4.0E-03	4.0E-03	4.0E-03	8.1E-05	2.2E-06	6.7E-03	6.7E-03	5.2E-05	5.2E-05							2.9E-02		
Benzene	9.4E-03	9.4E-03	7.4E-03	7.4E-03	7.4E-03	7.9E-03	2.1E-04	0.11	3.8E-05	5.5E-06	8.2E-06	8.2E-06	8.2E-06	1.8E-05	1.7E-05	5.1E-05	6.1E-05	7.4E-07	0.16	
1,3-Butadiene	3.4E-04	3.4E-04	2.7E-04	2.7E-04	2.7E-04						2.2E-05						1.8E-05	1.5E-03	1.5E-03	
Cumene																		1.4E-08	1.4E-08	4.6E-05
Dichlorobenzene																				3.23
Ethylbenzene	2.5E-02	2.5E-02	2.0E-02	2.0E-02	2.0E-02			0.96	0.78	1.4E-03	1.9E-04	2.9E-04	2.9E-04	5.2E-06	5.2E-06	1.5E-05	9.3E-08	9.3E-08	1.07	
Formaldehyde	0.56	0.56	0.44	0.44	0.44	8.1E-04	2.2E-05	7.6E-04	1.9E-02	3.3E-02	4.6E-03	7.0E-03	7.0E-03	6.6E-04	2.7E-03	7.9E-03	3.1E-04	1.6E-06	8.9E-02	
n-Hexane																				5.05
Hydrochloric acid																				8.0E-04
Methanol																				8.0E-04
Polycyclic Organic Matter	1.7E-03	1.7E-03	1.4E-03	1.4E-03	1.4E-03	2.2E-03	5.8E-05	8.9E-07	9.3E-03	1.6E-06	2.2E-07	3.4E-07	3.5E-07	9.4E-05	2.7E-04	7.9E-04	4.5E-05	2.1E-02	2.1E-02	
Naphthalene	1.0E-03	1.0E-03	8.0E-04	8.0E-04	8.0E-04			6.2E-06	1.1E-05	1.5E-06	2.4E-06	2.4E-06	2.4E-06	9.3E-05	9.2E-05	2.7E-04	3.9E-05	5.0E-03	5.0E-03	
Propylene oxide	2.3E-02	2.3E-02	1.8E-02	1.8E-02	1.8E-02	2.9E-03	7.7E-05	3.4E-05	3.9E-02	6.2E-05	8.6E-06	1.3E-05	1.3E-05	2.3E-04	5.1E-04	5.0E-04	1.5E-03	6.0E-07	9.9E-02	
Toluene	0.10	0.10	8.0E-02	8.0E-02	8.0E-02										1.9E-05	1.9E-05	5.7E-05	9.5E-05	9.5E-05	
1,1,1-Trichloroethane	5.0E-02	5.0E-02	4.0E-02	4.0E-02	4.0E-02	2.0E-03	5.3E-05		1.9E-02					1.6E-04	9.0E-06	8.8E-06	2.6E-05	3.8E-08	0.24	
Arsenic Compounds															4.5E-05	4.4E-05	1.3E-04	1.2E-05	3.7E-03	
Beryllium Compounds															3.4E-05	3.3E-05	9.9E-05	3.5E-07	1.7E-04	
Cadmium Compounds															3.4E-05	3.3E-05	9.9E-05	5.4E-06	8.8E-03	
Chromium Compounds															3.4E-05	3.3E-05	9.9E-05	7.3E-03	7.3E-03	
Cobalt Compounds																			3.2E-06	
Lead Compounds															1.0E-04	1.0E-04	3.0E-04	1.6E-05	0.17	
Manganese Compounds															6.8E-07	6.7E-05	2.0E-04	8.8E-04	1.2E-03	
Mercury Compounds															3.4E-05	3.3E-05	9.9E-05	1.3E-06	4.6E-03	
Nickel Compounds															3.4E-05	3.3E-05	9.9E-05	2.8E-06	6.4E-03	
Selenium Compounds															1.7E-04	1.7E-04	4.9E-04	2.8E-05	8.6E-04	
Total	0.81	0.81	0.64	0.64	0.64	1.6E-02	4.3E-04	5.26	1.97	3.4E-02	4.9E-03	7.3E-03	7.4E-03	2.2E-03	4.2E-03	4.1E-03	1.2E-02	1.4E-03	8.0E-04	10.85

Notes:
¹ Condition 4 of Minor Permit No. AQ0603MSS04 limits the total combined emissions of HAPs from EU IDs 11, 12, 13, and 23 to less than 12 tpy and requires the dehydrator reboller and flash tank vents (EU ID 23) to route to flare; permitted potential HAP emissions (2.0 tons) are below this limit because of the permit limits for the flare.

Table D-3a. Significant Emissions Unit Inventory
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emissions Unit Name	Emissions Unit Description	Fuel	Rating/Size	Limited Potential Operation ¹	Unlimited Potential Operation ²	Estimated Actual Operation ³
Group A - Stationary Emissions Units							
1	Turbine (Compressor)	GE LMP2500	FG	32,715 hp	8,760 hr/yr	8,760 hr/yr	8,617.0 hr/yr
2	Turbine (Compressor)	GE LMP2500	FG	32,715 hp	8,760 hr/yr	8,760 hr/yr	8,436.0 hr/yr
3	Turbine (Generator) - Low	Solar Mars 90	FG	11,892 kW		8,760 hr/yr	
4	Turbine (Generator) - Low	Solar Mars 90	FG	11,892 kW	23,280 hr/yr ⁴	8,760 hr/yr	17,069.8 hr/yr
5	Turbine (Generator) - Low	Solar Mars 90	FG	11,892 kW		8,760 hr/yr	
3	Turbine (Generator) - Not Low	Solar Mars 90	FG	11,892 kW		8,760 hr/yr	
4	Turbine (Generator) - Not Low	Solar Mars 90	FG	11,892 kW	3,000 hr/yr ⁴	8,760 hr/yr	293.5 hr/yr
5	Turbine (Generator) - Not Low	Solar Mars 90	FG	11,892 kW		8,760 hr/yr	
6	Diesel Generator	Cummins QSK 60-G6	Diesel	2,180 kW	1,000 hr/yr ⁵	8,760 hr/yr	15.8 hr/yr
7	Diesel Generator	Cummins QSK 60-G6	Diesel	2,180 kW	104 hr/yr ⁵	8,760 hr/yr	15.6 hr/yr
8	Firewater Pump	Cummins KTA19	Diesel	755 hp	8,760 hr/yr	8,760 hr/yr	26.4 hr/yr
9c	Incinerator		Waste	360 lb/hr	8,760 hr/yr	8,760 hr/yr	40.6 tons/yr
11	High Pressure (HP) Flare	ACS CA0300	FG	2.8 MMBtu/hr	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
12	Low Pressure (LP) Flare	Corona	FG	25.5 MMscf/hr ⁵	1,332 MMscf/yr ⁵	8,760 hr/yr	205.7 Mscf/yr
13	Glycol Reboiler	Naico	FG	5 MMBtu/hr	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
16	Space Heater, Warehouse	James P. Sheldon Co. Inc.	FG	0.7 MMBtu/hr	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
17	Space Heater, Warehouse	James P. Sheldon Co. Inc.	FG	1,075 MMBtu/hr	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
18	Space Heater, Warehouse	James P. Sheldon Co. Inc.	FG	1,082 MMBtu/hr	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
22	Firewater Pump	Cummins 1760	Diesel	160 hp	1,000 hr/yr ⁵	8,760 hr/yr	53.2 hr/yr
23	Dehydrator	Glycol Dehydrator	N/A	600 MMscfd	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
24	Produced Water Tank	Produced Water Tank (T-3020)	N/A	1,000 barrels	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
25	Well Cleanout Tank	Well Cleanout Tank (T-6140)	N/A	500 barrels	8,760 hr/yr	8,760 hr/yr	8,760 hr/yr
Group B - Portable Equipment							
N/A	Crane	Unknown (Nonroad Engine) ⁶	Diesel	250 hp ⁵	8,760 hr/yr	8,760 hr/yr	0 gallyr
N/A	Snow Melters	Various	Diesel	10 MMBtu/hr, total ⁵	164,422 gallyr ⁵	8,760 hr/yr	0 gallyr
N/A	Heaters	Various	Diesel	3 MMBtu/hr, total ⁵	162,038 gallyr ⁵	8,760 hr/yr	6,577 gallyr
Group C - Intermittent Well Servicing Equipment							
N/A	I.C. Engines 400 - 600 hp	Various (Nonroad Engines) ⁶	Diesel	1,675 hp, total ⁵	106,032 gallyr ⁵	8,760 hr/yr	1,283 gallyr
N/A	I.C. Engines > 600 hp	Various (Nonroad Engines) ⁶	Diesel	1,475 hp, total ⁵	56,713 gallyr ⁵	8,760 hr/yr	0 gallyr
N/A	Heaters and Boilers	Various	Diesel	21.5 MMBtu/hr, total ⁵	479,719 gallyr ⁵	8,760 hr/yr	12,489 gallyr
N/A	Turbines	Various	Diesel	6,200 hp, total ⁵	16,311 gallyr ⁵	8,760 hr/yr	0 gallyr

Table D-3b. Insignificant Emission Unit Inventory
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emissions Unit Name	Emissions Unit Description	Fuel	Rating/Size	Unlimited Potential Operation ²
19	Diesel Storage Tank	Diesel Storage Tank (T-8202)	N/A	2,800 barrels	8,760 hr/yr
20	TEG Storage Tank	TEG Storage Tank (T-4120)	N/A	250 barrels	8,760 hr/yr
21	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank (T-4180)	N/A	250 barrels	8,760 hr/yr
N/A	Diesel Day Tank, for EU ID 6	Diesel Day Tank, for EU ID 6	N/A	400 gallons	8,760 hr/yr
N/A	Diesel Day Tank, for EU ID 22	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	8,760 hr/yr
N/A	Diesel Fuel Tank, Hector's Welding	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	8,760 hr/yr
N/A	Methanol Storage Tank	Methanol Storage Tank	N/A	6,340 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	8,760 hr/yr
N/A	Corrosion Inhibitor Storage Tank	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	8,760 hr/yr

Notes:

- ¹ Limited operation is based on full-time operation, or permit operating limits, where applicable.
- ² Maximum annual operation for all units is based on full-time annual operation and is used to calculate unlimited potential emissions.
- ³ Estimated actual operation is based on calendar year 2023 actual hours of operation or fuel use.
- ⁴ EU IDs 3, 4, and 5 are limited to a cumulative total of 3,000 hours when not operating in low emissions operation per 12-month rolling period per Condition 17.2b(v) of Construction Permit No. AQ0503CPT07 Rev 1.
- ⁵ These emissions units are limited per Condition 12 of Construction Permit No. AQ0503CPT07 Rev 1.
- ⁶ Nonroad engine emissions do not count toward potential to emit per 18 AAC 50.100.

Conversions:

Fuel Gas Heat Content: 1,210 Btu/scf
 Diesel Fuel Heat Content: 137,000 Btu/gal
 Diesel Fuel Density: 7 lb/gal
 Diesel Engine Heat Rate: 7,000 Btu/hp-hr

Table D-4a. Significant Emission Unit Inventory - NO_x Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	BACT Limit (< 0 °F) ¹	43 lb/hr	234.00 tpy ²	188.34 tpy	207.30 tpy
2	Turbine (Compressor)	FG	32,715 hp	BACT Limit (< 0 °F) ¹	43 lb/hr		188.34 tpy	
3	Turbine (Generator) - Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
4	Turbine (Generator) - Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
5	Turbine (Generator) - Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
6	Turbine (Generator) - Not Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
4	Turbine (Generator) - Not Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
5	Turbine (Generator) - Not Low	FG	11,892 kW	BACT Limit (> 0°F) ³	21.7 lb/hr		0 tpy	
6	Diesel Generator	Diesel	2,180 kW	BACT Limit ⁵	13 g/kWh	31.24 tpy	273.66 tpy	0.49 tpy
7	Diesel Generator	Diesel	2,180 kW	BACT Limit ⁵	13 g/kWh		273.66 tpy	0.49 tpy
8	Firewater Pump	Diesel	755 hp	Manufacturer Data	9.85 g/hp-hr	0.85 tpy	71.81 tpy	0.22 tpy
9c	Incinerator	Waste	360 lb/hr	AP-42, Table 2.1-12	3 lb/ton	2.37 tpy	2.37 tpy	6.1E-02 tpy
		FG	2.8 MMBtu/hr	AP-42, Table 1.4-1	100 lb/MMscf	1.01 tpy	1.01 tpy	1.01 tpy
11	High Pressure (HP) Flare	FG	25.5 MMscf/hr	AP-42, Table 1.3-5-1	0.068 lb/MMBtu	54.80 tpy	9,189.85 tpy	8.5E-03 tpy
12	Low Pressure (LP) Flare	FG						
13	Glycol Reboiler	FG	5 MMBtu/hr	AP-42, Table 1.4-1	100 lb/MMscf	1.81 tpy	1.81 tpy	1.81 tpy
16	Space Heater, Warehouse	FG	0.7 MMBtu/hr	AP-42, Table 1.4-1	100 lb/MMscf	0.25 tpy	0.25 tpy	0.25 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	AP-42, Table 1.4-1	100 lb/MMscf	0.39 tpy	0.39 tpy	0.39 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	AP-42, Table 1.4-1	100 lb/MMscf	0.39 tpy	0.39 tpy	0.39 tpy
22	Firewater Pump	Diesel	160 hp	Manufacturer Data	3.66 g/kWh	0.48 tpy	4.22 tpy	2.6E-02 tpy
23	Dehydrator	N/A	600 MMscfd	N/A	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanout Tank	N/A	500 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	AP-42, Table 1.3-1	20 lb/kgal	1.64 tpy	6.39 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	AP-42, Table 1.3-1	20 lb/kgal	1.62 tpy	1.92 tpy	6.6E-02 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	AP-42, Table 1.3-1	20 lb/kgal	4.80 tpy	13.75 tpy	0.12 tpy
N/A	Turbines	Diesel	6,200 hp, total	AP-42, Table 3.1-1	0.88 lb/MMBtu	0.98 tpy	167.28 tpy	0 tpy
						Total	585.64 tpy	339.44 tpy

Table D-4b. Insignificant Emission Unit Inventory - NO_x Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	N/A	N/A	0 tpy
20	TEG Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	N/A	N/A	0 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	N/A	N/A	0 tpy
Total						0 tpy

Notes:

- The BACT NO_x emissions limit for EU IDs 1 and 2 is 24.3 lb/hr (25 ppmv @ 15% O₂) at ± 0°F and 43 lb/hr at less than 0°F, expressed as NO_x, per Condition 16.2a of Construction Permit No. AQ0503CPT07 Rev 1.
- The NO_x emissions for EU IDs 1 and 2, combined, is limited to 234 tons per 12-month rolling period per Condition 12 of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT NO_x emissions limit for EU IDs 3, 4, and 5 is 21.7 lb/hr (42 ppmv @ 15% O₂) at ± 0°F (low emissions operation) and 83.4 lb/hr at less than 0°F, expressed as NO_x, per Condition 16.2b of Construction Permit No. AQ0503CPT07 Rev 1.
- The NO_x emissions for EU IDs 3, 4, and 5, combined, is limited to 249 tons per 12-month rolling period per Condition 12 of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT NO_x emissions limit for EU IDs 6 and 7 is 13 g/kWh per Condition 16.2c of Construction Permit No. AQ0503CPT07 Rev 1.

Conversions:

Fuel Gas Heat Content: 1,210 Btu/scf
Diesel Fuel Heat Content: 137,000 Btu/gal
Diesel Fuel Density: 7 lb/gal
Diesel Engine Heat Rate: 7,000 Btu/hp-hr

Table D-5a. Significant Emission Unit Inventory - CO Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	BACT Limit (< 0 °F) ¹	38 lb/hr	143.00 tpy ²	166.44 tpy	101.50 tpy
2	Turbine (Compressor)	FG	32,715 hp	BACT Limit (< 0 °F) ¹	38 lb/hr		166.44 tpy	
3	Turbine (Generator) - Low	FG	11,892 kW					
4	Turbine (Generator) - Low	FG	11,892 kW	BACT Limit (> 0°F) ³	37.1 lb/hr	431.84 tpy	0 tpy	
5	Turbine (Generator) - Low	FG	11,892 kW					
6	Turbine (Generator) - Not Low	FG	11,892 kW	BACT Limit (< 0°F) ³	367 lb/hr	550.50 tpy	1,607.46 tpy	296.80 tpy
4	Turbine (Generator) - Not Low	FG	11,892 kW					
5	Turbine (Generator) - Not Low	FG	11,892 kW					
6	Diesel Generator	Diesel	2,180 kW	BACT Limit ⁴	13.2 lb/hr	6.60 tpy	57.82 tpy	0.10 tpy
7	Diesel Generator	Diesel	2,180 kW	BACT Limit ⁴	13.2 lb/hr		57.82 tpy	0.10 tpy
8	Firewater Pump	Diesel	755 hp	BACT Limit ⁵	6.4 lb/hr	0.33 tpy	28.03 tpy	8.4E-02 tpy
9c	Incinerator	Waste	360 lb/hr	AP-42, Table 2.1-12	10 lb/ton	7.88 tpy	7.88 tpy	0.20 tpy
		FG	2.8 MMBtu/hr	AP-42, Table 1.4-1	84 lb/MMscf	0.85 tpy	0.85 tpy	0.85 tpy
11	High Pressure (HP) Flare	FG	25.5 MMscf/hr	BACT Limit ⁶	0.37 lb/MMBtu	298.17 tpy	50,003.61 tpy	4.6E-02 tpy
12	Low Pressure (LP) Flare	FG						
13	Glycol Reboiler	FG	5 MMBtu/hr	AP-42, Table 1.4-1	84 lb/MMscf	1.52 tpy	1.52 tpy	1.52 tpy
16	Space Heater, Warehouse	FG	0.7 MMBtu/hr	AP-42, Table 1.4-1	84 lb/MMscf	0.21 tpy	0.21 tpy	0.21 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	AP-42, Table 1.4-1	84 lb/MMscf	0.33 tpy	0.33 tpy	0.33 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	AP-42, Table 1.4-1	84 lb/MMscf	0.33 tpy	0.33 tpy	0.33 tpy
22	Firewater Pump	Diesel	160 hp	Manufacturer's Data	0.9 g/kWh	0.12 tpy	1.04 tpy	6.3E-03 tpy
23	Dehydrator	N/A	600 MMscfd	N/A	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanout Tank	N/A	500 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	AP-42, Table 1.3-1	5 lb/kgal	0.41 tpy	1.60 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	AP-42, Table 1.3-1	5 lb/kgal	0.41 tpy	0.48 tpy	1.6E-02 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	AP-42 Table 1.3-1	5 lb/kgal	1.20 tpy	3.44 tpy	3.1E-02 tpy
N/A	Turbines	Diesel	6,200 hp, total	AP-42 Table 3.1-1	0.0033 lb/MMBtu	3.7E-03 tpy	0.63 tpy	0 tpy
Total						1,443.71 tpy	55,320.84 tpy	402.14 tpy

Table D-5b. Insignificant Emission Unit Inventory - CO Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	N/A	N/A	0 tpy
20	TEG Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	N/A	N/A	0 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	N/A	N/A	0 tpy
Total						0 tpy

Notes:

- The BACT CO emissions limit for EU IDs 1 and 2, is 14.8 lb/hr (25 ppmv @ 15% O₂) at \geq 0°F and 38 lb/hr at less than 0°F per Condition 17.2a of Construction Permit No. AQ0503CPT07 Rev 1.
- The CO emissions for EU IDs 1 and 2, combined, is limited to 143 tons per 12-month rolling period per Condition 17.2a(iii) of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT CO emissions limit for EU IDs 3, 4, and 5 is 15.7 lb/hr (50 ppmv @ 15% O₂) at \geq 0°F (low emissions operation), 37.1 lb/hr at less than 0°F (low emissions operation), and 367 lb/hr when not in low emissions operation per Condition 17.2b of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT CO emissions limit for EUs 6 and 7, is 13.2 lb/hr per unit per Condition 17.2c of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT CO emissions limit for EU 8 is 6.4 lb/hr per unit per Condition 17.2d of Construction Permit No. AQ0503CPT07 Rev 1.
- The BACT CO emissions limit for EU 11 and 12 is 0.37 lb/MMBtu per unit per Condition 17.2f of Construction Permit No. AQ0503CPT07 Rev 1.

Conversions:

Fuel Gas Heat Content: 1,210 Btu/scf
 Diesel Fuel Heat Content: 137,000 Btu/gal
 Diesel Fuel Density: 7 lb/gal
 Diesel Engine Heat Rate: 7,000 Btu/hp-hr

Table D-6a. Significant Emissions Unit Inventory - PM₁₀ Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	5.19 tpy	5.19 tpy	5.10 tpy
2	Turbine (Compressor)	FG	32,715 hp	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	5.19 tpy	5.19 tpy	5.00 tpy
3	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	4.09 tpy	4.09 tpy	8.10 tpy
4	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	4.09 tpy	4.09 tpy	8.10 tpy
5	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	4.09 tpy	4.09 tpy	8.10 tpy
6	Diesel Generator	Diesel	2,180 kW	Manufacturer Data	0.04 g/hp-hr	0.13 tpy	1.13 tpy	2.0E-03 tpy
7	Diesel Generator	Diesel	2,180 kW	Manufacturer Data	0.04 g/hp-hr	0.13 tpy	1.13 tpy	2.0E-03 tpy
8	Firewater Pump	Diesel	755 hp	Manufacturer Data	0.12 g/hp-hr	1.0E-02 tpy	0.87 tpy	2.6E-03 tpy
9c	Incinerator	Waste	360 lb/hr	AP-42 Table 2.1-12	7 lb/ton	5.52 tpy	5.52 tpy	0.14 tpy
11	High Pressure (HP) Flare	FG	2.8 MMBtu/hr	AP-42 Table 1.4-2	7.6 lb/MMscf	7.7E-02 tpy	7.7E-02 tpy	7.7E-02 tpy
12	Low Pressure (LP) Flare	FG	25.5 MMscf/hr	AP-42 Table 13.5-1	0.0265 lb/MMBtu	21.35 tpy	3,580.61 tpy	3.3E-03 tpy
13	Glycol Reboiler	FG	5 MMBtu/hr	AP-42 Table 1.4-2	7.6 lb/MMscf	0.14 tpy	0.14 tpy	0.14 tpy
16	Space Heater, Warehouse	FG	0.7 MMBtu/hr	AP-42 Table 1.4-2	7.6 lb/MMscf	1.9E-02 tpy	1.9E-02 tpy	1.9E-02 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	AP-42 Table 1.4-2	7.6 lb/MMscf	3.0E-02 tpy	3.0E-02 tpy	3.0E-02 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	AP-42 Table 1.4-2	7.6 lb/MMscf	3.0E-02 tpy	3.0E-02 tpy	3.0E-02 tpy
22	Firewater Pump	Diesel	160 hp	Manufacturer Data	0.13 g/kWh	1.7E-02 tpy	0.15 tpy	9.1E-04 tpy
23	Dehydrator	N/A	600 MMscfd	N/A	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanout Tank	N/A	500 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	AP-42 Table 1.3-1 & 7	3.08 lb/kgal	0.25 tpy	0.98 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	AP-42 Table 1.3-1 & 7	3.08 lb/kgal	0.25 tpy	0.30 tpy	1.0E-02 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	AP-42 Table 1.3-1 & 7	3.08 lb/kgal	0.74 tpy	2.12 tpy	1.9E-02 tpy
N/A	Turbines	Diesel	6,200 hp, total	AP-42 Table 3.1-2a	0.012 lb/MMBtu	1.3E-02 tpy	2.28 tpy	0 tpy
Total						51.21 tpy	3,618.01 tpy	18.67 tpy

Table D-6b. Insignificant Emissions Unit Inventory - PM₁₀ Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	N/A	N/A	0 tpy
20	TEG Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	N/A	N/A	0 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	N/A	N/A	0 tpy
					Total	0 tpy

Conversions:

EU ID 1 & 2 Heat Rate: 7.76 kJ/W-hr
5,485 Btu/tp-hr
12.54 kJ/W-hr
EU ID 3, 4, & 5 Heat Rate: 11,886 Btu/kW-hr
Fuel Gas Heat Content: 1,210 Btu/scf
Diesel Fuel Heat Content: 137,000 Btu/gal
Diesel Fuel Density: 7 lb/gal
Diesel Engine Heat Rate: 7,000 Btu/tp-hr

Permit No. 0073-AC011 Section V, Condition C.2

Permit No. 0073-AC011 Section V, Condition C.2

Table D-7a. Significant Emissions Unit Inventory - VOC Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1.65 tpy	1.65 tpy	1.62 tpy
2	Turbine (Compressor)	FG	32,715 hp	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1.65 tpy	1.65 tpy	1.59 tpy
3	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1.30 tpy	1.30 tpy	
4	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1.30 tpy	1.30 tpy	2.58 tpy
5	Turbine (Generator)	FG	11,892 kW	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	1.30 tpy	1.30 tpy	
6	Diesel Generator	Diesel	2,180 kW	Manufacturer Data	0.18 g/hp-hr	0.58 tpy	5.08 tpy	9.2E-03 tpy
7	Diesel Generator	Diesel	2,180 kW	Manufacturer Data	0.18 g/hp-hr	5.08 tpy	5.08 tpy	9.0E-03 tpy
8	Firewater Pump	Diesel	755 hp	Manufacturer Data	0.20 g/hp-hr	1.46 tpy	1.46 tpy	4.4E-03 tpy
9c	Incinerator	Waste	360 lb/hr	AP-42 Table 2.1-12	3 lb/on	2.37 tpy	2.37 tpy	6.1E-02 tpy
11	High Pressure (HP) Flare	FG	2.8 MMBtu/hr	AP-42 Table 1.4-2	5.5 lb/MMscf	5.6E-02 tpy	5.6E-02 tpy	5.6E-02 tpy
12	Low Pressure (LP) Flare	FG	25.5 MMscf/hr	AP-42 Table 13.5-1	0.66 lb/MMBtu	531.87 tpy	89,195.63 tpy	8.2E-02 tpy
13	Glycol Reboiler	FG	5 MMBtu/hr	AP-42 Table 1.4-2	5.5 lb/MMscf	0.10 tpy	0.10 tpy	0.10 tpy
16	Space Heater, Warehouse	FG	0.7 MMBtu/hr	AP-42 Table 1.4-2	5.5 lb/MMscf	1.4E-02 tpy	1.4E-02 tpy	1.4E-02 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	AP-42 Table 1.4-2	5.5 lb/MMscf	2.1E-02 tpy	2.1E-02 tpy	2.1E-02 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	AP-42 Table 1.4-2	5.5 lb/MMscf	2.2E-02 tpy	2.2E-02 tpy	2.2E-02 tpy
22	Firewater Pump	Diesel	160 hp	Manufacturer Data	0.09 g/kWh	1.2E-02 tpy	0.10 tpy	6.3E-04 tpy
23	Dehydrator	N/A	600 MMscfd	N/A - goes to flare ¹	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A - goes to flare ²	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanup Tank	N/A	500 barrels	N/A - goes to flare ²	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	AP-42 Table 1.3-3	0.34 lb/kgal	2.8E-02 tpy	0.11 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	AP-42 Table 1.3-3	0.34 lb/kgal	2.8E-02 tpy	3.3E-02 tpy	1.1E-03 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	AP-42 Table 1.3-3	0.34 lb/kgal	8.2E-02 tpy	0.23 tpy	2.1E-03 tpy
N/A	Turbines	Diesel	6,200 hp, total	AP-42 Table 3.1-2a	0.00041 lb/MMBtu	4.6E-04 tpy	7.9E-02 tpy	0 tpy
Total						542.39 tpy	89,217.59 tpy	6.17 tpy

Table D-7b. Insignificant Emissions Unit Inventory - VOC Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference ³	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	AP-42 Section 7.1	N/A	2.8E-03 tpy
20	TEG Storage Tank	N/A	250 barrels	TANKS 4.0.9d	N/A	1.2E-04 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	AP-42 Section 7.1	N/A	1.3E-02 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	AP-42 Section 7.1	N/A	2.1E-05 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	AP-42 Section 7.1	N/A	2.1E-05 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	AP-42 Section 7.1	N/A	2.1E-05 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	AP-42 Section 7.1	N/A	9.6E-03 tpy
Total						9.3E-02 tpy

Notes:

¹ Condition 4 of Minor Permit No. AQ0503MSS04 requires the dehydrator reboiler and flash tank vents (EU ID 23) to route to flare.

² Tanks (EU IDs 24 and 25) are required to operate with a sealed system design vented to the flaring system per Condition 28.1c of Construction Permit No. AQ0503CPT07 Rev 1.

³ Emissions calculations for tanks are provided in Table D-7c, except for the TEG storage tank that used TANKS 4.0.9d from the previous permit applications.

Conversions:

EU ID 1 & 2 Heat Rate:

7.76 kJ/W-hr

Permit No. 0073-AC011 Section V, Condition C.2

EU ID 3, 4, & 5 Heat Rate:

5,465 Btu/tp-hr

Permit No. 0073-AC011 Section V, Condition C.2

Fuel Gas Heat Content:

12,54 kJ/W-hr

Diesel Fuel Heat Content:

11,886 Btu/W-hr

Diesel Fuel Density:

1,210 Btu/scf

Diesel Engine Heat Rate:

7 Btu/gal

Table D-7c. Tank VOC and HAP Emissions Summary
Hilcorp Alaska, LLC - Northstar Production Facility

Parameter	Tank Emission Calculations ¹				Equation
	EU 19	EU 21	Diesel Tank	Methanol Tank	
Standing Loss (Ls) Calculations					
Vapor Space Expansion Factor, K_E	3.9E-02	3.9E-02	4.5E-02	3.9E-02	Eq. 1-12
Roof Outage, H_{RO} (ft)	0.26	0.11	NA	NA	Eq. 1-19
Effective Height, H_E (ft)	NA	NA	4.7	6.3	Eq. 1-15
Vapor Space Outage, H_{VO} (ft)	17.5	7.6	2.4	3.1	Eq. 1-18
Average Daily Temp, T_{AD} (°R)	477.8	477.8	477.8	477.8	Eq. 1-32
Liquid Bulk Temp, T_B (°R)	479.6	479.6	480.0	479.6	Eq. 1-33
Average Daily Liquid Temp, T_{LD} (°R)	481.8	481.8	482.9	481.8	Eq. 1-30
Vapor Pressure, P_{VA} (psia)	1.7E-03	0.41	1.9E-03	0.41	Eq. 1-27, 28
Vented Vapor Sat Factor, K_S	1.0	0.9	1.0	0.9	Eq. 1-23
Average Vapor Temp, T_V (°R)	483.7	483.7	483.8	483.7	Eq. 1-35
Vapor Density, W_V (lb/ft ³)	4.2E-05	2.5E-03	1.1E-05	2.5E-03	Eq. 1-24
Effective Diameter, D_E (ft)	NA	NA	10.7	14.3	Eq. 1-14
Vapor Space Volume, V_V (ft ³)	8,253	724	212	503	Eq. 1-3
Standing Loss, L_S (lb/yr)	5.0	22.6	0.0	17.1	Eq. 1-2
Working Loss (Lw) Calculations					
Annual Sum Liquid, $\Sigma H_{LQ}(ft/yr)$	33.3	14.8	4.5	5.3	Eq. 1-39
Maximum Liquid Height, H_{LX} (ft)	33.5	14.0	4.7	6.3	Eq. 1-38
Minimum Liquid Height, H_{LN} (ft)	1	1	0	0	Eq. 1-38
Number of Turnovers, N	1	1	1	1	Eq. 1-38
Factors, K_{H1}, K_S	1	1	1	1	Eq. 1-37
Factor, K_P	1	1	1	1	Eq. 1-37
Net Working Loss, V_{NL} (ft ³ /yr)	15,719	1,404	401	847	Eq. 1-41
Working Loss, L_W (lb/yr)	0.7	3.6	0.0	2.1	Eq. 1-37
Total VOCs (lb)	5.7	26.1	0.0	19.2	Eq. 1-1
Total VOCs (tpy)	2.8E-03	1.3E-02	2.1E-05	9.6E-03	--
HAP Emissions					
Benzene (tpy)	7.3E-07	0	5.4E-09	0	--
Cumene (tpy)	1.4E-08	0	1.1E-10	0	--
Ethylbenzene (tpy)	9.1E-08	0	6.7E-10	0	--
Hexane (tpy)	1.6E-06	0	1.2E-08	0	--
Methanol (tpy)	0	2.8E-05	0	9.6E-05	--
Toluene (tpy)	5.8E-07	0	4.3E-09	0	--
Xylenes (tpy)	3.7E-08	0	2.7E-10	0	--
Total HAPs (tpy)	3.0E-06	2.8E-05	2.3E-08	9.6E-05	--

Notes:

¹ Reference: AP-42 Section 7.1.

² Tank throughput assumed to be one tank volume per year. Except for the produced water tank is assumed to be twice per year.

Parameter	Tank Information			
	EU 19	EU 21	Diesel Tank	Methanol Tank
Tank Contents	Diesel	Inhibitor	Diesel	Methanol
Tank Capacity (gal)	117,600	10,500	3,000	6,340
Orientation	Vertical	Vertical	Horizontal	Horizontal
Diameter (ft)	24.5	11	6	8
Length/Height (ft)	34.5	15	15	20
Color	Grey (medium)	Grey (medium)	Red/Green	Grey (medium)
Diesel Throughput (gal/yr)	117,600	10,500	3,000	6,340
Paint Condition	Average	Average	Average	New
Roof Type	Cone	Cone	NA	NA
Paint Solar Absorbance, α	0.71	0.71	0.90	0.71

Meteorological Inputs (Deadhorse, AK)

Average Daily Max Temp, T_{AX}	25.2 °F	484.9 °R
Average Daily Min Temp, T_{AN}	11.0 °F	470.7 °R
Insolation Factor, i	838 Btu/ft ² -d	

Parameter	Fuel Constants ¹	
	Diesel	Inhibitor/Methanol
Vapor Mol. Wt, M_V (lb/lb-mol)	130	32.04
Vapor Pressure Constant, A	12.101	8.079
Vapor Press. Constant, B	8,907.0	1,581.3
Vapor Press. Constant, C	N/A	239.7

Notes:

¹ References: AP-42 Tables 7.1-2 and 7.1-3, Units for constants B and C in Table 7.1-2 are °R and Table 7.1-3 are °C.

Component	Component Vapor Mass Fraction	
	ULSD ¹	Inhibitor/Methanol ²
Benzene	0.0257	0
Cumene	0.0005	0
Ethylbenzene	0.0032	0
Hexane	0.0561	0
Methanol	0	1
Toluene	0.0206	0
Xylenes	0.0013	0

Notes:

¹ EPA SPECGATE online profiles.

² Corrosion inhibitor is primarily methanol.

Table D-8a. Significant Emissions Unit Inventory - SO₂ Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	Mass Balance	300 ppmvd H ₂ S ¹	32.83 tpy	32.83 tpy	32.29 tpy
2	Turbine (Compressor)	FG	32,715 hp	Mass Balance	300 ppmvd H ₂ S ¹	32.83 tpy	32.83 tpy	31.61 tpy
3	Turbine (Generator)	FG	11,892 kW	Mass Balance	300 ppmvd H ₂ S ¹	25.86 tpy	25.86 tpy	25.86 tpy
4	Turbine (Generator)	FG	11,892 kW	Mass Balance	300 ppmvd H ₂ S ¹	25.86 tpy	25.86 tpy	51.25 tpy
5	Turbine (Generator)	FG	11,892 kW	Mass Balance	300 ppmvd H ₂ S ¹	25.86 tpy	25.86 tpy	25.86 tpy
6	Diesel Generator	Diesel	2,180 kW	Mass Balance	0.1 wt.%S ²	1.05 tpy	9.16 tpy	1.7E-02 tpy
7	Diesel Generator	Diesel	2,180 kW	Mass Balance	0.1 wt.%S ²	2.8E-02 tpy	9.16 tpy	1.8E-02 tpy
8	Firewater Pump	Diesel	755 hp	Mass Balance	0.1 wt.%S ²	1.97 tpy	2.37 tpy	7.1E-03 tpy
9c	Incinerator	Waste	360 lb/hr	AP-42 Table 2.1-12	2.5 lb/ton	1.97 tpy	1.97 tpy	5.1E-02 tpy
10	High Pressure (HP) Flare	FG	2.8 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.51 tpy	0.51 tpy	0.51 tpy
11	Low Pressure (LP) Flare	FG	25.5 MMscf/hr	Mass Balance	300 ppmvd H ₂ S ¹	33.66 tpy	5,644.77 tpy	5.2E-03 tpy
12	Glycol Reboiler	FG	5 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.91 tpy	0.91 tpy	0.91 tpy
13	Space Heater, Warehouse	FG	0.7 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.13 tpy	0.13 tpy	0.13 tpy
16	Space Heater, Warehouse	FG	1,075 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.20 tpy	0.20 tpy	0.20 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.20 tpy	0.20 tpy	0.20 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	Mass Balance	300 ppmvd H ₂ S ¹	0.20 tpy	0.20 tpy	0.20 tpy
22	Firewater Pump	Diesel	160 hp	Mass Balance	0.1 wt.%S ²	5.7E-02 tpy	0.50 tpy	3.0E-03 tpy
23	Dehydrator	N/A	600 MMscfd	N/A	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanout Tank	N/A	500 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	0.1 wt.%S ²	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	Mass Balance	0.1 wt.%S ²	1.15 tpy	4.48 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	Mass Balance	0.1 wt.%S ²	1.13 tpy	1.34 tpy	4.6E-02 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	0.0015 wt.%S ³	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	0.0015 wt.%S ³	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	Mass Balance	0.0015 wt.%S ³	5.0E-02 tpy	0.14 tpy	1.3E-03 tpy
N/A	Turbines	Diesel	6,200 hp, total	Mass Balance	0.0015 wt.%S ³	1.7E-03 tpy	0.29 tpy	0 tpy
Total						184.27 tpy	5,819.36 tpy	117.25 tpy

Table D-8b. Insignificant Emissions Unit Inventory - SO₂ Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	N/A	N/A	0 tpy
20	TEG Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	N/A	N/A	0 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	N/A	N/A	0 tpy
Total						0 tpy

Notes:

¹ The H₂S content of the fuel gas burned in any emissions unit is limited to no more than 300 parts per million by volume (ppmv) per Conditions 11.1 and 18.1a of Construction Permit No. AQ0503CPT07 Rev 1.

² The diesel fuel burned in any emissions unit is limited to 0.1 percent of sulfur by weight per Conditions 11.3 and 18.2a of Construction Permit No. AQ0503CPT07 Rev 1, except as noted below.

³ The diesel fuel burned in any Group C emissions unit is limited to ULSD (0.0015 percent of sulfur by weight) per Condition 11.2 of Construction Permit No. AQ0503CPT07 Rev 1.

Conversions:

EU ID 1 & 2 Heat Rate:

7.76 kJ/M³-hr

EU ID 3, 4, & 5 Heat Rate:

5,484.7 Btu/tp-hr

Fuel Gas Heat Content:

12.54 kJ/M³-hr

Diesel Fuel Heat Content:

11,865.6 Btu/M³-hr

Diesel Fuel Density:

1,210 Btu/scf

Diesel Engine Heat Rate:

137,000 Btu/gal

7 lb/gal

7,000 Btu/tp-hr

Permit No. 0073-AC011 Section V, Condition C.2

Permit No. 0073-AC011 Section V, Condition C.2

Table D-9a. Significant Emissions Unit Inventory - CO₂e Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Limited Potential Emissions	Unlimited Potential Emissions	Estimated Actual Emissions
Group A - Stationary Emissions Units								
1	Turbine (Compressor)	FG	32,715 hp	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	92,028 tpy	92,028 tpy	90,526 tpy
2	Turbine (Compressor)	FG	32,715 hp	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	92,028 tpy	92,028 tpy	88,624 tpy
3	Turbine (Generator)	FG	11,892 kW	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	72,494 tpy	72,494 tpy	143,690 tpy
4	Turbine (Generator)	FG	11,892 kW	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	72,494 tpy	72,494 tpy	143,690 tpy
5	Turbine (Generator)	FG	11,892 kW	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	72,494 tpy	72,494 tpy	26 tpy
6	Diesel Generator	Diesel	2,180 kW	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	1,674 tpy	14,665 tpy	26 tpy
7	Diesel Generator	Diesel	2,180 kW	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	45 tpy	14,665 tpy	26 tpy
8	Firewater Pump	Diesel	755 hp	40 CFR 98 Tables C-1 & 2	92.75 kg/MMBtu	1,604 tpy	3,787 tpy	41 tpy
9c	Incinerator	Waste	360 lb/hr	41 CFR 98 Tables C-1 & 2	92.75 kg/MMBtu	1,604 tpy	1,604 tpy	41 tpy
11	High Pressure (HP) Flare	FG	2.8 MMBtu/hr	42 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	1,436 tpy	1,436 tpy	1,436 tpy
12	Low Pressure (LP) Flare	FG	25.5 MMscf/hr	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	94,365 tpy	15,825,191 tpy	15 tpy
13	Glycol Reboiler	FG	5 MMBtu/hr	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	2,564 tpy	2,564 tpy	2,564 tpy
16	Space Heater, Warehouse	FG	0.7 MMBtu/hr	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	359 tpy	359 tpy	359 tpy
17	Space Heater, Warehouse	FG	1,075 MMBtu/hr	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	551 tpy	551 tpy	551 tpy
18	Space Heater, Warehouse	FG	1,082 MMBtu/hr	40 CFR 98 Tables C-1 & 2	53.11 kg/MMBtu	555 tpy	555 tpy	555 tpy
22	Firewater Pump	Diesel	160 hp	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	92 tpy	803 tpy	5 tpy
23	Dehydrator	N/A	600 MMscfd	N/A	N/A	0 tpy	0 tpy	0 tpy
24	Produced Water Tank	N/A	1,000 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
25	Well Cleanout Tank	N/A	500 barrels	N/A	N/A	0 tpy	0 tpy	0 tpy
Group B - Portable Equipment								
N/A	Crane	Diesel	250 hp	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Snow Melters	Diesel	10 MMBtu/hr, total	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	1,843 tpy	7,166 tpy	0 tpy
N/A	Heaters	Diesel	3 MMBtu/hr, total	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	1,816 tpy	2,150 tpy	74 tpy
Group C - Intermittent Well Servicing Equipment								
N/A	I.C. Engines 400 - 600 hp	Diesel	1,675 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	I.C. Engines > 600 hp	Diesel	1,475 hp, total	N/A	N/A	0 tpy	0 tpy	0 tpy
N/A	Heaters and Boilers	Diesel	21.5 MMBtu/hr, total	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	5,376 tpy	15,407 tpy	140 tpy
N/A	Turbines	Diesel	6,200 hp, total	40 CFR 98 Tables C-1 & 2	74.21 kg/MMBtu	183 tpy	31,102 tpy	0 tpy
Total						514,001 tpy	16,323,543 tpy	328,645 tpy

Table D-9b. Insignificant Emissions Unit Inventory - CO₂e Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

EU ID	Emission Unit Name	Fuel	Rating/Size	Reference	Emission Factor	Unlimited Potential Emissions
19	Diesel Storage Tank	N/A	2,800 barrels	N/A	N/A	0 tpy
20	TEG Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
21	Corrosion Inhibitor Storage Tank	N/A	250 barrels	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 6	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Diesel Day Tank, for EU ID 22	N/A	3,000 gallons	N/A	N/A	0 tpy
N/A	Diesel Fuel Tank, Hector's Welding	N/A	400 gallons	N/A	N/A	0 tpy
N/A	Methanol Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	6,340 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,548 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,547 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,292 gallons	N/A	N/A	0 tpy
N/A	Corrosion Inhibitor Storage Tank	N/A	5,592 gallons	N/A	N/A	0 tpy
Total						0 tpy

Conversions:

EU ID 1 & 2 Heat Rate: 7.76 kJ/M-Hr
5,484.7 Btu/lb-hr
12.54 kJ/M-Hr
11,865.6 Btu/MW-Hr

EU ID 3, 4, & 5 Heat Rate: 1.210 Btu/scf
137,000 Btu/gal
7 lb/gal
7,000 Btu/lb-hr
9.95 MM/Btu-ton

Fuel Gas Heat Content:
Diesel Fuel Heat Content:
Diesel Fuel Density:
Diesel Engine Heat Rate:
MSW Heat Rate:

Permit No. 0073-AC011 Section V, Condition C.2

Permit No. 0073-AC011 Section V, Condition C.2

Table D-10. Gas-Fired Turbines - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited/Unlimited Potential Emissions ²		Estimated Actual Emissions ²		
			EU ID 1 & 2 each	EU ID 3, 4, 5 each	EU ID 1	EU ID 2	EU ID 3, 4, 5 combined
75-07-0	Acetaldehyde	4.00E-05 lb/MMBtu	3.1E-02 tpy	2.5E-02 tpy	3.1E-02 tpy	3.0E-02 tpy	4.9E-02 tpy
107-02-8	Acrolein	6.40E-06 lb/MMBtu	5.0E-03 tpy	4.0E-03 tpy	4.9E-03 tpy	4.8E-03 tpy	7.9E-03 tpy
71-43-2	Benzene	1.20E-05 lb/MMBtu	9.4E-03 tpy	7.4E-03 tpy	9.3E-03 tpy	9.1E-03 tpy	1.5E-02 tpy
106-99-0	1,3-Butadiene	4.30E-07 lb/MMBtu	3.4E-04 tpy	2.7E-04 tpy	3.3E-04 tpy	3.3E-04 tpy	5.3E-04 tpy
100-41-4	Ethylbenzene	3.20E-05 lb/MMBtu	2.5E-02 tpy	2.0E-02 tpy	2.5E-02 tpy	2.4E-02 tpy	3.9E-02 tpy
50-00-0	Formaldehyde	7.10E-04 lb/MMBtu	0.56 tpy	0.44 tpy	0.55 tpy	0.54 tpy	0.87 tpy
N/A	Polycyclic Organic Matter	2.20E-06 lb/MMBtu	1.7E-03 tpy	1.4E-03 tpy	1.7E-03 tpy	1.7E-03 tpy	2.7E-03 tpy
91-20-3	Naphthalene	1.30E-06 lb/MMBtu	1.0E-03 tpy	8.0E-04 tpy	1.0E-03 tpy	9.8E-04 tpy	1.6E-03 tpy
75-56-9	Propylene Oxide	2.90E-05 lb/MMBtu	2.3E-02 tpy	1.8E-02 tpy	2.2E-02 tpy	2.2E-02 tpy	3.6E-02 tpy
108-88-3	Toluene	1.30E-04 lb/MMBtu	0.10 tpy	8.0E-02 tpy	0.10 tpy	9.8E-02 tpy	0.16 tpy
1330-20-7	Xylenes (isomers and mixtures)	6.40E-05 lb/MMBtu	5.0E-02 tpy	4.0E-02 tpy	4.9E-02 tpy	4.8E-02 tpy	7.9E-02 tpy
Total			0.81 tpy	0.64 tpy	0.79 tpy	0.78 tpy	1.26 tpy

Notes:

¹ Reference: AP-42, Table 3.1-3.

² Total heat consumption based on operation as noted below:

EU ID	Ratio/Size	Limited/Unlimited Operations	Estimated/Actual Operations
1	32,715 hp	1,571,815 MMBtu/yr	1,546,156 MMBtu/yr
2	32,715 hp	1,571,815 MMBtu/yr	1,513,679 MMBtu/yr
3	11,892 kW	1,238,172 MMBtu/yr	
4	11,892 kW	1,238,172 MMBtu/yr	2,454,192 MMBtu/yr
5	11,892 kW	1,238,172 MMBtu/yr	

Conversions:

EU ID 1 & 2 Heat Rate:	7.76 kJ/kWhr	Permit No. 0073-AC011 Section V, Condition C.2
EU ID 3, 4, & 5 Heat Rate:	5,484.7 Btu/hp-hr	Permit No. 0073-AC011 Section V, Condition C.2
	12.54 kJ/kWhr	
	11,885.6 Btu/kWhr	

Table D-11: Diesel-Fired Turbines - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited Potential Emissions ²		Unlimited Potential Emissions ²		Estimated Actual Emissions ²
			Group C Turbines	Group C Turbines	Group C Turbines	Group C Turbines	
71-43-2	Benzene	5.50E-05 lb/MMBtu	6.1E-05 tpy	1.05E-02 tpy	0 tpy	0 tpy	
106-99-0	1,3-Butadiene	1.60E-05 lb/MMBtu	1.8E-05 tpy	3.04E-03 tpy	0 tpy	0 tpy	
50-00-0	Formaldehyde	2.80E-04 lb/MMBtu	3.1E-04 tpy	5.32E-02 tpy	0 tpy	0 tpy	
N/A	Polycyclic Organic Matter	4.00E-05 lb/MMBtu	4.5E-05 tpy	7.60E-03 tpy	0 tpy	0 tpy	
91-20-3	Naphthalene	3.50E-05 lb/MMBtu	3.9E-05 tpy	6.65E-03 tpy	0 tpy	0 tpy	
N/A	Arsenic Compounds	1.10E-05 lb/MMBtu	1.2E-05 tpy	2.09E-03 tpy	0 tpy	0 tpy	
N/A	Beryllium Compounds	3.10E-07 lb/MMBtu	3.5E-07 tpy	5.89E-05 tpy	0 tpy	0 tpy	
N/A	Cadmium Compounds	4.80E-06 lb/MMBtu	5.4E-06 tpy	9.12E-04 tpy	0 tpy	0 tpy	
N/A	Chromium Compounds	1.10E-05 lb/MMBtu	1.2E-05 tpy	2.09E-03 tpy	0 tpy	0 tpy	
N/A	Lead Compounds	1.40E-05 lb/MMBtu	1.6E-05 tpy	2.66E-03 tpy	0 tpy	0 tpy	
N/A	Manganese Compounds	7.90E-04 lb/MMBtu	8.8E-04 tpy	0.15 tpy	0 tpy	0 tpy	
N/A	Mercury Compounds	1.20E-06 lb/MMBtu	1.3E-06 tpy	2.28E-04 tpy	0 tpy	0 tpy	
N/A	Nickel Compounds	4.60E-06 lb/MMBtu	5.1E-06 tpy	8.74E-04 tpy	0 tpy	0 tpy	
N/A	Selenium Compounds	2.50E-05 lb/MMBtu	2.8E-05 tpy	4.75E-03 tpy	0 tpy	0 tpy	
Total			1.4E-03 tpy	0.24 tpy	0 tpy	0 tpy	

Notes:

¹ Reference: AP-42, Table 3.1-4 and 3.1-5.

² Total heat consumption based on operation as noted below:

EUI	
Group C Turbines	Rating/Size
	6,200 bhp

Limited Operations		Unlimited Operations	
Group C Turbines	Rating/Size	Group C Turbines	Rating/Size
	2,234.6 MMBtu/yr		380,184 MMBtu/yr

Conversions:

Diesel Fuel Heat Content:	137,000 Btu/gal
Diesel Turbine Heat Rate:	7,000 Btu/hp-hr

Estimated Actual Operations	
Group C Turbines	Rating/Size
	0.0 MMBtu/yr

Table D-12. Diesel-Fired RICE > 600 hp - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited Potential Emissions ²		Unlimited Potential Emissions ² EU ID 6 & 7 each	Estimated Actual Emissions ²		
			EU ID 6 & 7 combined	EU ID 8		EU ID 6	EU ID 7	EU ID 8
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	2.6E-04 tpy	6.9E-06 tpy	2.3E-03 tpy	4.1E-06 tpy	4.0E-06 tpy	1.8E-06 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	8.1E-05 tpy	2.2E-06 tpy	7.1E-04 tpy	1.3E-06 tpy	1.3E-06 tpy	5.5E-07 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	7.9E-03 tpy	2.1E-04 tpy	7.0E-02 tpy	1.3E-04 tpy	1.2E-04 tpy	5.4E-05 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	8.1E-04 tpy	2.2E-05 tpy	7.1E-03 tpy	1.3E-05 tpy	1.3E-05 tpy	5.5E-06 tpy
N/A	Polycyclic Organic Matter	2.12E-04 lb/MMBtu	2.2E-03 tpy	5.8E-05 tpy	1.9E-02 tpy	3.4E-05 tpy	3.4E-05 tpy	1.5E-05 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	2.9E-03 tpy	7.7E-05 tpy	2.5E-02 tpy	4.5E-05 tpy	4.5E-05 tpy	2.0E-05 tpy
1330-20-7	Xylenes (isomers and mixtures)	1.93E-04 lb/MMBtu	2.0E-03 tpy	5.3E-05 tpy	1.7E-02 tpy	3.1E-05 tpy	3.1E-05 tpy	1.3E-05 tpy
Total			1.6E-02 tpy	4.3E-04 tpy	0.14 tpy	2.5E-04 tpy	2.5E-04 tpy	1.1E-04 tpy

Notes:

¹ Reference: AP-42, Tables 3.4-3 and 3.4-4.

² Total heat consumption based on operation as noted below.

EU ID	Rating/Size	Limited Operations	Unlimited Operations	Estimated Actual Operatio
6	2,180 kW	20,464 MMBtu/yr	179,262 MMBtu/yr	323 MMBtu/yr
7	2,180 kW	550 MMBtu/yr	179,262 MMBtu/yr	319 MMBtu/yr
8	755 hp	550 MMBtu/yr	46,297 MMBtu/yr	140 MMBtu/yr

Conversions:

Diesel Engine Heat Rate: 7,000 Btu/hp-hr

Table D-13. Diesel-Fired RICE < 600 hp - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited Potential		Unlimited Potential		Estimated Actual	
			Emissions ²	EU ID 22	Emissions ²	EU ID 22	Emissions ²	EU ID 22
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	4.3E-04 tpy		3.8E-03 tpy		2.3E-05 tpy	
107-02-8	Acrolein	9.25E-05 lb/MMBtu	5.2E-05 tpy		4.5E-04 tpy		2.8E-06 tpy	
71-43-2	Benzene	9.33E-04 lb/MMBtu	5.2E-04 tpy		4.6E-03 tpy		2.8E-05 tpy	
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	2.2E-05 tpy		1.9E-04 tpy		1.2E-06 tpy	
50-00-0	Formaldehyde	1.19E-03 lb/MMBtu	6.6E-04 tpy		5.8E-03 tpy		3.5E-05 tpy	
N/A	Polycyclic Organic Matter	1.68E-04 lb/MMBtu	9.4E-05 tpy		8.2E-04 tpy		5.0E-06 tpy	
108-88-3	Toluene	4.09E-04 lb/MMBtu	2.3E-04 tpy		2.0E-03 tpy		1.2E-05 tpy	
1330-20-7	Xylenes (somers and mixture)	2.85E-04 lb/MMBtu	1.6E-04 tpy		1.4E-03 tpy		8.5E-06 tpy	
Total			2.2E-03 tpy		1.9E-02 tpy		1.2E-04 tpy	

Notes:

¹ Reference: AP-42, Table 3.3-2.

² Total heat consumption based on operation as noted below:

EUJD 22

Rating/Size 160 hp

Limited Operations 1,120 MMBtu/yr

Unlimited Operations 9,811 MMBtu/yr

Estimated Actual Operations 60 MMBtu/yr

Conversions:

Diesel Engine Heat Rate: 7,000 Btu/hp-hr

Table D-14. Incinerator - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited/Unlimited Potential Emissions ² EU ID 9c	Estimated Actual Emissions ² EU ID 9c
N/A	Arsenic Compounds	4.37E-03 lb/ton	3.4E-03 tpy	8.9E-05 tpy
N/A	Cadmium Compounds	1.09E-02 lb/ton	8.6E-03 tpy	2.2E-04 tpy
N/A	Chromium Compounds	8.97E-03 lb/ton	7.1E-03 tpy	1.8E-04 tpy
N/A	Hydrochloric acid	6.40E+00 lb/ton	5.05 tpy	0.13 tpy
N/A	Lead Compounds	2.13E-01 lb/ton	0.17 tpy	4.3E-03 tpy
N/A	Mercury Compounds	5.60E-03 lb/ton	4.4E-03 tpy	1.1E-04 tpy
N/A	Nickel Compounds	7.85E-03 lb/ton	6.2E-03 tpy	1.6E-04 tpy
Total			5.24 tpy	0.14 tpy

Notes:

¹ Reference: AP-42, Table 2.1-2

² Total heat consumption based on operation as noted below:

EU ID	Rating/Size	Limited/Unlimited Operations	Estimated Actual Operations
9c	360 lb/hr	1,577 ton/yr	40.6 ton/yr

Table D-15. Flares - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited Potential Emissions		Unlimited Potential		Estimated Actual Emissions	
			EU ID 11 & 12 combined	EU ID 11 & 12 combined	EU ID 11 & 12 combined	EU ID 11 & 12 combined		
75-07-0	Acetaldehyde	0.043 lb/MMscf	2.9E-02 tpy	4.80 tpy	4.4E-06 tpy			
107-02-8	Acrolein	0.010 lb/MMscf	6.7E-03 tpy	1.12 tpy	1.0E-06 tpy			
71-43-2	Benzene	0.159 lb/MMscf	0.11 tpy	17.76 tpy	1.6E-05 tpy			
100-41-4	Ethylbenzene	1.444 lb/MMscf	0.96 tpy	161.28 tpy	1.5E-04 tpy			
50-00-0	Formaldehyde	1.169 lb/MMscf	0.78 tpy	130.57 tpy	1.2E-04 tpy			
110-54-3	n-Hexane	0.029 lb/MMscf	1.9E-02 tpy	3.24 tpy	3.0E-06 tpy			
N/A	Polycyclic Organic Matter	0.014 lb/MMscf	9.3E-03 tpy	1.56 tpy	1.4E-06 tpy			
108-88-3	Toluene	0.058 lb/MMscf	3.9E-02 tpy	6.48 tpy	6.0E-06 tpy			
1330-20-7	Xylenes (isomers and mixtures)	0.029 lb/MMscf	1.9E-02 tpy	3.24 tpy	3.0E-06 tpy			
	Total		1.97 tpy	330.04 tpy	3.0E-04 tpy			

Notes:

¹ Reference: VCAPCD.

² Total heat consumption based on operation as noted below:

EU ID	Rating/Size	Limited Operations	Unlimited Operations	Estimated Actual Operations
11	25.50 MMscf/hr	1.332 MMscf/yr	223.380 MMscf/yr	205.7 Mscf/yr
12				

Table D-16. Gas-Fired Heaters and Boilers - HAP Emissions
Hilcorp Alaska, LLC - Northstar Production Facility

CAS No.	Hazardous Air Pollutant	Emission Factor ¹	Limited/Unlimited/Estimated/Actual Emissions ²							
			EU ID 9c	EU ID 13	EU ID 16	EU ID 17	EU ID 18			
71-43-2	Benzene	2.1E-03 lb/MMscf	2.1E-05 tpy	3.8E-05 tpy	5.3E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	
25321-226	Dichlorobenzene	1.2E-03 lb/MMscf	1.2E-05 tpy	2.2E-05 tpy	3.0E-06 tpy	4.7E-06 tpy	4.7E-06 tpy	4.7E-06 tpy	4.7E-06 tpy	
50-00-0	Formaldehyde	7.5E-02 lb/MMscf	7.5E-04 tpy	1.4E-03 tpy	1.9E-04 tpy	2.9E-04 tpy	2.9E-04 tpy	2.9E-04 tpy	2.9E-04 tpy	
110-54-3	n-Hexane	1.8E+00 lb/MMscf	1.8E-02 tpy	3.3E-02 tpy	4.6E-03 tpy	7.0E-03 tpy	7.0E-03 tpy	7.0E-03 tpy	7.0E-03 tpy	
N/A	Polycyclic Organic Matter	8.82E-05 lb/MMscf	8.9E-07 tpy	1.6E-06 tpy	2.2E-07 tpy	3.4E-07 tpy	3.4E-07 tpy	3.5E-07 tpy	3.5E-07 tpy	
91-20-3	Naphthalene	6.1E-04 lb/MMscf	6.2E-06 tpy	1.1E-05 tpy	1.5E-06 tpy	2.4E-06 tpy	2.4E-06 tpy	2.4E-06 tpy	2.4E-06 tpy	
108-88-3	Toluene	3.4E-03 lb/MMscf	3.4E-05 tpy	6.2E-05 tpy	8.6E-06 tpy	1.3E-05 tpy	1.3E-05 tpy	1.3E-05 tpy	1.3E-05 tpy	
N/A	Arsenic Compounds	2.0E-04 lb/MMscf	2.0E-06 tpy	3.6E-06 tpy	5.1E-07 tpy	7.8E-07 tpy	7.8E-07 tpy	7.8E-07 tpy	7.8E-07 tpy	
N/A	Beryllium Compounds	1.2E-05 lb/MMscf	1.2E-07 tpy	2.2E-07 tpy	3.0E-08 tpy	4.7E-08 tpy	4.7E-08 tpy	4.7E-08 tpy	4.7E-08 tpy	
N/A	Cadmium Compounds	1.1E-03 lb/MMscf	1.1E-05 tpy	2.0E-05 tpy	2.8E-06 tpy	4.3E-06 tpy	4.3E-06 tpy	4.3E-06 tpy	4.3E-06 tpy	
N/A	Chromium Compounds	1.4E-03 lb/MMscf	1.4E-05 tpy	2.5E-05 tpy	3.5E-06 tpy	5.4E-06 tpy	5.4E-06 tpy	5.5E-06 tpy	5.5E-06 tpy	
N/A	Cobalt Compounds	8.4E-05 lb/MMscf	8.5E-07 tpy	1.5E-06 tpy	2.1E-07 tpy	3.3E-07 tpy	3.3E-07 tpy	3.3E-07 tpy	3.3E-07 tpy	
N/A	Lead Compounds	5.0E-04 lb/MMscf	5.1E-06 tpy	9.0E-06 tpy	1.3E-06 tpy	1.9E-06 tpy	1.9E-06 tpy	2.0E-06 tpy	2.0E-06 tpy	
N/A	Manganese Compounds	3.8E-04 lb/MMscf	3.9E-06 tpy	6.9E-06 tpy	9.6E-07 tpy	1.5E-06 tpy	1.5E-06 tpy	1.5E-06 tpy	1.5E-06 tpy	
N/A	Mercury Compounds	2.6E-04 lb/MMscf	2.6E-06 tpy	4.7E-06 tpy	6.6E-07 tpy	1.0E-06 tpy	1.0E-06 tpy	1.0E-06 tpy	1.0E-06 tpy	
N/A	Nickel Compounds	2.1E-03 lb/MMscf	2.1E-05 tpy	3.8E-05 tpy	5.3E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	8.2E-06 tpy	
N/A	Selenium Compounds	2.4E-05 lb/MMscf	2.4E-07 tpy	4.3E-07 tpy	6.1E-08 tpy	9.3E-08 tpy	9.3E-08 tpy	9.4E-08 tpy	9.4E-08 tpy	
	Total		1.9E-02 tpy	3.4E-02 tpy	4.8E-03 tpy	7.3E-03 tpy	7.3E-03 tpy	7.4E-03 tpy	7.4E-03 tpy	

Notes:

¹ Reference: AP-42, Table 1.4-3 & 1.4-4

² Total heat consumption based on operation as noted below.

EU ID	Rating/Size	Limited/Unlimited/Estimated/Actual Operations
9c	2.8 MMBtu/hr	20.3 MMscf/yr
13	5 MMBtu/hr	36.2 MMscf/yr
16	0.7 MMBtu/hr	5.1 MMscf/yr
17	1.075 MMBtu/hr	7.8 MMscf/yr
18	1.082 MMBtu/hr	7.8 MMscf/yr

Conversions:

Fuel Gas Heat Content: 1,210 Btu/scf



Section E

Regulatory Requirements

Form E1:	Stationary Source-Wide Applicable Requirements
Form E3:	Title V Condition Change Request
Form E4:	Permit Shield Request
Form E5:	Alternative Monitoring Procedures (AMP) Form

FORM E1
Stationary Source-Wide Applicable Requirements

Permit Number: AQ0503TVP03

Stationary Source-Wide Applicable Requirements (attach additional sheets as needed):

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 19	AQ0503CPT07 Rev. 1, Condition 8	Ambient Air Quality Protection Requirements	Provide unique identification and labels on unit.	Yes.	Maintain records as required in Condition 19.4.
AQ0503TVP03 – Condition 20	AQ0503CPT07 Rev. 1, Condition 9	Ambient Air Quality Protection Requirements	Do not burn used oil at the stationary source.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 22.1	AQ0503CPT07 Rev. 1, Condition 11.1	Ambient Air Quality Protection Requirements	Limit the H ₂ S content of the fuel gas burned to no more than 300 ppmv.	Yes.	Monitor, record, and report in accordance with Conditions 16, 17, 18.2.
AQ0503TVP03 – Condition 22.2	AQ0503CPT07 Rev. 1, Condition 11.2	Ambient Air Quality Protection Requirements	Burn only ULSD fuel in all intermittently used oil field service equipment such as internal combustion engines, boilers/heaters rated at less than 400 hp or 2.8 MMBtu/hr, and all other non-road diesel fired engines. Maintain dedicated fuel tanks.	Yes.	Monitor, record, and report in accordance with Conditions 22.2b and c.
AQ0503TVP03 – Condition 28.1a	AQ0503CPT07 Rev. 1, Condition 18.1a	Sulfur Dioxide (SO ₂) BACT	The H ₂ S content of gaseous fuel shall not exceed 300 ppmv.	Yes.	Monitor, record, and report as required in Conditions 16, 17, and 18.2.
AQ0503TVP03 – Condition 28.2a	AQ0503CPT07 Rev. 1, Condition 18.2a	Sulfur Dioxide (SO ₂) BACT	The sulfur content of diesel fuel shall not exceed 0.1 percent by weight.	Yes.	Monitor, record, and report as required in Conditions 14.1, 14.2, and 15.2a.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Conditions 29.1c, 29.1d, & 29.2	AQ0503CPT07 Rev. 1, Conditions 19.1c, 19.1d, & 19.2	Volatile Organic Compounds (VOC) BACT	Install and operate as BACT: - Water Injection Tanks and Slop Oil Tank with a sealed system design vented to the flaring system; - Portable Fuel Oil Storage Tanks with conservation vents; and Operate and maintain each pump, pressure relief device, open-ended valve or line, valve compressor and flange, or other connector in VOC or wet gas service, and each natural gas processing device or system in accordance with good operational practices. Tag and repair all leaking connectors, pumps, and compressors in VOC, or wet gas service as soon as practicable. Maintain a log of preventive maintenance, surveillance activities, and repairs.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 33.1	18 AAC 50.050(a), 50.055(a)(1)	Insignificant Emission Units – VE Standard	Do not cause or allow visible emissions to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.	Yes.	Monitor, record, and report in accordance with Condition 33.4.
AQ0503TVP03 – Condition 33.2	18 AAC 50.055(b)(1)	Insignificant Emission Units – PM Standard	Do not cause or allow particulate matter to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 33.4.
AQ0503TVP03 – Condition 33.3	18 AAC 50.055(c)	Insignificant Emission Units – Sulfur Standard	Do not cause or allow sulfur compound emissions, expressed as SO ₂ to exceed 500 ppm averaged over three hours.	Yes.	Monitor, record, and report in accordance with Condition 33.4.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 34	40 CFR 60.7(a) & 60.15(d), Subpart A	NSPS Subpart A Notification	Furnish to the Department and EPA written or electronic notification of dates of construction or reconstruction; dates of initial startup; physical or operational changes that may increase the emission rate of any applicable air pollutant; and proposed replacement of components.	Yes.	Annual Compliance Audit.
AQ0062TVP04 – Condition 44	40 CFR 61, Subparts A & M, Appendix A	Subpart A (General Provisions) and Subpart M (Asbestos)	Comply with the 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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 49	40 CFR 82, Subpart F	Subpart F – Recycling and Emissions Reduction.	Comply with the applicable standards for recycling and emission reduction of refrigerants in 40 CFR 82 Subpart F.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 50	40 CFR 82.174(b)-(d), Subpart G	Subpart G – Significant New Alternatives	Comply with the applicable prohibitions in 40 CFR 82.174.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 51	40 CFR 82.270(b)-(f), Subpart H	Subpart H – Halons Emissions Reduction.	Comply with the applicable prohibitions in 40 CFR 82.270.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Conditions 52-54	40 CFR 63.1(b), 63.5(b)(4), 63.6(c)(1), 63.9(b), 63.10(b)(3), Subpart A	NESHAP Applicability Determinations	Determine rule applicability and designation of affected sources under NESHAPs for Source Categories (40 CFR 63) in accordance with the procedures described in 40 CFR 63.1(b) and 63.10(b)(3).	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 55	40 CFR 71.6(c)(6)	General NSPS and NESHAP Requirements - Reports	Attach to the operating report for the period covered by the report a copy of any NSPS and NESHAPs reports submitted to the EPA Region 10.	Yes.	Annual Compliance Audit.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 56	40 CFR 71.6(c)(6)	General NSPS and NESHAP Requirements - Waivers	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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 57	18 AAC 50.345(a) & (e)	Standard Terms and Conditions	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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 58	18 AAC 50.345(a) & (f)	Standard Terms and Conditions	The permit may be modified, reopened, revoked and reissued, or terminated for cause.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 59	18 AAC 50.345(a) & (g)	Standard Terms and Conditions	The permit does not convey any property rights of any sort, nor any exclusive privilege.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 60	18 AAC 50.326(j), 50.400, 50.403	Administration Fees	Pay to the Department all assessed permit administration fees.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 61	18 AAC 50.410, 50.420	Assessable Emissions	Pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 62	18 AAC 50.410, 50.420	Assessable Emission Estimates	Submit an estimate of the stationary source's assessable emissions. 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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 64	18 AAC 50.045(a)	Dilution	Do not dilute emissions with air to comply with this permit.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 65	18 AAC 50.045(d)	Reasonable Precautions to Prevent Fugitive Dust	Take reasonable precautions to prevent particulate matter from being emitted into the ambient air.	Yes.	Record and report in accordance with 65.1 and 65.2.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 66	18 AAC 50.055(g)	Stack Injection	Do not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a 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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 67	18 AAC 50.110	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.	Yes.	Monitor, record, and report in accordance with Condition 67.1.
AQ0503TVP03 – Condition 68	18 AAC 50.235(a)	Technology-Based Emissions Standard	If an unavoidable emergency, malfunction, or non-routine repair causes emissions in excess of a technology-based emission standard, take all reasonable steps to minimize levels of emissions that exceed the standard, and report.	Yes.	Comply with Conditions 68.1 and 68.2.
AQ0503TVP03 – Condition 69	18 AAC 50.065	Open Burning Requirements	Comply with the requirements of 18 AAC 50.065 if open burning is conducted.	Yes.	Comply with Conditions 69.1 and 69.2.
AQ0503TVP03 – Condition 70	18 AAC 50.220(a)	Requested Source Tests	Conduct source testing as requested by the Department to determine compliance with applicable permit requirements.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 71	18 AAC 50.220(b)	Operating Conditions	Conduct source testing at a point or points that characterize the actual discharge into the ambient air; and at the maximum rated burning or operating capacity of the emission unit.	Yes.	Annual Compliance Audit
AQ0503TVP03 – Condition 72	18 AAC 50.220(c)(1)(A)-(F) & (c)(2)	Reference Test Methods	Use the referenced test methods when conducting source testing for compliance with the permit.	Yes.	Comply with the test methods listed in Conditions 72.1 through 72.7.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 73	18 AAC 50.220(c)(3)	Excess Air Requirements	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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 74	18 AAC 50.345(a)	Test Exemption	It is not required to comply with Conditions 76, 77, and 78 when the exhaust is observed for visible emissions by a Method 9 Plan.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 75	18 AAC 50.345(a) & (l)	Test Deadline Extension	An extension may be requested to a source test deadline established by the Department.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 76	18 AAC 50.345(a) & (m)	Test Plans	Before conducting any source tests, submit a plan to the Department.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 77	18 AAC 50.345(a) & (n)	Test Notification	At least 10 days before conducting a source test, give the Department written notice of the date and the time the source test will begin.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 78	18 AAC 50.345(a) & (o)	Test Reports	Within 60 days after completing a source test, submit two copies of the results.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 79	18 AAC 50.220(f)	Particulate Matter Calculations	In source testing for compliance with the particulate matter standards, the three-hour average is determined using the average of three one-hour test runs.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 80	40 CFR 60.7(f), 71.6(a)(3)(ii)(B)	Recordkeeping Requirements	Keep all records required by this permit for at least five years after the date of collection.	Yes.	Keep records in accordance with Conditions 80.1 and 80.2.
AQ0503TVP03 – Condition 81	18 AAC 50.205, 50.326(j), 50.345(a) & (j), 40 CFR 71.6(a)(3)(iii)(A)	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.	Yes.	Annual Compliance Audit.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 82	18 AAC 50.326(j)(3), 40 CFR 71.6(a)(3)(iii)(A)	Submittals	Submit one certified copy of reports, compliance certifications, and/or other submittals required by this permit.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 83	18 AAC 50.345(i), 50.200, 40 CFR 71.5(a)(2), 71.6(a)(3)	Information Requests	Furnish to the Department 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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 84	18 AAC 50.235(a)(2), 50.240(c), 50.346(b)(2) & (3)	Excess Emissions and Permit Deviation Reports	Report all emissions or operations that exceed or deviate from the requirements of this permit.	Yes.	Report in accordance with Conditions 84.1 through 84.3.
AQ0503TVP03 – Condition 85	18 AAC 50.346(b)(6), 40 CFR 71.6(a)(3)(iii)(A)	Operating Reports	Submit to the Department an operating report by May 15 for the period January 1 to March 31, by August 15 for the period April 1 to June 30, by November 15 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31 of the previous year.	Yes.	Report in accordance with Conditions 85.1 through 85.5.
AQ0503TVP03 – Condition 86	40 CFR 71.6(c)(5)	Annual Compliance Certification	Each year by March 31, compile and submit to the Department an annual compliance certification report.	Yes.	Report in accordance with Conditions 86.1 through 86.3.
AQ0503TVP03 – Condition 87	18 AAC 50.346(b)(8), 40 CFR 51.15, 51.30(a)(1) & (b)(1)	Emission Inventory Reporting	Submit to the Department reports of actual emissions, by emissions unit, of CO, NH ₃ , NO _x , PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, and Lead (Pb) (and lead compounds) for the previous calendar year.	Yes.	Report in accordance with Conditions 87.1 through 87.4.
AQ0503TVP03 – Condition 88	40 CFR 71.10(d)(1)	Permit Applications and Submittals	Comply with the requirements for submitting application information to the EPA Region 10.	Yes.	Comply with Conditions 88.1 through 88.4.

FORM E1
Stationary Source-Wide Applicable Requirements

Permit and Condition Number	Applicable Requirement Citation ¹	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Condition 89	40 CFR 71.6(a)(8)	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.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 90	40 CFR 71.6(a)(12)	Off Permit Changes	Changes may be made that are not addressed or prohibited by this permit.	Yes.	Comply with the requirements of Conditions 90.1 through 90.4.
AQ0503TVP03 – Condition 91	40 CFR 71.6(a)(13)	Operational Flexibility	Section 502(b)(10) changes may be made within the permitted stationary source without requiring 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.	Yes.	Comply with the requirements of Conditions 91.1 and 91.2.
AQ0503TVP03 – Condition 92	18 AAC 50.326(c)(2) & (j)(2), 40 CFR 71.5(a)(1)(iii), 71.7(b) & (c)(1)(ii)	Permit Renewal	Submit to the Department a renewal application no sooner than December 10, 2023 and no later than December 10, 2024.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Conditions 93-97	18 AAC 50.345(a)-(d), & (h)	General Compliance Requirements	Comply with each permit term and condition and allow the Department access to the facility.	Yes.	Annual Compliance Audit.
AQ0503TVP03 – Condition 98	18 AAC 50.326(j)	Compliance Schedule	For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.	Yes.	Annual Compliance Audit.

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

FORM E3
Title V Condition Change Request

Permit Number: AQ0503TVP03

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
AQ0503TVP03 – All Standard Conditions	Revise	Revise all Standard Conditions throughout the permit with the updated July 22, 2020 Standard Conditions.	Revise all Standard Conditions throughout the permit with the updated July 22, 2020 Standard Conditions.
AQ0503TVP03 – Title Page	Revise	Revise to correct typographical error.	Remove “00” before “DEPARTMENT OF ENVIRONMENTAL CONSERVATION” at the top of the page.
AQ0503TVP03 – Section 1, Identification	Revise	The Permittee’s Responsible Official has changed.	Revise the Permittee’s Responsible Official to: Luke Saugier, Senior Vice President Trudi Hallett, Asset Team Lead Chris Kanyer, Asset Team Lead Anthony McConkey, Asset Team Lead Jill Fisk, Asset Team Lead
AQ0503TVP03 – Section 1, Identification	Revise	The Stationary Source and Building Contact has changed.	Revise the Stationary Source and Building Contact to: Drew Anderson, Environmental Engineer 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503 (907) 777-8488 ananderson@hilcorp.com
AQ0503TVP03 – Section 1, Identification	Revise	The Permit Contact has changed.	Revise the Permit Contact as follows: Drew Anderson, Environmental Engineer 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503 (907) 777-8488 ananderson@hilcorp.com
AQ0503TVP03 – Section 1, Identification	Revise	The Fee Contact address has changed.	Revise the Fee Contact address as follows: Hilcorp Alaska, LLC / Accounts Payable 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Section 2, Table A	Revise	Update Table A – Emissions Unit Inventory as specified in Form B. The ratings for EU IDs 11-12 and Group B-Crane will match the limits in Table B of the permit.	<p>Revise the following:</p> <ul style="list-style-type: none"> - For EU ID 9c, revise the Emissions Unit Description to “ACS CA0300.” - For EU ID 11 and 12, revise the rating/size to 25.5 MMBscf/hr, combined. - Remove EU IDs 19 through 21, these are insignificant emissions units. - EU ID 23, revise the Emissions Unit Description to “Dehydrator.” - Add EU IDs 24 and 25, these are tanks with BACT requirements in the permit. - For Group B-Crane, revise the rating/size to 250 hp.
AQ0503TVP03 – Condition 7.1	Revise	Conditions 10 through 12 do not apply to EU IDs 6 through 8.	<p>Revise as follows:</p> <p>For EU IDs 6 through 8, monitor, record, and report in accordance with Conditions 8 and 9.</p>
AQ0503TVP03 – Heading above Condition 16	Revise	Update heading to include EU IDs 16 through 18	<p>Revise as follows:</p> <p>Fuel Gas (EU IDs 1 through 5, 11 through 13, and 16 through 18)</p>
AQ0503TVP03 – Condition 22	Revise	Update “Fuel Sulfur Limits” to be bold consistent with other conditions.	Update “Fuel Sulfur Limits” to be bold consistent with other conditions.
AQ0503TVP03 – Section 3, Table C, Column Heading	Revise	According to Permit No. AQ0503MSS03 Table 2, this column was previously labeled as “Maximum Aggregate Capacity/Limit.” The intent was not to copy the ratings from Table A.	Revise the “Rating” column to “Maximum Aggregate Capacity/Limit”.
AQ0503TVP03 – Section 3, Table C	Revise	The “Ratings” column is not correctly identified. According to Permit No. AQ0503CPT07 Revision 1, Table 2, this column was identified as N/A for EU IDs 1-2, 3-5, 6-7, and 8. These units have no aggregate capacity/limit. This is clarified in Condition 24.2, which specifies equipment pools with cumulative rated capacity limits (bhp or MMBtu/hr).	<p>Revise Table C as follows:</p> <ul style="list-style-type: none"> - Revise the “Rating” column to “Maximum Aggregate Capacity/Limit” - Revise the “Maximum Aggregate Capacity/Limit” for EU IDs 1-2, 3-5, 6-7, 8, and 22 to be “N/A.”

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 25.1	Revise	Clarification since bhp is not an hourly operational limit.	Revise Condition 25.1 to require compliance with a “maximum aggregate capacity/limit”: For each of the EUs in Conditions 25.1.a through 25.1.c that are subject to cumulative rated capacity/limit (e.g., MMBscf/hr, bhp, or MMBtu/hr), list the limit and the highest hourly recordings for each month of the reporting period. . .
AQ0503TVP03 – Conditions 26.3b	Revise	Update the condition such that Method 19 is used to convert the NO _x concentration to an emission rate to coordinate with BACT limits.	Update Condition 26.3b as follows: NO_x Recurring Testing. The Permittee shall conduct NO _x source tests in accordance with NSPS Subpart GG. Use Method 19 to convert NO _x emission concentrations to emission rates. Perform the source test in accordance with Section 6 and as follows:
AQ0503TVP03 – Conditions 26.3b(i)	Revise	Streamline the gap-fill recurring testing requirement. EU IDs 1 through 5 are required to conduct testing every 5 years (or annually based on results) under NSPS Subpart GG at four loads, including the minimum point in the operating range and 90-to-100 percent of peak load. Cross-referencing the NSPS Subpart GG requirement streamlines the permits and ensures that the testing satisfies both condition requirements. In addition, because EU IDs 1 through 5 have inlet air preheaters, testing at different times of the year does not change the testing parameters. Thus, the requirement for a winter and summer test should be deleted.	Streamline Condition 26.3b(i) such that NO _x recurring testing for BACT compliance cross references the NSPS Subpart GG testing schedule and procedures, and remove the requirement for winter and summer testing as follows: Conduct NO _x source tests on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) following the schedule and procedures in Condition 42.3.
AQ0503TVP03 – Condition 26.3b(ii)	Remove	The one-time gap-fill source test has been completed. Additional testing should not be required since EU IDs 6 and 7 are backup engines that operate infrequently. In 2023, EU ID 6 operated for 15.8 hours and EU ID 7 operated for 15.6 hours.	Delete Condition 26.3b(ii) since the one-time source test has been completed.

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 26.3b(iii)	Remove	The requested revision to Condition 26.3b(i) cross-references the NSPS Subpart GG testing parameters, and requires testing at four loads including the minimum point in the operating range and 90-to-100 percent of peak load. Therefore, this condition is no longer needed and can be deleted.	Delete Condition 26.3b(iii) since requested changes to Condition 26.3b(i) cross references Condition 42.3, which requires testing at four loads in the normal operating range, including the maximum point.
AQ0503TVP03 – Condition 26.3b(iv)	Remove	The requested revision to Condition 26.3b(i) cross-references the NSPS Subpart GG testing parameters which requires test runs to be at least 21 minutes. This is consistent with source testing for gaseous emissions. NSPS Subpart KKKK requires a minimum time per run of 20 minutes (40 CFR 60.4400(b)). Longer test runs are not warranted.	Delete Condition 26.3b(iv) since requested changes to Condition 26.3b(i) cross references NSPS Subpart GG, which allows shorter test runs.
AQ0503TVP03 – Condition 27.3d(ii)	Remove	The one-time gap-fill source test has been completed. Additional testing should not be required since EU IDs 6 through 8 operate infrequently. In 2023, EU ID 6 operated for 15.8 hours, EU ID 7 operated for 15.6 hours, and EU ID 8 operated for 26.4 hours.	Delete Condition 27.3d(ii) since the one-time source test has been completed.
AQ0503TVP03 – Condition 27.3d(iii)	Remove	EU IDs 1 through 5 are required to conduct testing every 5 years under NSPS Subpart GG at four loads, including the minimum point in the operating range and 90-to-100 percent of peak load.	Delete Condition 27.3d(iii) since requested changes to Condition 26.3b(i) cross references Condition 42.3, which requires testing at four loads in the normal operating range, including the minimum point.
AQ0503TVP03 – Condition 27.3d(iv)	Remove	The requested revision to Condition 26.3b(i) cross-references the NSPS Subpart GG testing parameters which requires test runs to be at least 21 minutes. This is consistent with source testing for gaseous emissions. NSPS Subpart KKKK requires a minimum time per run of 20 minutes (40 CFR 60.4400(b)). Longer test runs are not warranted.	Delete Condition 27.3d(iv) since requested changes to Condition 26.3b(i) cross references NSPS Subpart GG, which allows shorter test runs.

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 28.1a	Revise	These BACT conditions are specific to the emissions units in the permit at the time of BACT determination in the original Construction Permit, or as modified in subsequent permit revisions. Condition 28.1, SO ₂ BACT, does not apply to insignificant space heaters, EU IDs 16 through 18.	Revise Condition 28.1a as follows: H ₂ S content of fuel gas burned shall not exceed 300 ppmv for fuel gas-fired emissions units in Table A, excluding EU IDs 16 through 18; and
AQ0503TVP03 – Condition 28.2a	Revise	These BACT conditions are specific to the emissions units in the permit at the time of BACT determination in the original Construction Permit, or as modified in subsequent permit revisions. Condition 28.2, SO ₂ BACT, does not apply to the Group B and C equipment or to EU ID 22 which was not installed until 2012.	Revise Condition 28.2a as follows: Sulfur content of the diesel fuel shall not exceed 0.1 percent by weight for diesel-fired emissions units in Group A of Table A, excluding EU ID 22; and
AQ0503TVP03 – Condition 29.1c	Revise	These BACT conditions are specific to the emissions units in the permit at the time of BACT determination in the original Construction Permit. Condition 29.1c, VOC BACT, is applicable to EU IDs 24 and 25.	Revise Condition 29.1c as follows: EU IDs 24 and 25 (Water Injection Tanks and Slop Oil Tank) with a sealed system design vented to the flaring system; and
AQ0503TVP03 – Condition 30.1a	Revise	These BACT conditions are specific to the emissions units in the permit at the time of BACT determination in the original Construction Permit. Condition 30.1a, PM-10 BACT, is not applicable to EU ID 22 which was not installed until 2012. BACT also does not apply to the Group B and C equipment or the insignificant space heaters, EU IDs 16 through 18.	Revise Condition 30.1a as follows: Fuel burning equipment in Group A of Table A, excluding EU IDs 16 through 18 and 22, with good operating practices;
AQ0503TVP03 – Condition 30.2b	Revise	These BACT conditions are specific to the emissions units in the permit at the time of BACT determination in the original Construction Permit. Condition 30, PM-10 BACT, is not applicable to EU ID 22 which was not installed until 2012. BACT also does not apply to the Group B and C equipment or the insignificant space heaters, EU IDs 16 through 18.	Revise Condition 30.2b as follows: All industrial processes, incinerators, and fuel-burning equipment in Group A of Table A, excluding EU IDs 16 through 18 and 22, shall comply with the applicable state VE and grain loading standards listed in Conditions 1, 2, and 7.

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 30.3 (and sub-conditions)	Revise	Condition 30.3 and sub-conditions are gap-fill language for the 10 percent opacity BACT limit for EU IDs 1 through 5. These units are gas-fired turbines and under Condition 1.1, the Permittee affirms that the units only burn gas. No other requirements are necessary per the Department’s statement in the Statement of Basis that gas-fired equipment inherently have negligible visible emissions.	Revise Condition 30.3 to state the following: For EU IDs 1 through 5, monitor and report in accordance with Condition 1.1.
AQ0503TVP03 – Condition 31	Remove	Condition 31 is carried over from Condition 2 of Minor Permit No. AQ0503MSS04. This is a standard Title I minor permit condition that is not rolled over into Title V permits. Furthermore, this condition is not an ORL to avoid PSD modification for VOCs and HAP major source classification.	Delete Condition 31.
AQ0503TVP03 – Condition 32.1	Revise	Condition 32.1 requires “all gas from the reboiler and the flash tank of the dehydrator” be routed to EU ID 12 at all times either EU ID 13 or EU ID 23 operates. EU ID 13 is a heater for the glycol used in the dehydrator that operates with its own separate exhaust stack. The dehydrator, EU ID 23, has two vents, one for the reboiler and one for the flash tank. The two dehydrator vents go to flare as required.	Revise for clarification: Route all gas from the reboiler and the flash tank of the dehydrator (EU ID 23) to the low-pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates.
AQ0503TVP03 – Condition 32.2	Revise	Condition 32.1 requires “all gas from the reboiler and the flash tank of the dehydrator” be routed to EU ID 12 at all times either EU ID 13 or 23 operates. EU ID 13 is a heater for the glycol used in the dehydrator that operates with its own separate exhaust stack. The dehydrator, EU ID 23, has two vents, one for the reboiler and one for the flash tank. The two dehydrator vents go to flare as required.	Revise for clarification: Flare all gas from EU ID 23 (reboiler and flash tank vents) in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer’s operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%.

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 32.5 (and sub-conditions)	Remove	This is a one-time requirement from Minor Permit No. AQ0503MSS04 that was previously conducted on September 2, 2019.	Delete Condition 32.5 in its entirety.
AQ0503TVP03 – Condition 32.6	Remove	Streamline the permit by removing gap-fill language in Condition 32.6. The requirement to report an affirmation that Conditions 32.1 through 32.3 are met is included in Condition 32.4. The requirements in Condition 32.5 are a one-time requirement that has been completed and should be removed. Therefore, this requirement in Condition 32.6 is duplicative and unnecessary.	Streamline the permit by removing Condition 32.6 which is duplicative of Condition 32.4.
AQ0503TVP03 – Condition 38 (and sub-conditions)	Revise	Streamline the permit by consolidating the NSPS performance (source) test requirements as included in previous permits. The following is from Permit No. AQ0094TVP04 for Kenai Gas Field Pad 14-6.	Streamline the permit by revising Condition 28 and sub-conditions as follows: NSPS Subpart A Performance (Source) Tests. Except as specified in paragraphs (a)(1),(a)(2), (a)(3), and (a)(4) of 40 CFR 60.8, at such times specified by 40 CFR Part 60 and at such other times as may be required by the Administrator, the Permittee shall conduct performance tests according to 40 CFR 60.8 and Section 6 on any affected facility and furnish the Administrator a written report of the results of such performance test(s).
AQ0503TVP03 – Condition 42.2	Remove	The turbines at Northstar Production facility only burn fuel gas; they are not setup to burn any emergency fuel.	Delete Condition 42.2.
AQ0503TVP03 – Condition 42.5b(ii)	Remove	Streamline the permit by removing duplicative gap-fill language. Permit deviations reporting is already required by Condition 84.	Delete Condition 42.5b(ii).
AQ0503TVP03 – Condition 42.7e(ii)	Remove	The turbines at Northstar Production facility only burn fuel gas; they are not setup to burn any emergency fuel.	Delete Condition 42.7e(ii).

FORM E3
Title V Condition Change Request

Current Title V Operating Permit Condition Number	Type of change (revise or remove)	Reason for change	Requested Alaska Title V Operating Permit Condition
AQ0503TVP03 – Condition 43.4c	Revise	An amendment to NSPS Subpart IIII effective July 29, 2021, removed legacy regulations 40 CFR parts 89 and 94.	Revise Condition 43.4c to reflect the amended language in 40 CFR 60.4211(a)(3), which no longer includes 40 CFR parts 89 or 94.
AQ0503TVP03 – Conditions 48	Revise	NESHAP Subpart ZZZZ was amended August 30, 2024, and these changes should be reflected in the permit.	Revise the language in Condition 48 as applicable to reflect regulation changes in NESHAP Subpart ZZZZ, such as the new requirement for oil changes to be within 1 year + 30 days instead of annually.
AQ0503TVP03 – Conditions 63	Revise	EU ID 13 and Group B heaters and boilers are insignificant emissions units based on emissions. They are included in the Title V permit because they have an applicable Title I requirement. Insignificant units are not incorporated into the State's good air pollution control practices condition per Standard Permit Condition VI.	Remove EU ID 13 and Group B heaters and boilers from Condition 63.

FORM E4
Permit Shield Request

Permit Number: AQ0503TVP03

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

Non-Applicable Requirements ¹	Reason for non-applicability and citation/basis
40 CFR 60 Subparts D, Da, Db, Dc, K, Ka, Kb, & Kc	No affected EUs within the permitted stationary source.
40 CFR 60 Subparts J, Ja, GGG, GGGa, & QQQ	The stationary source does not meet the definition for a petroleum refinery.
40 CFR 60 Subpart KKK	The stationary source does not meet the definition for an onshore natural gas processing plant as defined in the subpart.
40 CFR 60 Subpart LLL	The stationary source does not operate natural gas sweetening unit(s).
40 CFR 60, Subpart OOOO, OOOOa, OOOOb, & OOOOc	Northstar Production Facility is on an artificial island and therefore an offshore stationary source.
40 CFR 61 Subpart J	No process components in benzene service, as defined by subpart (10% benzene by weight).
40 CFR 61 Subpart V	No process components in volatile hazardous air pollutant (VHAP) service, as defined by subpart (\geq 10% VHAP by weight).
40 CFR 61 Subpart Y	Stationary source does not operate storage vessels in benzene service.
40 CFR 61 Subpart BB	Stationary source does not conduct benzene transfer operations.
40 CFR 61 Subpart FF	Stationary source does not conduct benzene waste operations.
40 CFR 63 Subparts CC & UUU	Stationary source does not meet the definition for a petroleum refinery.
40 CFR 63 Subpart OO	Provisions only apply to tanks affected by 40 CFR 60, 61, or 63 that specifically reference 40 CFR 63 Subpart OO.
40 CFR 63 Subpart VV	Provisions only apply to oil-water separators and organic-water separators affected by 40 CFR 60, 61, or 63 that specifically reference 40 CFR 63 Subpart VV.
40 CFR 63 Subpart HHH	The stationary source does not transmit or store natural gas prior to entering the pipeline to a local distribution company or to a final end user and the stationary source is not a major source of HAPs.
40 CFR 63 Subpart EEEE, YYYY, & DDDDD	The stationary source is not a major source of HAPs.
40 CFR 63 Subpart CCCCC	There are no stationary gasoline dispensing facilities located at Northstar Production Facility.
40 CFR 63 Subpart JJJJJ	All stationary heaters and boilers on the facility are gas fired. Temporary boilers are not subject to the subpart.

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 E5
Alternative Monitoring Procedures (AMP) Form

Permit Number: AQ0503TVP03

Stationary Source-Wide Alternative Monitoring Procedures and/or EPA Waivers (attach additional sheets as needed):

Condition for which AMP or EPA waiver is applicable	Parameter/ Pollutant	Limit/Standard/ Requirement	Currently in Compliance?	Monitoring, Recordkeeping and Reporting Used to Determine Compliance
AQ0503TVP03 – Conditions 42.7	NSPS Subpart GG Sulfur Standard, 40 CFR 60.334(h), 60.334(i)(3)	Do not burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).	Yes.	Custom Fuel Monitoring Schedule: monitor the sulfur content of gas once per month; length-of-stain tube test covered by ASTM Methods D 4810-88 and D 4913-89, or Gas Producer's Association Method 2377-86 can be used to determine H ₂ S concentration in gas combusted; monitoring of fuel-nitrogen content of gas fuel is waived. Maintain records and report annually unless there is a change of fuel source.

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).]



Attachment

Permits

Permit No. AQ0503TVP03

Permit No. AQ0503MSS04

Permit No. AQ0503CPT07 Revision 1

00DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY OPERATING PERMIT

Permit No. AQ0503TVP03

Issue Date: FINAL - June 10, 2020

Expiration Date: June 10, 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, **Hilcorp Alaska, LLC**, for the operation of the **Northstar Production Facility**.

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 July 10, 2020.

Upon effective date of this permit, Operating Permit No. AQ0503TVP02, including all revisions, expires.



James R. Plosay, Manager
Air Permits Program

Table of Contents

	Abbreviations and Acronyms	iv
Section 1.	Stationary Source Information.....	1
	Identification.....	1
Section 2.	Emissions Unit Inventory and Description	2
Section 3.	State Requirements	4
	Visible Emissions Standard	4
	Visible Emissions Monitoring, Recordkeeping, and Reporting (MR&R).....	5
	Particulate Matter Emissions Standard	8
	Particulate Matter MR&R.....	9
	Sulfur Compound Emissions Standard	11
	Sulfur Compound MR&R.....	12
	Preconstruction Permit Requirements.....	13
	Insignificant Emissions Units	27
Section 4.	Federal Requirements	28
	40 CFR Part 60 New Source Performance Standards.....	28
	Subpart A	28
	Subpart GG	33
	Subpart III.....	40
	40 CFR Part 61 National Emission Standards for Hazardous Air Pollutants	42
	Subparts A & M.....	42
	40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants	42
	Subpart A	42
	Subpart HH	43
	Subpart ZZZZ	48
	40 CFR Part 82 Protection of Stratospheric Ozone	50
	General NSPS and NESHAP Requirements.....	50
Section 5.	General Conditions	52
	Standard Terms and Conditions.....	52
	Open Burning Requirements.....	55
Section 6.	General Source Testing and Monitoring Requirements.....	56
Section 7.	General Recordkeeping and Reporting Requirements.....	59
	Recordkeeping Requirements	59

	Reporting Requirements	59
Section 8.	Permit Changes and Renewal	64
Section 9.	Compliance Requirements	66
	General Compliance Requirements	66
Section 10.	Permit As Shield from Inapplicable Requirements	68
Section 11.	Visible Emissions Observation Form	72
Section 12.	SO ₂ Material Balance Calculation	74
Section 13.	ADEC Notification Form.....	75
Section 14.	Emission Inventory Form	79
Section 15.	Emission Factors (EFs) for Primary Turbines	85
Attachment 1 -	40 CFR 60 Subpart A Summary Report	86

Abbreviations and Acronyms

AAC.....	Alaska Administrative Code	NESHAP	National Emission Standards for Hazardous Air Pollutants [as contained in 40 CFR 61 and 63]
ADEC	Alaska Department of Environmental Conservation	NH ₃	ammonia
AS.....	Alaska Statutes	NO _x	nitrogen oxides
ASTM.....	American Society for Testing and Materials	NSPS	New Source Performance Standards [as contained in 40 CFR 60]
BACT	best available control technology	O 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
gt/dscf.....	grain per dry standard cubic foot (1 pound = 7000 grains)	scfd.....	standard cubic feet per day
HAPs	hazardous air pollutants [as defined in AS 46.14.990]	SIC	Standard Industrial Classification
hp	horsepower	SIP.....	State Implementation Plan
ICE.....	internal combustion engine	SO ₂	sulfur dioxide
ID.....	emissions unit identification number	TEG.....	triethylene glycol
kPa.....	kiloPascals	tph	tons per hour
kW	kilowatts	tpy	tons per year
LAER.....	lowest achievable emission rate	VE	visible emissions
MACT	maximum achievable control technology [as defined in 40 CFR 63]	VOC	volatile organic compound [as defined in 40 CFR 51.100(s)]
MMBtu/hr.....	million British thermal units per hour	VOL	volatile organic liquid [as defined in 40 CFR 60.111b, Subpart Kb]
MMscf	million standard cubic feet	vol%	volume percent
MR&R.....	monitoring, recordkeeping, and reporting	wt%	weight percent
NAICS	North American Industrial Classification System		

Section 1. Stationary Source Information

Identification

Permittee:	Hilcorp Alaska, LLC 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503	
Stationary Source Name:	Northstar Production Facility	
Location:	70° 29' 39" North; 148' 42' 15" West (NAD83)	
Physical Address:	Seal Island - Six miles offshore north of Point Storkerson in the Beaufort Sea	
Owner and Operator:	Hilcorp Alaska, LLC 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503	
Permittee's Responsible Official:	David S. Wilkins, Senior Vice President 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503	
Designated Agent:	CT Corporation Systems 9360 Glacier Hwy., Suite 202 Juneau, AK 99801	
Stationary Source and Building Contact:	Bo York, Operations Manager 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503 (907) 777-8300 byork@hilcorp.com	
Fee Contact:	Hilcorp Alaska, LLC ATTN: Accounts Payable PO Box 61529 Houston, Texas 77208	
Permit Contact:	Julieanna Potter, Air Quality 3800 Centerpoint Drive, Suite 1400 Anchorage, AK 99503 (907) 777-8444 jupotter@hilcorp.com	
Process Description:	SIC Code	1311 - Crude Petroleum and Natural Gas Production
	NAICS Code:	211111 - Crude Petroleum and Natural Gas Extraction

[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
Group A - Stationary Emissions Units					
1	Turbine (Compressor)	GE LM2500	Fuel Gas	32,715 hp	10/24/2001
2	Turbine (Compressor)	GE LM2500	Fuel Gas	32,715 hp	02/08/2002
3	Turbine (Generator)	Solar Mars 90	Fuel Gas	11,892 kW	10/09/2001
4	Turbine (Generator)	Solar Mars 90	Fuel Gas	11,892 kW	10/06/2001
5	Turbine (Generator)	Solar Mars 90	Fuel Gas	11,892 kW	10/01/2001
6	Diesel Generator	Cummins QSK 60-G6	Diesel	2,180 kW	2002
7	Diesel Generator	Cummins QSK 60-G6	Diesel	2,180 kW	2002
8	Firewater Pump	Cummins KTA19	Diesel	755 hp	2000
9c	Incinerator	ASC CA0300 Standard Vertical Secondary Chamber with 48 foot stack	Fuel Gas	2.8 MMBtu/hr (Fuel Gas) 360 lb/hr charge	February 2015
11	High Pressure (HP) Flare	Corona (Pilot, Purge, Produced Gas)	Fuel Gas	25.5 MMscf/hr	10/06/2001
12	Low Pressure (LP) Flare	Corona (Pilot, Purge, Produced Gas)	Fuel Gas	25.5 MMscf/hr	10/06/2001
13	Glycol Reboiler	Natco	Fuel Gas	5.0 MMBtu/hr	10/07/2001
16	Space Heater, Warehouse	James P. Sheldon Co. Inc.	Fuel Gas	0.70 MMBtu/hr	2001
17	Space Heater, Warehouse	James P. Sheldon Co. Inc.	Fuel Gas	1.075 MMBtu/hr	2001
18	Space Heater, Warehouse	James P. Sheldon Co. Inc.	Fuel Gas	1.082 MMBtu/hr	2001
19	Diesel Storage Tank	Storage Tank	-	2,800 barrels	2001
20	TEG Storage Tank	Storage Tank	-	250 barrels	2001
21	Corrosion Inhibitor Storage Tank	Storage Tank	-	250 barrels	2001
22	Firewater Pump	Cummins 1760	Diesel	160 hp	07/20/2012
23	TEG Dehydration Unit	Northstar Dehydrator	-	600 MMscfd	2001

EU ID	Emissions Unit Name	Emissions Unit Description	Fuel	Rating/Size	Installation or Construction Date ¹
Group B - Portable Equipment					
-	Crane ²	Unknown	Diesel	275 hp	09/22/2007
-	Snow Melters	Unknown	Diesel	10.0 MMBtu/hr	Various
-	Heaters	Various	Diesel	3.0 MMBtu/hr	09/20/2006, 09/10/2006 & 09/10/2006
Group C - Intermittent Well Servicing Equipment					
-	IC Engines ² 400 to 600 hp	Various	Diesel	1,675 hp	Various
-	IC Engines ² > 600 hp	Various	Diesel	1,475 hp	Various
-	Heaters and Boilers	Various	Diesel	21.5 MMBtu/hr	Various
-	Turbines	Various	Diesel	6,200 bhp	Various

Table Notes:

- ¹ Dates for GROUP A are for startup.
- ² Nonroad engine as defined in 18 AAC 50.990.

[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 8, 11 through 13, 16 through 18, and 22; Group B snow melters and heaters; and Group C heaters, boilers, and turbines 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 5, 13, and 16 through 18, burn only gas as fuel. Monitoring for these emissions units shall consist of a statement in each operating report under Condition 85 indicating whether each of these emissions units burned only gas during the period covered by the report. Report under Condition 84 if any fuel other than gas is burned.
- 1.2. For EU IDs 6 through 8 and Group C heaters and boilers, monitor, record, and report in accordance with Conditions 3 through 5.
- a. For EU IDs 6 and 7, no less than one surveillance shall be conducted per 400 unit-hours of operation (emergency and non-emergency hours combined) for each emissions unit.
[Condition 5.2a, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- b. For EU ID 8, no less than one surveillance per 1,000 unit-hours of operation shall be conducted.
[Condition 5.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 1.3. For each of Group B snow melters and heaters, and Group C turbines, as long as the emissions unit does not exceed the limit in Condition 23, monitoring shall consist of an annual compliance certification under Condition 86 with the visible emissions standard.
- 1.4. For EU ID 22, monitoring shall consist of an annual compliance certification under Condition 86 with the visible emissions standard based on reasonable inquiry.
[Condition 5.2c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 1.5. For EU IDs 11 and 12, monitor, record, and report in accordance with Condition 6.

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

2. **Incinerator Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, through the exhaust effluent of the incinerator, EU ID 9c, to reduce visibility by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j), 50.050(a), & 50.326(j)]
[40 CFR 71.6(a)(1)]

- 2.1. No less than once during each calendar year the incinerator operates and upon the Department's request, observe the exhaust of EU ID 9c for visible emissions for 18 consecutive minutes to obtain a minimum of 72 observations in accordance with Method 9 of 40 CFR 60, Appendix A.

[Condition 4.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 2.2. Record and report in accordance with Conditions 4.1.a through 5.2.a.
- 2.3. If any monitoring under Condition 2.1 was not performed, report under Condition 84 within three days of the date the monitoring was required.

[18 AAC 50.040(j) & 50.326(j)(4)]
[40 CFR 71.6(a)(3) & (c)(6)]

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

Liquid Fuel-Fired Emissions Units (EU IDs 6 through 8 and Group C heaters and boilers)

3. **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 6 through 8 and Group C heaters and boilers for visible emissions using the Method 9 Plan under Condition 3.2.

- 3.1. The Permittee may for each unit elect to continue the visible emissions monitoring schedule in effect from the previous permit at the time a renewed permit is issued, if applicable.

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

- 3.2. **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.** Except as provided in Condition 3.1, observe exhaust for 18 minutes within six months after the issue date of this permit.
- (i) For any unit replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.
- 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 3.2.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 3.2.b, until the criteria in Condition 3.2.c for semiannual monitoring are met.
4. **Visible Emissions Recordkeeping.** When required by any of Condition 1.2, or in the event of replacement of any of EU IDs 6 through 8 and Group C heaters and boilers 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)]

- 4.1. If using the Method 9 Plan of Condition 3.2,
 - 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.

5. Visible Emissions Reporting. When required by Condition 1.2, or in the event of replacement of any of EU IDs 6 through 8 and Group C heaters and boilers during the permit term, the Permittee shall report as follows:

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

- 5.1. Include in each operating report required under Condition 85:
 - a. 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.
 - b. a summary of any monitoring or recordkeeping required under Conditions 3 and 4 that was not done.
- 5.2. Report under Condition 84:

- 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 3 was not performed when required, report within three days of the date the monitoring was required.

Flares (EU IDs 11 and 12)

6. Visible Emissions MR&R. The Permittee shall observe one daylight flare event¹ within 12 months of the preceding flare event observation. If no event exceeds 1 hour within that 12-month period, then the Permittee shall observe the next daylight flare event.

- 6.1. Monitor flare events using Method 9.
- 6.2. Record the following information for observed events:
 - a. the flare(s) EU ID number;
 - b. results of the Method 9 observations;
 - c. reason(s) for flaring;
 - d. date, beginning and ending time of event; and
 - e. volume of gas flared.
- 6.3. Monitoring of a flare event may be postponed for safety or weather reasons, or because a qualified observer is not available. If monitoring of a flare event is postponed for any of the reasons described in this condition, the Permittee shall include in the next operating report required by Condition 85 an explanation of the reason the event was not monitored.
- 6.4. Attach copies of the records required by Condition 6.2 with the operating report required by Condition 85 for the period covered by that report.
- 6.5. Report under Condition 84 whenever the opacity standard in Condition 1 is exceeded.

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

Particulate Matter Emissions Standard

7. Industrial Process and Fuel-Burning Equipment Particulate Matter. The Permittee shall not cause or allow particulate matter emitted from EU IDs 1 through 8, 11 through 13, 16 through 18, and 22; Group B snow melters and heaters; and Group C heaters, boilers, and turbines 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)]

¹ For purposes of this permit, a “flare event” is flaring of gas for greater than one hour as a result of scheduled release operations, i.e. maintenance or well testing activities. It does not include non-scheduled release operations, i.e. process upsets, emergency flaring, or de-minimis venting of gas incidental to normal operations.

- 7.1. For EU IDs 6 through 8, monitor, record, and report in accordance with Conditions 8 through 12.
- 7.2. For Group C heaters and boilers, monitor, record, and report in accordance with Conditions 10 through 12.
- 7.3. For each of Group B snow melters and heaters, and Group C turbines, as long as each emissions unit does not exceed the limits in Condition 23, monitoring shall consist of an annual compliance certification under Condition 86 with the particulate matter standard.
- 7.4. For EU IDs 11 and 12, the Permittee must annually certify compliance under Condition 86 with the particulate matter standard.
- 7.5. For EU IDs 1 through 5, 13, and 16 through 18, burn only gas as fuel. Monitoring for these emissions units shall consist of a statement in each operating report under Condition 85 indicating whether each of these emissions units fired only gas during the period covered by the report. Report under Condition 84 if any fuel other than gas is burned.
- 7.6. For EU ID 22, monitoring shall consist of an annual compliance certification under Condition 86 with the particulate matter emissions standard based on reasonable inquiry.

[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 6 through 8)

- 8. Particulate Matter Monitoring.** The Permittee shall conduct source tests on diesel engines, EU IDs 6 through 8, 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)]

- 8.1. Except as allowed in Condition 8.4, within six months of exceeding the criteria of Conditions 8.2.a or 8.2.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 8.2; to show that emissions are below those criteria, observe emissions as described in Condition 3.2 under load conditions comparable to those when the criteria were exceeded.
- 8.2. Conduct the test or make repairs according to Condition 8.1 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.
- 8.3. 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.
- 8.4. The automatic particulate matter source test requirements in Conditions 8.1 and 8.2 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.

9. 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)]

- 9.1. Report under Condition 84:
 - 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 8.2 was exceeded and the Permittee did not comply with either Condition 8.1.a or 8.1.b, this must be reported by the day following the day compliance with Condition 8.1 was required;
- 9.2. report observations in excess of the threshold of Condition 8.2.b within 30 days of the end of the month in which the observations occur;
- 9.3. in each operating report under Condition 85, include:
 - a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 8.2;
 - b. a summary of the results of any particulate matter testing under Condition 8; and
 - c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 8.2, if they were not already submitted.

Liquid Fuel-Fired Boilers and Heaters (Group C heaters and boilers)

10. Particulate Matter Monitoring. The Permittee shall conduct source tests on Group C heaters and boilers 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)]

- 10.1. Except as allowed under Condition 10.3, conduct a particulate matter source test according to the requirements set out in Section 6 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.
- 10.2. 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 measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 10.3. The particulate matter source test requirement in Condition 10.1 is waived for an emissions unit if:
 - a. a particulate matter source test on that unit has shown compliance with the particulate matter standard during the permit term; or
 - b. take corrective action and conduct two 18-minute visible emissions observations in a consecutive six-month period to show that the excess visible emissions described in Condition 10.1 no longer occur.

11. Particulate Matter Recordkeeping. The Permittee shall keep records of the results of any particulate matter testing and visible emissions observations conducted under Condition 10.

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

12. 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)]

- 12.1. In each operating report required by Condition 85, include for the period covered by the report:
 - a. the dates, EU ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 10.1.
 - b. a summary of the results of any particulate matter testing and visible emissions observations conducted under Condition 10.
- 12.2. Report as excess emissions, in accordance with Condition 84, any time the results of a source test for particulate matter exceed the particulate matter emission limit stated in Condition 7.

Sulfur Compound Emissions Standard

13. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from EU IDs 1 through 8, 11 through 13, 16 through 18, and 22; Group B snow melters and heaters; and Group C heaters, boilers, and turbines 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 Oil² (EU IDs 6 through 8 and 22; Group B snow melters and heaters; Group C heaters, boilers, and turbines)

14. Sulfur Compound Monitoring and Recordkeeping. The Permittee shall comply with the following:

- 14.1. 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.
- 14.2. Fuel testing under Condition 14.1 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).
- 14.3. 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).

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

- 15.1. If SO₂ emissions calculated under Condition 14.3 exceed 500 ppm, the Permittee shall report under Condition 84. When reporting under this condition, include the calculation under Section 12 or Method 19.
- 15.2. The Permittee shall include in the report required by Condition 85
- a. a list of the fuel grades received at the stationary source during the reporting period;
 - 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)]

² *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.

[40 CFR 71.6(a)(3)]

Fuel Gas (EU IDs 1 through 5 and 11 through 13)

16. Sulfur Compound Monitoring. The Permittee shall either

- 16.1. obtain a semiannual statement from the fuel supplier of the fuel total sulfur level in ppm; or
- 16.2. analyze a representative sample of the fuel semiannually to determine the sulfur content using either ASTM D4084, D5504, D4810, D4913, D6228 or GPA Standard 2377, or other listed method approved in 18 AAC 50.035(b)-(c) or 40 CFR 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

17. Sulfur Compound Recordkeeping. The Permittee shall keep records of the statement from the fuel supplier or the sulfur content analysis required under Conditions 16.1 or 16.2.

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

- 18.1. Report as excess emissions, in accordance with Condition 84, whenever the fuel combusted causes sulfur compound emissions to exceed the standard of Condition 13.
- 18.2. Include copies of the records required by Condition 17 with the operating report required by Condition 85 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 Permit³ Requirements

Ambient Air Quality Protection Requirements

19. Notification. The Permittee shall provide unique identification and labels on each emissions unit (EU) listed in Table A and at the stationary source. Maintain additional information on EU category, subcategory, and EU Identification Number as applicable, in on-site logs available to the Department's compliance officers for:

[Condition 8, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(3)(ii)]

- 19.1. Stationary EUs, Table A, Group A;
- 19.2. Portable Equipment, Table A, Group B;
- 19.3. Intermittent Well Servicing Equipment, Table A, Group C:

[Conditions 8.1 through 8.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

³ *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.

- a. Internal Combustion Engines between 400 to 600 brake horsepower (bhp), and
- b. Internal Combustion Engines larger than 600 bhp
 [Conditions 8.3a and 8.3b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

19.4. Keep records of all on-site equipment. Maintain equipment inventories for EUs listed in Table A, Group A (Stationary EUs).
 [Condition 8.4, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

20. Used Oil. Do not burn used oil at the stationary source.
 [Condition 9, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
 [18 AAC 50.040(j) & 50.326(j)]
 [40 CFR 71.6(a)(1)]

21. General Ambient Air Quality Provisions. Comply with the following provisions to protect the nitrogen dioxide (NO₂), SO₂, PM with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM-10), and carbon monoxide (CO) air quality standards:
 [Condition 10, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
 [18 AAC 50.040(j) & 50.326(j)]
 [40 CFR 71.6(a)(1)]

- 21.1. Stack Configuration:
 [Condition 10.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. Construct and maintain vertical, uncapped exhaust stacks for: all permanent EUs; all portable EUs rated at or above 40 bhp; all intermittent engines rated at or above 400 bhp; and all intermittent heaters/boilers with a heat input rating of 2.8 MMBtu/hr or more. This condition does not preclude the use of flapper valve rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume.
 - b. Maintain the minimum exhaust stack heights listed in Table B.
 [Condition 10.1a and 10.1b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

Table B - Minimum Stack Height Requirements

EU ID	Description of EU	Minimum Stack Height Above Grade (m)
1	GE LM2500 Turbine	35.1
2	GE LM2500 Turbine	35.1
3	Solar Mars Turbine	35.1
4	Solar Mars Turbine	35.1
5	Solar Mars Turbine	35.1
6	Diesel Generator	35.0
7	Diesel Generator	35.0
8	Firewater Pump	17.3
9c	Incinerator	19.8

EU ID	Description of EU	Minimum Stack Height Above Grade (m)
13	Glycol Reboiler	35.1
16	Space Heater	10.0
17	Space Heater	10.0
18	Space Heater	10.0
22	Firewater Pump	17.3

22. Fuel Sulfur Limits:

[Condition 11, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]

22.1. Limit the H₂S content of the fuel gas burned in any EU to no more than 300 parts per million by volume (ppmv) at any time.

[Condition 11.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.
- b. Report in accordance with Condition 84 if the limit in Condition 22.1 is exceeded.

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

22.2. Burn only ultra low sulfur diesel (ULSD) fuel in Group C EUs, all intermittently used oil field service equipment such as internal combustion engines, boilers/heaters rated at less than 400 hp or 2.8 MMBtu/hr, and all other non-road diesel fired engines.

[Condition 11.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. Maintain dedicated fuel tanks for the EUs described in Condition 22.2.
- b. Attach vendor receipts to the operating report required in Condition 85 that confirm that the diesel fuel delivered to the fuel tanks in Condition 22.2.a is ultra low sulfur diesel fuel.

[Condition 11.2a and 11.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(3)]

- c. Report in accordance with Condition 84 whenever fuel other than ULSD is burned in any emission unit in Condition 22.2.

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

22.3. Burn diesel fuel containing no more than 0.1 percent of sulfur by weight in diesel-fired Group A and Group B EUs.

[Condition 11.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2.a.

- b. Report in accordance with Condition 84 if the limit in Condition 22.3 is exceeded.

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

23. Operating Limits for Ambient Air Protection. Comply with the operating limits specified in Table C for each EU.

[Condition 12, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(1)]

Table C - EU Specific Hourly, Daily, and Annual Limits

EU ID	Description/Operation	Rating	Daily Limits	12-months Rolling Limits
Stationary Emission Units - Group A				
1 and 2	GE LM2500 Turbines	32,715 hp (each) ¹	unrestricted	234 tons NOx (combined)
3, 4, and 5	Solar Mars Turbines	11,892 kW (each) ¹	unrestricted	249 tons NOx (combined)
6 and 7	Diesel Generators	2,180 kW (each) ¹	unrestricted	1,000 hours (combined)
8	Firewater Pump	755 hp ¹	unrestricted	104 hours ²
11 and 12	HP and LP Flare	25.5 MMscf/hr	200.5 MMscf	1,332 MMscf
22	Firewater Pump	160 hp ³	unrestricted	1,000 hours
Portable Equipment - Group B				
-	Heaters	3 MMBtu/hr	unrestricted	162,038 gal
-	Snow Melters	10 MMBtu/hr	unrestricted	164,422 gal
-	Cranes	250 bhp	unrestricted	unrestricted
Intermittent Well Servicing Equipment - Group C				
-	Internal Combustion Engines 400 to 600 bhp	1,675 bhp	unrestricted	106,032 gal
-	Internal Combustion Engines > 600 bhp	1,475 bhp	unrestricted	56,713 gal
-	Heaters and Boilers	21.5 MMBtu/hr	unrestricted	479,719 gal
-	Turbines	6,200 bhp	3,262 gal	16,311 gal

Table Notes:

- ¹ Table 2 of Construction Permit AQ0503CPT07 indicates the rating of this unit is “Not Available”. The rating shown above is taken from Section 1 of AQ0503CPT07.
² Limit applies to non-emergency use.
³ Table 2 of Construction Permit AQ0503CPT07 indicates the rating of this unit is “Not Available”. The rating shown above is taken from the application for Operating Permit AQ0503TVP03.

24. Monitoring and Recording for Compliance with Condition 23

[Condition 13, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(3)(i) & (ii)]

- 24.1. Monitor and record the hours of operation each calendar month for EU IDs 1 through 8 and 22. Record monthly the cumulative 12-month rolling hours of operation for each month by the end of the following month.

- 24.2. For each equipment pool subject to a cumulative rated capacity limit (bhp or MMBtu/hr), record the date, time, rated capacity, and duration each EU is in service, and the cumulative total capacity used for the equipment pool for operations each day the limit applied. In lieu of monitoring and recording the time, duration, and total capacity, the Permittee may assume continuous operation for either each day or 12-hour shift the EU operates and the nameplate equipment load or vendor specified maximum load. Alternatively, for Portable Equipment listed in Table A, Group B, and for Intermittent Equipment in Table A, Group C, if diesel fuel burned on the island during a day is less than 1,158 gallons, then list only the total fuel burned on the island for the day.
- 24.3. For each EU or equipment pool subject to annual diesel fuel use limits, measure and record the total volume of diesel fuel delivered to the EU or equipment pool each calendar month. For the turbines (in Group C) subject to daily fuel use limits, measure and record the volume of diesel fuel used each day. Fuel use may be estimated by using the maximum fuel rating for the unit and the hours of operation.
- [Conditions 13.1 through 13.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. Flow meters and totalizers, if used, must be calibrated and certified to within ± 5 percent.
- b. Provide a statement of calibration or certification in the operating report required in Condition 85 and note the date of last calibration or certification.
- [Conditions 13.3a and 13.3b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 24.4. For the high pressure flare (EU ID 11) and low pressure flare (EU ID 12), measure and record the combined hourly, daily and monthly flaring rates, and the 12-month rolling flaring for each month by the end of the following month. Include pilot, purge, and produced gases in the flaring rate measurements.
- 24.5. For the turbines (EU IDs 1 through 5), calculate and record the daily NO_x emissions based on hours of operation and emission factors for specific temperature and load ranges listed in Section 15. Calculate and record the total NO_x emissions for EU IDs 1 and 2 (GE LM2500 Turbines) and EU IDs 3, 4, and 5 (Solar Mars Turbines) for each month and 12-month rolling period by the end of the following month by summing the NO_x emissions for each day the EUs operate during the time period.
- [Conditions 13.4 and 13.5, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. Use the updated emission factors from source testing conducted under Condition 26.3.b to calculate emissions as required in Condition 24.5. Only emission factors from Department approved source test results shall be used.
- [40 CFR 71.6(a)(3)(i) & 71.6(c)(6)]
- 25. Reporting for Compliance with Condition 23: Report in the operating report required in Condition 85:**

[Condition 14, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

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

- 25.1. For each of the EUs in Conditions 25.1.a through 25.1.c that are subject to an hourly operational limit (e.g., MMscf, bhp, or MMBtu), list the limit and the highest hourly recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded.
[Condition 14.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. EU IDs 11 and 12 (High Pressure Flare and Low Pressure Flare) listed in Group A;
 - b. Cranes, Heaters and Snow Melters listed in Group B, the inventory of the portable EUs including capacity; and
 - c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C, the inventory of the portable EUs including capacity.
[Conditions 14.1a through 14.1c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 25.2. For each of the following EUs subject to a daily operation limit (e.g., hours, MMscf, or gallons), list the limit and the highest daily recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded for:
[Condition 14.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. the MMscf of fuel gas burned in EU IDs 11 and 12;
 - b. the diesel fuel burned in the Group C turbines; and
 - c. Alternatively, if diesel fuel burned on the island during a day is less than 1,158 gallons, then report only the total fuel burned on the island for the day.
[Conditions 14.2a through 14.1c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 25.3. For each of the following EUs subject to a 12-month rolling total operation limit (e.g., hours, cubic feet, gallons, or MMscf) list the limit, the monthly, and 12-month rolling total for each month of the reporting period:
[Condition 14.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- a. EU IDs 6, 7, 8, 11, 12, and 22 listed in Group A;
 - b. Heaters and Snow Melters listed in Group B;
 - c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C; and
 - d. Alternatively, for Portable Equipment listed in Table A, Group B, and for Intermittent Equipment in Table A, Group C, if diesel fuel burned on the island each day is less than 1,158 gallons, report only the total fuel burned on the island for the month and 12-month rolling total.

[Conditions 14.3a through 14.3d, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 25.4. For each of the following equipment pools subject to a tons per year limit of NO_x, list the limit, and 12-month rolling total for each month of the reporting period:

[Condition 14.4, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- a. EU IDs 1 and 2 (GE LM250 Turbines) listed in Table A, Group A;
- b. EU IDs 3, 4, and 5 (Solar Turbines) listed in Group A.

[Conditions 14.4a and 14.4b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

Best Available Control Technology (BACT)

26. Nitrogen Oxides (NO_x) BACT.

[Condition 16, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]

- 26.1. Install and operate as BACT for the following fuel burning equipment at Northstar.

[Condition 16.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. EU IDs 6 and 7 (Generators) with variable fuel injection timing retard as incorporated by the manufacturer;
- b. EU IDs 1 and 2 (Turbines) with dry low NO_x combustion technology; and
- c. EU IDs 3, 4, and 5 (Turbines) with SoloNO_x dry low NO_x combustion technology.

[Conditions 16.1a through 16.1c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 26.2. Comply with the following not-to-exceed NO_x emission limits.

[Condition 16.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. For EU IDs 1 and 2:

[Condition 16.2a, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- (i) 25 ppmv corrected to 15 percent oxygen (O₂) and 24.3 pounds per hour (lb/hr) per unit, expressed as nitrogen dioxide (NO₂), at 0°F or greater, and
- (ii) 43 lb/hr per unit, expressed as NO₂, at less than 0°F.

[Conditions 16.2a(i) and 16.2a(ii), Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- b. For EU IDs 3, 4, and 5:

[Condition 16.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- (i) 42 ppmv corrected to 15 percent O₂ and 21.7 lb/hr per unit, expressed as NO₂, in low emissions operations and at 0°F or greater; and

- (ii) 83.4 lb/hr per unit, expressed as NO₂, at less than 0°F or when not operating in low emissions operation.

[Conditions 16.2b(i) and 16.2b(ii), Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- c. For EU IDs 6 and 7, NO_x emissions shall not exceed 13 grams per kilowatt-hour (g/kWh);

[Condition 16.2c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

26.3. Monitor compliance as follows:

[Condition 16.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(3)(i)]

- a. For EU IDs 3, 4, and 5, monitor emissions mode (low, intermediate, or full) using continuous tracking of gas producer speed through the control panel. Record the date, time, and duration for which each of the EU IDs 3, 4, and 5 is in each mode.

[Condition 16.3a, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- b. **NO_x Recurring Testing.** The Permittee shall conduct NO_x source tests in accordance with Section 6 and as follows:

[40 CFR 71.6(c)(6)]

- (i) No later than five years after the previous source tests, conduct NO_x source tests on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) during summer months (April through September) and during winter months (October through March).
- (ii) At least once during the life of this permit, conduct a NO_x source test on EU ID 6 or 7.
- (iii) NO_x source tests shall be conducted at no less than three loads to include the highest achievable load.
- (iv) The source tests shall consist of three 1-hour runs at each load.

26.4. Report in accordance with Condition 84 any time a source test result (the average of the three 1-hour runs) exceeds a limit in Condition 26.2.a, 26.2.b, or 26.2.c.

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

27. Carbon Monoxide (CO) BACT.

[Condition 17, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]

27.1. Install and operate as BACT for the following fuel burning equipment:

[Condition 17.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. EU ID 9c (Incinerator) with secondary combustion chamber; and

- b. EU ID 11 (high pressure flare) and EU ID 12 (low pressure flare) with air-assist or sonic design and smokeless flare technology.
[Conditions 17.1a and 17.1b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

27.2. Comply with the following not-to-exceed CO emission limits:

[Condition 17.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. For EU IDs 1 and 2:
[Condition 17.2a, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
 - (i) 25 ppmv corrected to 15% O₂ and 14.8 lb/hr per unit at 0°F or greater;
 - (ii) 38 lb/hr per unit at less than 0°F; and
 - (iii) a cumulative total of 143 tons per 12-month rolling period.

[Conditions 17.2a(i) through 17.2a(iii), Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- b. For EU IDs 3, 4, and 5:
[Condition 17.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
 - (i) 50 ppmv corrected to 15% O₂ and 15.7 lb/hr per unit in low emissions operation and at 0°F or greater;
 - (ii) 37.1 lb/hr per unit in low emissions operation and at less than 0°F;
 - (iii) 367 lb/hr per unit when not operating in low emissions operation; and
 - (iv) a cumulative total of 3,000 hours when not operating in low emissions operation per 12-month rolling period.

[Conditions 17.2b(i) through 17.2b(iv), Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- c. For EU IDs 6 and 7 (Emergency Generator), no greater than 13.2 lb/hr per unit.
- d. For EU ID 8 (Fire Water Pump), no greater than 6.4 lb/hr.
- e. For EU IDs 11 and 12 (flares), no greater than 0.37 lb/MMBtu.
[Conditions 17.2c, 17.2d, and 17.2f, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

27.3. Monitor compliance as follows:

[Condition 17.3, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(3)]

- a. For EU IDs 3, 4, and 5, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Section 15. Calculate and record the total CO emission rates for EU IDs 3, 4, and 5 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day. If the cumulative total CO emission rate exceeds 504 tons per 12-month rolling period, reassess CO BACT for EU IDs 3, 4, and 5 and submit to the Department within 90 days of discovery.
- b. For EU IDs 1 and 2, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Section 15. Calculate and record the total CO emission rates for EU IDs 1 and 2 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day the EUs operate during the time period to ascertain compliance with the limit listed in Condition 27.2.a(iii).
- c. For EU IDs 11 and 12, operate the equipment according to specific design parameters provided by the manufacturer. Keep a copy of the manufacturer's design parameters on site and make them available to Department personnel on request.

[Conditions 17.3a through 17.2f, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- d. **CO Recurring Testing.** The Permittee shall conduct CO source tests in accordance with Methods 10 and 3A, respectively. Use Method 19 to convert CO emission concentrations to emission rates. Perform the source tests in accordance with Section 6 and as follows:
 - [40 CFR 71.6(a)(3)(i) & 71.6(c)(6)]
 - (i) Conduct a CO source test on a representative emission unit (one of EU IDs 1 or 2 and one of EU IDs 3, 4, or 5) each time a test is conducted under Condition 26.3.b(i).
 - (ii) Conduct a CO source test at least once during the life of this permit on EU ID 8 and EU ID 6 or 7.
 - (iii) CO source tests shall be conducted at no less than three loads to include the lowest operating load.
 - (iv) The source tests shall consist of three 1-hour runs at each load.
- e. Use the updated CO emissions factors from CO source testing conducted under Condition 27.3.d to calculate CO tpy emissions as required in Conditions 27.3.a and 27.3.b. Only emission factors from Department approved source test results shall be used.

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

- 27.4. Report in accordance with Condition 84 any time a source test result (the average of the three 1-hour runs) exceeds a limit in Condition 27.2.a(i), 27.2.a(ii), 27.2.b(i), 27.2.b(ii), 27.2.b(iii), 27.2.c or 27.2.d.
- 27.5. If CO emissions from EU IDs 3, 4, and 5 exceed a cumulative total of 504 tons per 12-month rolling period, submit a current best BACT reassessment for EU IDs 3, 4, and 5 within 90 days of discovery.
[Condition 17.4, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(3)(iii)]
- 27.6. Report in the operating report required in Condition 85:
[Condition 17.5, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(3)(iii)]
- a. For EU IDs 3, 4, and 5, the cumulative 12-month rolling total hours of operation in each emissions mode; and
- b. The cumulative monthly and 12-month rolling total CO emissions from EU IDs 1 and 2 and EU IDs 3, 4, and 5.
[Conditions 17.5a and 17.5b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

28. Sulfur Dioxide (SO₂) BACT.

[Condition 18, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]

- 28.1. Comply with the following fuel sulfur limits as BACT:
[Condition 18.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]
- a. H₂S content of fuel gas burned shall not exceed 300 ppmv; and
- b. Monitor, record, and report in accordance with Conditions 16, 17, and 18.2.
[Conditions 18.1a and 18.1b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
- 28.2. Comply with the following sulfur content of the diesel fuel as BACT:
[Condition 18.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]
- a. Sulfur content of the diesel fuel shall not exceed 0.1 percent by weight; and
- b. Monitor, record, and report in accordance with Conditions 14.1, 14.2, and 15.2.a.
[Conditions 18.2a and 18.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

29. Volatile Organic Compounds (VOC) BACT.

[Condition 19, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[18 AAC 50.040(j) & 50.326(j)]

- 29.1. Install and operate as BACT:
[Condition 19.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]
[40 CFR 71.6(a)(1)]

- a. EU ID 9c (Incinerator) with secondary combustion chamber;
- b. EU IDs 11 and 12 (high pressure and low pressure flares) with air-assist or sonic design and smokeless technology;
- c. Water Injection Tanks and Slop Oil Tank with a sealed system design vented to the flaring system; and
- d. Portable Fuel Oil Storage Tanks with conservation vents.

[Conditions 19.1a through 19.1d, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 29.2. Operate and maintain each pump, pressure relief device, open-ended valve or line, valve compressor and flange, or other connector in VOC or wet gas service, and each natural gas processing device or system in accordance with good operational practices. Tag and repair all leaking connectors, pumps, and compressors in VOC, or wet gas service as soon as practicable. Maintain a log of preventive maintenance, surveillance activities, and repairs.

[Condition 19.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

[40 CFR 71.6(a)(1)]

30. PM with aerodynamic diameter not exceeding 10 microns (PM-10) BACT.

[Condition 20, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

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

- 30.1. Install and operate as BACT:

[Condition 20.1, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

[40 CFR 71.6(a)(1)]

- a. Fuel burning equipment with good operating practices;
- b. EU ID 9c with secondary combustion chamber;
- c. EU IDs 11 and 12 with air-assist or sonic design and smokeless flare technology.

[Conditions 20.1a through 20.1c, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 30.2. Comply with the following surrogate PM-10 emission limits as representative of BACT. Visible emissions (VE) from:

[Condition 20.2, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

[40 CFR 71.6(a)(1)]

- a. EU IDs 1 through 5 (Turbines) shall not exceed 10 percent opacity for greater than three minutes in any one hour; and
- b. All industrial processes, incinerators, and fuel-burning equipment shall comply with the applicable state VE and grain loading standards listed in Conditions 1, 2, and 7.

[Conditions 20.2a and 20.2b, Construction Permit AQ0503CPT07 Revision 1, 11/18/2014]

- 30.3. For EU IDs 1 through 5, monitor and report in accordance with Condition 1.1 and as follows

[40 CFR 71.6(a)(3)]

- a. For EU IDs 1 through 5, record all observations of visible emissions (excluding condensed water vapor).
- b. If continuous visible emissions (excluding condensed water vapor) are observed for longer than three minutes, initiate corrective action within 24 hours to eliminate visible emissions.
 - (i) Keep a written record of the starting date, the completion date, and a description of the actions taken to eliminate the visible emissions;
 - (ii) Observe the emissions unit at least once each day for the next seven operating days to ensure that the corrective action has been successful in eliminating visible emissions. After seven operating days, if the corrective actions taken do not eliminate the visible emissions, then observe the emission unit using EPA Method 9 in 40 CFR 60, Appendix A-4 within 24 hours. Conduct this observation for 18 minutes to obtain 72 consecutive 15-second opacity observations. As necessary, take additional corrective actions to eliminate visible emissions and repeat the monitoring, recordkeeping, and reporting steps of Condition 30.3.b until visible emissions are eliminated.
- c. Record and report as required under Conditions 4.1, 5.1, and 5.2.a except report results compared to the 10 percent opacity limit instead of 20 percent opacity.
- d. Provide a copy of the records required under Condition 30.3.b(i) in the operating report required in Condition 85.

[40 CFR 71.6(c)(6)]

ORLs to Avoid PSD Modification for VOCs and HAP Major Source Classification

- 31. Verification of Equipment Specifications and Maintenance of Equipment.** The Permittee shall install and maintain EU IDs 11, 12, 13, and 23 according to the manufacturer's or operator's maintenance procedures. Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make records available to the Department personnel upon request. The records may be kept in electronic format.

[Condition 2, Minor Permit AQ0503MSS04, 6/3/2019]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(1)]

- 32.** The Permittee shall limit the total combined emissions of HAPs from EU IDs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase from EU IDs 11, 12, 13, and 23 to less than 39 tons in any 12 consecutive months. The Permittee shall ensure compliance with the limit in Condition 32 as follows:

[Condition 4, Minor Permit AQ0503MSS04, 6/3/2019]
[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 71.6(a)(1)]

- 32.1. Route all gas from the reboiler and the flash tank of the dehydrator (EU IDs 13 and 23) to the low pressure flare (EU ID 12) at all times either EU ID 13 or EU ID 23 operates.
- 32.2. Flare all gas from EU IDs 13 and 23 in EU ID 12 at all times either EU ID 13 or 23 operates, in accordance with the manufacturer's operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%.
- 32.3. EU ID 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours and except for periods of startup, shutdown, or malfunction.
- 32.4. Report in each quarterly facility operating report in Condition 85 an affirmation that Conditions 32.1 through 32.3 are met.
- 32.5. Within 90 days of the issue date for Minor Permit AQ0503MSS04 the Permittee shall conduct a visible emission observation in accordance with 40 C.F.R. 60 Appendix A, Method 22. The Method 22 observation period shall not be less than 2 hours in duration. Observation of the flares may be postponed for safety or weather reasons. If visible emissions are noted for a total of more than 5 minutes during the Method 22 observation:
 - [Conditions 4.1 through 4.5, Minor Permit AQ0503MSS04, 6/3/2019]
[40 CFR 71.6(a)(3)]
 - a. Determine whether the flares are being properly operated and maintained.
 - b. Initiate corrective actions, if necessary, to eliminate visible emissions from the emission unit within 24 hours of the Method 22 observation;
 - c. Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce visible emissions; and
 - d. After completing the corrective actions, conduct a follow-up visible emissions observation in accordance with 40 C.F.R. 60 Appendix A, Method 22 within three days. The Method 22 visible emissions observation period shall not be less than two hours in duration. The 3-day time limit to conduct observations may be extended by the Department for sufficient cause.
 - [Conditions 4.5a through 4.5d, Minor Permit AQ0503MSS04, 6/3/2019]
[40 CFR 71.6(a)(3)]
- 32.6. Report in accordance with Condition 84 if any of Conditions 32 through 32.5 are not met.

Insignificant Emissions Units

33. 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:

33.1. 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)]

33.2. 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)]

33.3. 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)]

33.4. General MR&R for Insignificant Emissions Units

- a. The Permittee shall submit the compliance certifications of Condition 86 based on reasonable inquiry;
- b. The Permittee shall comply with the requirements of Condition 67;
- c. The Permittee shall report in the operating report required by Condition 85 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

34. New Source Performance Standards (NSPS) Subpart A Notification. For any affected facility⁴ or existing facility⁵ regulated under NSPS requirements in 40 CFR 60, the Permittee shall furnish the Administrator written notification or, if acceptable to both the Administrator⁶ and the Permittee, electronic notification, as follows:

[18 AAC 50.035 & 50.040(a)(1)]
[40 CFR 60.7(a) & 60.15(d), Subpart A]

34.1. A notification of the date construction (or reconstruction as defined under 40 CFR 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

[40 CFR 60.7(a)(1), Subpart A]

34.2. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

[40 CFR 60.7(a)(3), Subpart A]

34.3. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include:

- a. information describing the precise nature of the change,
- b. present and proposed emission control systems,
- c. productive capacity of the facility before and after the change, and
- d. the expected completion date of the change.

[40 CFR 60.7(a)(4), Subpart A]

34.4. A notification of any proposed replacement of components of an existing facility, 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]

⁴ *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 CFR 60.2.

⁵ *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.

⁶ For Section 4 of this permit, the Department defines *Administrator* to mean the EPA Administrator and the Department.

- 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.

- 35. NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs 1 through 5, any malfunction of the air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU IDs 1 through 5 is inoperative.

[18 AAC 50.040(a)(1)]
[40 CFR 60.7(b), Subpart A]

- 36. NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report.** Each Permittee required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts and limits are in Condition 42.6) and-or summary report form (see Condition 37) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

[18 AAC 50.040(a)(1)]
[40 CFR 60.7(c), Subpart A]

- 36.1. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

[40 CFR 60.7(c)(1), Subpart A]

- 36.2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of EU IDs 1 through 5; the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted.

[40 CFR 60.7(c)(2), Subpart A]

- 36.3. The date and time identifying each period during which a Continuous Monitoring System (CMS) was inoperative except for zero and span checks and the nature of any repairs or adjustments.
[40 CFR 60.7(c)(3), Subpart A]
- 36.4. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
[40 CFR 60.7(c)(4), Subpart A]
- 37. NSPS Subpart A Summary Report Form.** The summary report form shall contain the information and be in the format shown in figure 1 of 40 CFR 60.7 (see Attachment 1) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.
[18 AAC 50.040(a)(1)]
[40 CFR 60.7(c) & (d), Subpart A]
- 37.1. If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in Condition 36 need not be submitted unless requested by the Administrator.
[40 CFR 60.7(d)(1), Subpart A]
- 37.2. If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Condition 36 shall both be submitted.
[40 CFR 60.7(d)(2), Subpart A]
- 38. NSPS Subpart A Performance (Source) Tests.** The Permittee shall conduct source tests according to Section 6 and as required in this condition on any affected facility.
[18 AAC 50.040(a)(1)]
- 38.1. Except as specified in paragraphs (a)(1),(a)(2), (a)(3), and (a)(4) of 40 CFR 60.8, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by 40 CFR Part 60, and at such other times as may be required by the Administrator, the Permittee shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).
[40 CFR 60.8(a), Subpart A]

38.2. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors.

[40 CFR 60.8(b), Subpart A]

38.3. Tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c), Subpart A]

38.4. Provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the Permittee shall notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

[40 CFR 60.8(d), Subpart A]

38.5. Provide or cause to be provided, performance testing facilities as follows:

- a. Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- b. Safe sampling platform(s),
- c. Safe access to sampling platform(s), and
- d. Utilities for sampling and testing equipment.

[40 CFR 60.8(e), Subpart A]

38.6. Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f), Subpart A]

39. NSPS Subpart A Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU IDs 1 through 5 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Administrator will determine whether acceptable operating and maintenance procedures are being used based on information available, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU IDs 1 through 5.

[18 AAC 50.040(a)(1)]

[40 CFR 60.11(d), Subpart A]

40. NSPS Subpart A Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in Conditions 42.1 and 42.6, nothing in 40 CFR Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU IDs 1 through 5 would have been in compliance with applicable requirements of 40 CFR Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1)]

[40 CFR 60.11(g), Subpart A]

41. 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 42 or 43. 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]

Subpart GG

42. For EU IDs 1 through 5, comply with the following applicable requirements of NSPS Subpart GG.

[18 AAC 50.040(a)(2)(V), 50.040(j)(4), & 50.326(j)]
[40 CFR 60.332(d), Subpart GG]
[40 CFR 71.6(a)(1)]

NSPS Subpart GG Standard for NO_x

- 42.1. The Permittee shall not allow the exhaust gas concentration of NO_x to exceed:

- a. 220 ppmv (at 15 percent O₂ and on a dry basis) for each of EU IDs 1 and 2; and
- b. 172 ppmv (at 15 percent O₂ and on a dry basis) for each of EU IDs 3 through 5.

[40 CFR 60.332(a)(2), Subpart GG]
[40 CFR 71.6(a)(1)]

- 42.2. Stationary gas turbines are exempt from Condition 42.1 when being fired with an emergency fuel.

[40 CFR 60.332(k), Subpart GG]
[40 CFR 71.6(a)(1)]

- 42.3. **Monitoring.** The Permittee shall comply with the following:

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

- a. **Periodic Testing.** For each turbine subject to Condition 42 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall comply with Conditions 42.3.a(i) and 42.3.a(ii).

[40 CFR 71.6(a)(3)]

- (i) For existing turbines whose latest emissions source test results were certified as less than or equal to 90 percent of the NO_x limit in Condition 42.1, the Permittee shall conduct a NO_x source test according to the criteria below:
 - (A) Within 5 years of the latest performance test, or
 - (B) Within 1 year after exceeding 400 hours of operation in a 12-month period if the last source test occurred greater than 4 years prior to the exceedance.
- (ii) For existing turbines whose latest emissions source test results were certified as greater than 90 percent of the NO_x limit in Condition 42.1, the Permittee shall conduct a NO_x source test annually until two consecutive tests show results certified at less than or equal to 90 percent of the NO_x limit in Condition 42.1.

- b. For NO_x source testing, the Permittee shall comply with the following:

[18 AAC 50.040(a)(2)(V)]
[40 CFR 71.6(a)(3)(i)]

- (i) The owner or operator shall conduct the performance tests using either EPA Method 20, ASTM D6522-00, or EPA Method 7E and either EPA Method 3 or 3A in appendix A to 40 CFR 60, to determine NO_x and diluent concentration.

[40 CFR 60.335(a)(1) through (3), Subpart GG]

- (ii) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

- (iii) Notwithstanding Condition 42.3.b(ii), the owner or operator may test at fewer points than are specified in Method 1 or Method 20 if the conditions of 40 CFR 60.335(a)(5)(i) and (ii) are met.

- (iv) Other acceptable alternative reference methods and procedures are given in 40 CFR 60.335(c).

[40 CFR 60.335(a)(4) through (a)(6), Subpart GG]

- (v) Each test run required under Condition 42.3.b(vi) shall be at least 21 minutes.

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

- (vi) The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in Condition 42.1 and shall meet the performance test requirements of 40 CFR 60.8 as follows:

[40 CFR 60.335(b), Subpart GG]

- (A) For each run of the performance test, the mean nitrogen oxides emission concentration (NO_{xo}) corrected to 15 percent O₂ shall be corrected to ISO standard conditions using the equation in 40 CFR 60.335(b)(1).

- (B) The 3-run performance test required must be performed within 5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in 40 CFR 60.331).

[40 CFR 60.335(b)(1) & (2), Subpart GG]

- c. **Substituting Test Data.** The Permittee may perform emissions source testing on only one of a group of similarly configured turbines to satisfy the requirements of Condition 42.3.a if:

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

- (i) the Permittee demonstrates that test results are less than or equal to 90 percent of the emission limit in Condition 42.1 and are projected under Condition 42.3.d to be less than or equal to 90 percent of the limit at maximum load; and
- (ii) the Permittee identifies in a source test plan under Condition 76
 - (A) the turbine to be tested;
 - (B) the other turbines in the group that are to be represented by the test; and
 - (C) why the turbine to be tested is representative, including that each turbine in the group
 - (1) is located at a stationary source operated and maintained by the Permittee;
 - (2) is tested under close to identical ambient conditions;
 - (3) is the same make and model and has identical injectors and combustor; and
 - (4) uses the same fuel type from the same supply origin.

- d. **Load.** The Permittee shall comply with the following:

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

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

- (i) In the source test plan state whether or not the test is scheduled when maximum NOx emissions are expected.

- (ii) If the highest operating rate during the source test is less than the maximum load of the tested turbine or another turbine represented by the test data, for each such turbine the Permittee shall provide to the Department as an attachment to the source test report
 - (A) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and
 - (B) a demonstration based on the additional test information that projects the test results from Condition 42.3.b to predict the highest load at which emissions will comply with the limit in Condition 42.1.
- (iii) The Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the limit of Condition 42.1;
- (iv) The Permittee shall comply with a written finding prepared by the Department that
 - (A) the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load,
 - (B) the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than maximum load, and the Permittee must not exceed the highest load at which compliance is predicted, or
 - (C) the Permittee must retest during a period of greater expected demand on the turbine.
- (v) The Permittee may revise a load limit by submitting results of a more recent test done at a higher load, and, if necessary, the accompanying information and demonstration described in Condition 42.3.d(ii); the new limit is subject to any new Department finding under Condition 42.3.d(iv).
- (vi) In order to perform an emission test required by Conditions 42.3.a and 42.3.b, the Permittee may operate a turbine at a higher load than that prescribed by Conditions 42.3.d(ii) through 42.3.d(iv).
- (vii) For the purposes of Conditions 42.3 through 42.5, maximum load means the hourly average load that is the smallest of
 - (A) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;

- (B) the highest load allowed by an enforceable condition that applies to the turbine; or
- (C) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

42.4. **NOx Recordkeeping.** The Permittee shall keep records as follows:

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

- a. The Permittee shall comply with the following for each turbine for which a demonstration under Condition 42.3.d(ii) does not show compliance with the limit of Condition 42.1 at maximum load.
 - (i) The Permittee shall keep records of
 - (A) load; or
 - (B) as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.
 - (ii) Records in Condition 42.4.a shall be hourly or otherwise as approved by the Department.
 - (iii) Within one month after submitting a demonstration under Condition 42.3.d(ii)(B) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under Condition 42.3.d(iv), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.

[40 CFR 71.6(c)(6)]

42.5. **NOx Reporting.** The Permittee shall report as follows:

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

- a. In each operating report under Condition 85 the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under Conditions 42.3.d(ii) through 42.3.d(v)
 - (i) the load limit;
 - (ii) the turbine identification; and
 - (iii) the highest load recorded under Condition 42.4.a during the period covered by the operating report.

- b. The Permittee shall report under Condition 84 if
 - (i) a test result exceeds the emission standard;
 - (ii) testing required under Condition 42.3.b is not performed, or
 - (iii) a turbine was operated at a load exceeding that allowed by Conditions 42.3.d(iii) and 42.3.d(iv); exceeding a load limit is deemed a single violation rather than multiple violations of both monitoring and the underlying emission limit.

[40 CFR 71.6(c)(6)]

NSPS Subpart GG Standard for SO₂

- 42.6. No owner or operator subject to the provisions of NSPS Subpart GG shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).

[40 CFR 60.333(b), Subpart GG]
[40 CFR 71.6(a)(1)]

- 42.7. **SO₂ MR&R.** The Permittee shall comply with the following:

[40 CFR 71.6(a)(3)]

- a. Monitor the total sulfur content of the fuel being fired in the turbine, except as provided in Condition 42.7.b. The sulfur content of the fuel must be determined using total sulfur methods described in Condition 42.7.f. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86 (all of which are incorporated by reference-see 40 CFR 60.17), which measure the major sulfur compounds may be used.

[40 CFR 60.334(h)(1), Subpart GG]

- b. Notwithstanding the provisions of Condition 42.7.a, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u), regardless of whether an existing custom schedule approved by the administrator for Subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

[40 CFR 60.334(h)(3), Subpart GG]

- (i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

- (ii) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR 75 is required.

[40 CFR 60.334(h)(3)(i) & (ii), Subpart GG]

- c. For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

[40 CFR 60.334(h)(4), Subpart GG]

- d. The frequency of determining the sulfur content of the fuel shall be as follows:

[40 CFR 60.334(i), Subpart GG]

- (i) **Gaseous fuel.** For owners and operators that elect not to demonstrate sulfur content using options in Condition 42.7.b, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.
- (ii) **Custom schedules.** Notwithstanding the requirements of Condition 42.7.d(i), operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in 40 CFR 60.334(i)(3)(i) and (i)(3)(ii), custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in Condition 42.6.

[40 CFR 60.334(i)(2) & (3), Subpart GG]

- (A) The two custom sulfur monitoring schedules set forth in 40 CFR 60.334(i)(3)(i)(A) through (D) and in 40 CFR 60.334(i)(3)(ii) are acceptable, without prior Administrative approval.

[40 CFR 60.334(i)(3)(i), Subpart GG]

- e. For each affected unit that elects to periodically determine the fuel sulfur content under NSPS Subpart GG, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with Condition 36. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under Condition 36, periods of excess emissions and monitor downtime that shall be reported are defined as follows:

[40 CFR 60.334(j), Subpart GG]

- (i) **Sulfur dioxide.** If the owner or operator is required to monitor the sulfur content of the fuel under Condition 42.7.a or 42.7.c:
 - [40 CFR 60.334(j)(2), Subpart GG]
 - (A) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.
 - (B) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample.
 - [40 CFR 60.334(j)(2)(i) & (iii), Subpart GG]
- (ii) **Emergency fuel.** Each period during which an exemption provided in Condition 42.2 is in effect shall be included in the report required in Condition 36. For each period, the type, reasons, and duration of the firing of the emergency fuel shall be reported.
 - [40 CFR 60.334(j)(4), Subpart GG]
- f. Analyze the samples for the total sulfur content of the fuel using ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.
- g. The fuel analyses required under Condition 42.7.f may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
 - [40 CFR 60.335(b)(10) & (11), Subpart GG]

Subpart III

- 43. For EU ID 22, 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

- 43.1. The Permittee must comply with the following emission standards, for all pollutants:
- [40 CFR 71.6(a)(1)]
[40 CFR 60.4204(b), Subpart III]
- a. NMHC + NO_x: 4.0 g/kW-hr
 - b. CO: 5.0 g/kW/hr
 - c. PM: 0.30 g/kW-hr
- [40 CFR 60.4201(a), Subpart III]
- 43.2. Performance tests conducted in-use must meet the NTE standards as indicated in 40 CFR 60.4212.
- [40 CFR 71.6(a)(3)(i)]
[40 CFR 60.4204(d), Subpart III]
- 43.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in Condition 43.1 over the entire life of the engine.
- [40 CFR 71.6(a)(1)]
[40 CFR 60.4206, Subpart III]

NSPS Subpart III Compliance Requirements

- 43.4. You must do all of the following, except as permitted under Condition 43.6:
- [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;
 - 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]
- 43.5. You must comply with the emission standards specified in Condition 43.1 by purchasing an engine certified to the emission standards in Condition 43.1. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 43.6.
- [40 CFR 71.6(a)(3)(i)]
[40 CFR 60.4211(c), Subpart III]

- 43.6. 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)(i)]
[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

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

[40 CFR 71.6(a)(3)(i)]
[40 CFR 60.4212, Subpart III]

40 CFR Part 61 National Emission Standards for Hazardous Air Pollutants

Subparts A & M

44. 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) & (2)(F), & 50.326(j)]
[40 CFR 61, Subparts A & M, and Appendix A]

40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants

Subpart A

45. For EU ID 23, comply with the applicable requirements of 40 CFR 63 Subpart A in accordance with the provisions for applicability of Subpart A in Subpart HH, Table 2.

[18 AAC 50.040(j) & 50.326(j)]
[40 CFR 63.764(a) & Table 2, Subpart HH]
[40 CFR 71.6(a)(1)]

46. For EU IDs 6 through 8, 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 63.6665 & Table 8, Subpart ZZZZ]

[40 CFR 71.6(a)(1)]

Subpart HH

47. NESHAP Subpart HH Applicability. For EU ID 23, comply with the following applicable requirements of NESHAP Subpart HH.

[18 AAC 50.040(c)(13), 50.040(j), & 50.326(j)]
[40 CFR 63.760, Subpart HH]
[40 CFR 71.6(a)(1)]

47.1. Emissions for major source determination purposes can be estimated using the maximum natural gas or hydrocarbon liquid throughput, as appropriate, calculated in Conditions 47.1.a through 47.1.b. As an alternative to calculating the maximum natural gas or hydrocarbon liquid throughput, the owner or operator of a new or existing source may use the facility's design maximum natural gas or hydrocarbon liquid throughput to estimate the maximum potential emissions.

[40 CFR 63.760(a)(1), Subpart HH]
[40 CFR 71.6(a)(1)]

- a. The owner or operator shall maintain records of the annual facility natural gas or hydrocarbon liquid throughput each year and upon request submit such records to the Administrator. If the facility annual natural gas or hydrocarbon liquid throughput increases above the maximum natural gas or hydrocarbon liquid throughput calculated in 40 CFR 63.760(a)(1)(i)(A) or (a)(1)(i)(B), the maximum natural gas or hydrocarbon liquid throughput must be recalculated using the higher throughput multiplied by a factor of 1.2.
- b. The owner or operator shall determine the maximum values for other parameters used to calculate emissions as the maximum for the period over which the maximum natural gas or hydrocarbon liquid throughput is determined in accordance with 40 CFR 63.760(a)(1)(i)(A) or (B). Parameters, other than glycol circulation rate, shall be based on either highest measured values or annual average. For estimating maximum potential emissions from glycol dehydration units, the glycol circulation rate used in the calculation shall be the unit's maximum rate under its physical and operational design consistent with the definition of potential to emit in 40 CFR 63.2.

[40 CFR 63.760(a)(1)(ii) & (iii), Subpart HH]

47.2. Any source that determines it is not a major source but has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months.

[40 CFR 63.760(c), Subpart HH]
[40 CFR 71.6(a)(1)]

NESHAP Subpart HH General Standards

- 47.3. Except as specified in Condition 47.4, the owner or operator shall comply with the standards specified in Conditions 47.3.a through 47.3.c.

[40 CFR 63.764(d) & (d)(2), Subpart HH]
[40 CFR 71.6(a)(1)]

- a. Determine the optimum glycol circulation rate using the equation under 40 CFR 63.764(d)(2)(i).
- b. Operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined in accordance with Condition 47.3.a. If the TEG dehydration unit is unable to meet the sales gas specification for moisture content using the glycol circulation rate determined in accordance with Condition 47.3.a, the owner or operator must calculate an alternate circulation rate using GRIGLYCalc™, Version 3.0 or higher. The owner or operator must document why the TEG dehydration unit must be operated using the alternate circulation rate and submit this documentation with the initial notification in accordance with 40 CFR 63.775(c)(7).
- c. Maintain a record of the determination specified in Condition 47.3.b in accordance with the requirements in Condition 47.9 and submit the Initial Notification in accordance with the requirements in 40 CFR 63.775(c)(7). If operating conditions change and a modification to the optimum glycol circulation rate is required, the owner or operator shall prepare a new determination in accordance with Condition 47.3.a or 47.3.b and submit the information specified under 40 CFR 63.775(c)(7)(ii) through (v).

[40 CFR 63.764(d)(2)(i) through (iii), Subpart HH]

- 47.4. The owner or operator is exempt from the requirements of Condition 47.3 if the criteria listed in Condition 47.4.a or 47.4.b are met, except that the records of the determination of these criteria must be maintained as required in Condition 47.8.

[40 CFR 63.764(e)(1), Subpart HH]
[40 CFR 71.6(a)(1)]

- a. The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in Condition 47.6.a; or
- b. The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in Condition 47.6.b.

[40 CFR 63.764(e)(1)(i) & (ii), Subpart HH]

- 47.5. At all times the owner or operator 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. 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 63.764(j), Subpart HH]
[40 CFR 71.6(a)(1)]

NESHAP Subpart HH Test Methods, Compliance Procedures, and Compliance Demonstrations

- 47.6. Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.

[40 CFR 63.772(b), Subpart HH]
[40 CFR 71.6(a)(1)]

- a. The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either Condition 47.6.a(i) or 47.6.a(ii).

[40 CFR 63.772(b)(1), Subpart HH]

- (i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.
- (ii) The owner or operator shall document, to the Administrator's satisfaction, the actual annual average natural gas flowrate to the glycol dehydration unit.

[40 CFR 63.772(b)(1)(i) & (ii), Subpart HH]

- b. The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either Condition 47.6.b(i) or 47.6.b(ii). Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

[40 CFR 63.772(b)(2), Subpart HH]

- (i) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRIGLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI-95/0368.1); or
- (ii) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in 40 CFR 63.772(a)(1)(i) or (ii), or an alternative method according to 40 CFR 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

[40 CFR 63.772(b)(2)(i) & (ii), Subpart HH]

NESHAP Subpart HH Recordkeeping Requirements

- 47.7. Each owner or operator of a facility subject to NESHAP Subpart HH shall maintain records as follows:

[40 CFR 63.774(b), Subpart HH]
[40 CFR 71.6(a)(3)(ii)]

- a. The owner or operator of an affected source subject to the provisions of NESHAP Subpart HH shall maintain files of all information (including all reports and notifications) required by NESHAP Subpart HH. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.
- (i) All applicable records shall be maintained in such a manner that they can be readily accessed.
 - (ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.
 - (iii) The remaining 4 years of records may be retained offsite.
 - (iv) Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

[40 CFR 63.774(b)(1)(i) through (iv), Subpart HH]

- 47.8. An owner or operator of a glycol dehydration unit that meets the exemption criteria in Condition 47.4.a or 47.4.b shall maintain the records specified in Condition 47.8.a or 47.8.b, as appropriate, for that glycol dehydration unit.
- [40 CFR 63.774(d)(1), Subpart HH]
[40 CFR 71.6(a)(3)(ii)]
- a. The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with Condition 47.6.a, or
- b. The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with Condition 47.6.b.
- [40 CFR 63.774(d)(1)(i) & (ii), Subpart HH]
- 47.9. The owner or operator of an area source not located within a UA plus offset and UC boundary must keep a record of the calculation used to determine the optimum glycol circulation rate in accordance with Condition 47.3.a or 47.3.b, as applicable.
- [40 CFR 63.774(f), Subpart HH]
[40 CFR 71.6(a)(3)(ii)]
- 47.10. The owner or operator of an affected source subject to NESHAP Subpart HH shall maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control equipment and monitoring equipment. The owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 47.5, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
- [40 CFR 63.774(g), Subpart HH]
[40 CFR 71.6(a)(3)(ii)]

NESHAP Subpart HH Reporting Requirements

- 47.11. *Notification of process change.* Whenever a process change is made, the owner or operator shall submit a report within 180 days after the process change is made. The report shall include:
- [40 CFR 63.775(f), Subpart HH]
[40 CFR 71.6(a)(3)(iii)]
- a. A brief description of the process change; and
- b. A description of any modification to standard procedures or quality assurance procedures.
- [40 CFR 63.775(f)(1) & (2), Subpart HH]

- 47.12. All reports must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).

[40 CFR 63.775(g)(2), Subpart HH]
[40 CFR 71.6(a)(3)(iii)]

Subpart ZZZZ

- 48. NESHAP Subpart ZZZZ Applicability.** For EU IDs 6 through 8 and 22, comply with the following applicable requirements of NESHAP Subpart ZZZZ.

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

- 48.1. For EU ID 22, the Permittee must meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60 Subpart IIII. No further requirements apply for EU ID 22 under Condition 48 and 40 CFR 63.

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

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

- 48.2. For EU IDs 6 through 8,

- a. You must meet the following requirements, except during periods of startup:

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

- (i) Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
- (ii) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- (iii) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[Table 2d, Item 1; NESHAP Subpart ZZZZ]

- b. Sources have 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 Condition 48.2.a(i).

[Table 2d, NESHAP Subpart ZZZZ]

- c. You must 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.

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

NESHAP Subpart ZZZZ General Requirements

- 48.3. You must be in compliance with the requirements under Condition 48 at all times.
- 48.4. 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 63.6605(a) & (b), Subpart ZZZZ]
[40 CFR 71.6(a)(1)]

NESHAP Subpart ZZZZ Requirements for Demonstration of Continuous Compliance with Emission Limitations, Operating Limitations, and Other Requirements

- 48.5. You must demonstrate continuous compliance with each requirement in Condition 48.2.a by:

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

- 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]

NESHAP Subpart ZZZZ Reporting Requirements

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

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

- 48.7. You must report all deviations as defined in NESHAP Subpart ZZZZ in the monitoring report required by Condition 85.

[40 CFR 63.6650(f), Subpart ZZZZ]
[40 CFR 71.6(a)(3)(iii)]

NESHAP Subpart ZZZZ Recordkeeping Requirements

- 48.8. For EU IDs 6 through 8, 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.

[40 CFR 63.6655(e), Subpart ZZZZ]
[40 CFR 71.6(a)(3)(ii)]

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

- 48.10. 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.

- 48.11. 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 63.6660(a) through (c), Subpart ZZZZ]
[40 CFR 71.6(a)(3)(ii)]

40 CFR Part 82 Protection of Stratospheric Ozone

- 49. 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]

- 50. 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]

- 51. 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

- 52. 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)]

- 52.1. 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]

- 53.** 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)]

- 54.** 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]

- 55. 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 85 for the period covered by the report, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10. 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)]

- 56. 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

57. 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)]
58. 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)]
59. 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)]
60. **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]
61. **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
- 61.1. the stationary source's assessable potential to emit of 2,879 tpy; or
- 61.2. 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:
- an enforceable test method described in 18 AAC 50.220;
 - material balance calculations;
 - emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - 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)]

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

- 62.1. 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
- 62.2. 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 61.1.

[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)]

63. Good Air Pollution Control Practice. The Permittee shall do the following for EU IDs 9c and 11 through 13 and Group C heaters and boilers:

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

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

64. 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)]

65. 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)]

- 65.1. 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 65.1.a or to address the results of Department inspections that found potential problems; and
 - (ii) to prevent future dust problems.

65.2. The Permittee shall report according to Condition 67.

- 66. 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)]

- 67. 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)]

67.1. Monitoring, Recordkeeping, and Reporting for Condition 67:

- a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 84.
- 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 67.
- 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 67; or
 - (ii) the Department notifies the Permittee that it has found a violation of Condition 67.
- 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 67; 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 85, 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.

68. 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 standard⁷ listed in Condition 26, 27, 42, 43 or 49 (refrigerants),

- 68.1. take all reasonable steps to minimize levels of emissions that exceed the standard, and
- 68.2. report in accordance with Condition 84; 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

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

- 69.1. 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.
- 69.2. Include this condition in the annual certification required under Condition 86.

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

⁷ 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

- 70. 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)]

- 71. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, conduct source testing

[18 AAC 50.220(b)]

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

71.2. 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.

- 72. Reference Test Methods.** Use the following test methods when conducting source testing for compliance with this permit:

72.1. 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]

72.2. 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]

72.3. 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]

72.4. 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)]

72.5. 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]

- 72.6. 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]
- 72.7. 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]
- 73. 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)]
- 74. Test Exemption.** Compliance with Conditions 76, 77 and 78 is not required for Method 9 Plan (Condition 3.2) observations.
- [18 AAC 50.345(a)]
- 75. 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)]
- 76. Test Plans.** Except as provided in Condition 74, 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 70 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)]
- 77. Test Notification.** Except as provided in Condition 74, 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)]

78. Test Reports. Except as provided in Condition 74, 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 81. 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)]

79. Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in Conditions 7 and 33.2, 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

80. 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 C.F.R 60.7(f), Subpart A, 40 C.F.R 71.6(a)(3)(ii)(B)]

- 80.1. Copies of all reports and certifications submitted pursuant to this section of the permit; and
- 80.2. 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

81. **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.

- 81.1. 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 81.1.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)]

82. 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.

82.1. 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)]

83. 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)]
[40 CFR 71.5(a)(2) & 71.6(a)(3)]

84. Excess Emissions and Permit Deviation Reports.

84.1. Except as provided in Condition 67, 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 84.1.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 84.1.c(i); and

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

84.2. 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.

84.3. 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)]

85. Operating Reports. During the life of this permit⁸, the Permittee shall submit an operating report by May 15 for the period January 1 to March 31, by August 15 for the period April 1 to June 30, by November 15 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31 of the previous year.

85.1. 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.

85.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 85.1, 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

85.3. when excess emissions or permit deviations have already been reported under Condition 84 the Permittee shall cite the date or dates of those reports.

85.4. The operating report must include, for the period covered by the report, a listing of emissions monitored under Conditions 3.2.e and 42.3.a(ii) 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;

⁸ *Life of this permit* is defined as the permit effective dates, including any periods of reporting obligations that extend beyond the permit effective dates. For example if a permit expires prior to the end of a calendar year, there is still a reporting obligation to provide operating reports for the periods when the permit was in effect.

- c. the permit condition affected; and
- d. the monitoring result which triggered the additional monitoring.

85.5. **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)]

86. Annual Compliance Certification. Each year by March 31, compile and submit to the Department an annual compliance certification report according to Condition 82.

86.1. 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;

86.2. **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.

86.3. In addition, submit a copy of the report directly to the 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)]

87. 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:

87.1. 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.

87.2. 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.
- 87.3. For reporting under Condition 87.2, 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.
- 87.4. 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

- 88. Permit Applications and Submittals.** Comply with the following requirements for submitting application information to the US Environmental Protection Agency (EPA):
- 88.1. 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;
 - 88.2. 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.
 - 88.3. 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
 - 88.4. 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)]
- 89. 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)]
- 90. 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:
- 90.1. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;
 - 90.2. 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;
 - 90.3. The change shall not qualify for the shield under 40 CFR 71.6(f);
 - 90.4. 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)]

91. Operational Flexibility. CAA Section 502(b)(10)⁹ 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.

91.1. For each such change, the notification required by Condition 91 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.

91.2. The permit shield described in 40 CFR 71.6(f) shall not apply to any change made pursuant to Condition 91.

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

92. Permit Renewal. To renew this permit, the Permittee shall submit to the Department¹⁰ an application under 18 AAC 50.326 no sooner than December 10, 2023 and no later than December 10, 2024. 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)]

⁹ 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.

¹⁰ 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

- 93.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are
- 93.1. included and specifically identified in the permit; or
 - 93.2. determined in writing in the permit to be inapplicable.
- [18 AAC 50.326(j)(3) & 50.345(a) & (b)]
- 94.** 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
- 94.1. an enforcement action;
 - 94.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
 - 94.3. denial of an operating permit renewal application.
- [18 AAC 50.040(j), 50.326(j) & 50.345(a) & (c)]
- 95.** 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)]
- 96.** 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)]
- 97.** 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
- 97.1. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;
 - 97.2. have access to and copy any records required by the permit;
 - 97.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 97.4. 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)]

- 98.** 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.

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

- 99.1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or
- 99.2. 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)]

100. Table D 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 D becomes applicable during the permit term, the Permittee shall 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 D - Permit Shields Granted

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
Stationary source-wide	40 CFR 60 Subpart J, Ja, GGG, GGGa, QQQ	Stationary source does not meet the definition for a petroleum refinery.
Stationary source-wide	40 CFR 60 Subpart KKK	Stationary source does not meet the definition for an on-shore natural gas processing plant as defined in the subpart.
Stationary source-wide	40 CFR 60 Subpart LLL	Stationary source does not operate natural gas sweetening unit(s).
Stationary source-wide	40 CFR 60 Subpart OOOO	The stationary source does not have any onshore affected facilities listed in 40 CFR 60.5365(a) through (g) for which Hilcorp commenced construction, modification, or reconstruction after August 23, 2011 and on or before September 18, 2015 (the applicability date of the rule).
Stationary source-wide	40 CFR 60 Subpart OOOOa	The stationary source does not have any onshore affected facilities listed in 40 CFR 60.5365a(a) through (g) for which Hilcorp commenced construction, modification, or reconstruction after September 18, 2015 (the applicability date of the rule).
1 through 5	40 CFR 60 Subpart GG: 60.332(a)(1)	Standard only applies to Electric Utility Stationary Gas Turbines, as defined in subpart – emission unit is not an Electric Utility Gas Turbine as defined in Subpart GG.

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
1 through 5	40 CFR 60.334(a), (b), & (d)	These requirements only apply to turbines that use water or steam injection.
1 through 5	40 CFR 60 Subpart GG: 60.334(e), (f)	This requirement only applies to affected turbines that commence construction after July 8, 2004.
1 through 5	40 CFR 60 Subpart GG: 60.334(h)(2)	Hilcorp has not claimed an allowance for fuel bound nitrogen to calculate the applicable NOx emission limit under 40 CFR 60.332.
6, 7, 8	40 CFR 60 Subpart IIII	EU IDs 6 through 8 have not commenced construction, modification, or reconstruction after July 11, 2005. The permit shield for Subpart IIII only applies to currently installed units until modified, reconstructed, or replaced.
9c	40 CFR 60 Subpart E	The incinerator has a charging rate of less than 50 tons per day.
9c	40 CFR 60 Subpart Ea	The incinerator has a charging rate of less than 250 tons per day.
9c	40 CFR 60 Subpart Eb	The incinerator has a charging rate of less than 250 tons per day.
9c	40 CFR 60 Subpart Ec	This incinerator does not burn hospital/medical/infectious waste.
9c	40 CFR 60 Subpart O	The incinerator does not combust sewage sludge.
9c	40 CFR 60 Subpart AAAA	The capacity of the incinerator is less than the applicability threshold (35 tons per day).
9c	40 CFR 60 Subpart CCCC	The incineration unit is a small, remote incinerator and did not commence construction after June 4, 2010 and did not commence reconstruction or modification after August 7, 2013.
9c	40 CFR 60 Subpart EEEE	The incineration unit is not subject to Subpart EEEE because the unit is excluded from the subpart as a commercial and industrial solid waste incineration unit under Subpart DDDD of this part, per 40 CFR 60.2887(d).
13, 16, 17, 18	40 CFR 60 Subpart D, Da, & Db	Heat input capacities below applicability threshold (100 and 250 MMBtu/hr) and units not classified as Fossil-Fuel fired steam generating units.
13, 16, 17, 18	40 CFR 60 Subpart Dc	Heat input capacities below applicability threshold (10 MMBtu/hr) and units not classified as steam generating units.
19, 20, 21	40 CFR 60 Subpart K	Commenced construction after applicability date of subpart (i.e., after 5/19/1978)
19, 20, 21	40 CFR 60 Subpart Ka	Commenced construction after applicability date of subpart (i.e., after 7/23/1984)
19, 20, 21	40 CFR 60 Subpart Kb	Subpart does not apply to storage vessels greater than 151 m3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or a capacity greater than 75 m3 but less than 151 m3 and with a maximum true vapor pressure less than 15.0 kPa.
9c	40 CFR 61 Subpart E	The incinerator does not process mercury ore, use mercury chlor-alkali cells, or incinerate or dry wastewater treatment plant sludge.

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
Stationary source-wide	40 CFR 61 Subpart J	No process components in benzene service, as defined by subpart (10% benzene by weight).
Stationary source-wide	40 CFR 61 Subpart V	No process components in volatile hazardous air pollutant (VHAP) service, as defined by subpart (\geq 10% VHAP by weight).
Stationary source-wide	40 CFR 61 Subpart Y	Stationary source does not operate storage vessels in benzene service.
Stationary source-wide	40 CFR 61 Subpart BB	Stationary source does not conduct benzene transfer operations.
Stationary source-wide	40 CFR 61 Subpart FF	Stationary source does not conduct benzene waste operations.
9c	40 CFR 62 Subpart FFF	The capacity of the incinerator is less than the applicability threshold (250 tons per day of municipal solid waste).
9c	40 CFR 62 Subpart III	The incinerator commenced construction after November 30, 1999.
9c	40 CFR 62 Subpart JJJ	The capacity of the incinerator is less than the applicability threshold (35 tons per day).
Stationary source-wide	40 CFR 63 Subpart CC, UUU	Stationary source does not meet the definition for a petroleum refinery.
23	40 CFR 63 Subpart HH, §§63.764(c), 63.766, 63,769, 775(b), 775(d)(3), 775(e)	Northstar is not a major source of HAP emissions.
23	40 CFR 63.764(d)(1), 775(c)(2)-(6)	Northstar is not located within a UA plus offset and UC boundary.
23	40 CFR 63.765, 771, 772(e)-(i), 773, 774(b)(3)-(8), 774(b)(10)-(11), 774(c), 774(e), 774(h), 775(d)(1)-(2), 775(d)(4)-(6), 775(d)(8), 775(d)(11)-(14), 775(g)(1)	Northstar is not required to control for air emissions as specified in 40 CFR 63.764(c)(1)(i) or (d)(1)(i).
23	40 CFR 63.766, 769, 772(a), 774(d)(2)	Northstar is not a major source of HAP emissions and therefore according to 40 CFR 63.760(b)(2), storage vessels, ancillary equipment, and compressors are not subject to this subpart.
23	40 CFR 63.772(d)	EU ID 23 is not a small glycol dehydration unit.
Stationary source-wide	40 CFR 63 Subpart OO	Provisions only apply to tanks affected by 40 CFR 60, 61, or 63 that specifically reference 40 CFR 63 Subpart OO.
Stationary source-wide	40 CFR 63 Subpart VV	Provisions only apply to oil-water separators and organic-water separators affected by 40 CFR 60, 61, or 63 that specifically reference 40 CFR 63 Subpart VV.
Stationary source-wide	40 CFR 63 Subpart HHH	The stationary source does not transmit or store natural gas prior to entering the pipeline to a local distribution company or to a final end user and the stationary source is not a major source of HAPs.
Stationary source-wide	40 CFR 63 Subpart EEEE	The stationary source is not a major source of HAPs.

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
Stationary source-wide	40 CFR 63 Subpart YYYY	Northstar Production Facility is not a major source of HAPs.
Stationary source-wide	40 CFR 63 Subpart DDDDD	Northstar Production Facility is not a major source of HAPs.
Stationary source-wide	40 CFR 63 Subpart CCCCCC	There are no stationary gasoline dispensing facilities located at Northstar Production Facility.
Stationary source-wide	40 CFR 63 Subpart JJJJJ	All stationary heaters and boilers on the facility are gas fired. Temporary boilers are not subject to the subpart.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 63.6600, 63.6601, and 63.6602	Northstar Production Facility is not a major source of HAPs.
6, 7, 8	40 CFR 63 Subpart ZZZZ: Table 2b	There are no requirements in Table 2b of Subpart ZZZZ that apply to these engines because Northstar Production Facility is not accessible by the FAHS and is not required to meet the CO emission limits.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 40 CFR 63.6604	Northstar Production Facility is not accessible by the FAHS and RICE at the facility are exempt from the fuel requirements.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 40 CFR 63.6612	Northstar Production Facility is not accessible by the FAHS and RICE At the facility are exempt from the CO limits and therefore exempt from testing and initial compliance requirements.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 63.6625(g)	Northstar Production Facility is not accessible by the FAHS and RICE at the facility are exempt from these requirements.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 63.6630	There are no performance testing requirements that apply to these engines because there are no applicable emission limits.
6, 7, 8	40 CFR 63 Subpart ZZZZ: 63.6635	These requirements apply only to CI RICE subject to emissions or operational limits. There are no emissions or operational limits that apply to these engines.
6, 7, 8	40 CFR 63 Subpart A: 63.7	There are no performance testing requirements that apply to these engines as there are no emission limits.
13	40 CFR 63 Subpart JJJJJ	These units are not “boilers” as defined in 40 CFR 63.11237. The stationary source does not have any affected equipment (boilers).
9c	18 AAC 50.050(b)	The incinerator does not incinerate sludge from a municipal wastewater treatment plant that serves 10,000 or more persons and the incinerator is rated at less than 1,000 lb/hr total.
Mobile internal combustion engines	18 AAC 50.055	Mobile internal combustion engines are not included in the “fuel-burning equipment” definition in 18 AAC 50.990. Therefore, the requirements in 18 AAC 50.055 do not apply to mobile internal combustion engines.

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.

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:

$$\begin{aligned}
 \text{A. } &= 31,200 \times [\text{wt}\% \mathbf{S}_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{B. } &= 0.148 \times [\text{wt}\% \mathbf{S}_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{C. } &= 0.396 \times [\text{wt}\% \mathbf{C}_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{D. } &= 0.933 \times [\text{wt}\% \mathbf{H}_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{E. } &= \text{B} + \text{C} + \text{D} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{F. } &= 20.9 - [\text{vol}\%_{\text{dry}} \mathbf{O}_{2, \text{exhaust}}] = 20.9 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{G. } &= [\text{vol}\%_{\text{dry}} \mathbf{O}_{2, \text{exhaust}}] \div \text{F} = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{H. } &= 1 + \text{G} = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{I. } &= \text{E} \times \text{H} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \mathbf{SO_2 \text{ concentration}} &= \text{A} \div \text{I} = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ppm}
 \end{aligned}$$

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

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 14. 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 Form¹¹

<u>Northstar Production Facility</u>	<u>AQ0503TVP03</u>
Stationary Source (Facility) Name	Air Quality Permit Number.
<u>Hilcorp Alaska, LLC</u>	
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.

¹¹ 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
 410 Willoughby Ave., Suite 303
 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)]

Section 15. Emission Factors (EFs) for Primary Turbines

CO Emission Factors for Solar Mars 90

Operating Condition	Predictive Emission Rate (lbs/hr)
Below 0° F	
Low %NGP ($\leq 86\%$)	Maximum value of 367
Medium %NGP ($> 86\%, \leq 90\%$)	Average value of 317.8
High %NGP ($> 90\%$)	Maximum value of 30.8
Above 0° F	
Low %NGP ($\leq 86\%$)	Maximum value of 367
Medium %NGP ($> 86\%, \leq 90\%$)	Average value of 238.9
High %NGP ($> 90\%$)	Maximum value of 15.7

NOx Emission Factors for Solar Mars 90

Operating Condition	Predictive Emission Rate (lbs/hr)
Below 0° F	
Very Low %NGP ($\leq 79\%$)	Maximum value of 6.2
Low %NGP ($> 79\%, \leq 90\%$)	$0.8029 \times (\%NGP) - 57.196$
High %NGP ($> 90\%, \leq 94.7\%$)	Average value of 20.4
Very High %NGP ($> 94.7\%$)	Average value of 28.4
Above 0° F	
Very Low %NGP ($\leq 84\%$)	Maximum value of 5.4
Low %NGP ($> 84\%, \leq 90\%$)	$1.2408 \times (\%NGP) - 98.796$
High %NGP ($> 90\%, \leq 94.7\%$)	Average value of 13.6
Very High %NGP ($> 94.7\%$)	Average value of 10.3

Table Notes:

1. %NGP is percent natural gas producer speed

NOx Emission Factors (lb/hr) for GE LM2500

Mean Daily Temperature (°F)	Average Daily Load	
	$> 75\%$	$\leq 75\%$
≥ 59	21	18
< 59 and ≥ 10	23	20
< 10 and ≥ 0	37	34
< 0	20	19

CO Emission Factors (lb/hr) for GE LM2500

Mean Daily Temperature (°F)	Average Daily Load	
	$> 75\%$	$\leq 75\%$
≥ 59	13	11
< 59 and ≥ 10	14	12
< 10 and ≥ 0	33	17
< 0	12	7

Attachment 1 - 40 CFR 60 Subpart A Summary Report

Gaseous and Opacity Excess Emission and Monitoring System Performance

[Note: This form is referenced in 40 C.F.R. 60.7, Subpart A-General Provisions]

Pollutant (*Circle One*): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company: _____
 Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period ¹: _____

Emission Data Summary ¹	CMS Performance Summary ¹
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown _____ b. Control equipment problems _____ c. Process problems _____ d. Other known causes _____ e. Unknown causes _____ 2. Total duration of excess emissions _____ 3. Total duration of excess emissions x (100) / [Total source operating time] % ²	1. CMS downtime in reporting period due to: a. Monitor equipment malfunctions _____ b. Non-Monitor equipment malfunctions _____ c. Quality assurance calibration _____ d. Other known causes _____ e. Unknown causes _____ 2. Total CMS Downtime _____ 3. [Total CMS Downtime] x (100) / [Total source operating time] % ²

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 C.F.R. 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____ Date: _____

Title: _____

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL MINOR PERMIT

Minor Permit: **AQ0503MSS04**

Final – June 3, 2019

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ0503MSS04 to the Permittee listed below.

Permittee: **Hilcorp Alaska, LLC**
3800 Centerpoint Drive, Suite 1400
Anchorage, AK 99503

Stationary Source: **Northstar Production Facility**

Location: Seal Island—Six miles off-shore north of Point Storkersen in the Beaufort Sea

Project:

Permit Contact: Julieanna Potter
(907) 777-8444
jupotter@hilcorp.com

Hilcorp Alaska, LLC submitted an application for Minor Permit AQ0503MSS04 under 18 AAC 50.508(5) for Owner Requested Limits (ORLs) to avoid the stationary source being classified as a major source of Hazardous Air Pollutants (HAPs) under 18 AAC 50.316, and to avoid PSD review under 18 AAC 50.306(a), for Volatile Organic Compounds (VOCs).

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


For: James R. Plosay, Manager
Air Permits Program

\\jn-svrfile\groups\AQ\PERMITS\AIRFACS\Hilcorp Alaska LLC\Northstar Island
(503)\Minor\MSS04\Pre\AQ0503MSS04 Pre Permit and TAR.docx

Table of Contents

Section 1	Emissions Unit Inventory	1
Section 2	Fee Requirements.....	2
Section 3	ORLs to Avoid Permit Classifications.....	3
Section 4	Recordkeeping, Reporting, and Certification Requirements	4
Section 5	Standard Permit Conditions	5
Section 6	Permit Documentation	6
Attachment 1	– Visible Emissions Form	7
Attachment 2	- ADEC Notification Form.....	9

Abbreviations and Acronyms

AAC.....	Alaska Administrative Code	NESHAPs.....	National Emission Standards for Hazardous Air Pollutants [as contained in 40 C.F.R. 61 and 63]
ADEC	Alaska Department of Environmental Conservation	NOx	nitrogen oxides
AOS	Air Online Services	NSPS	New Source Performance Standards [as contained in 40 C.F.R. 60]
AS	Alaska Statutes	PM-10.....	particulate matter less than or equal to a nominal 10 microns in diameter
Btu/scf	British thermal units per standard cubic foot	PM-2.5.....	particulate matter less than or equal to a nominal 2.5 microns in diameter
C.F.R.	Code of Federal Regulations	PSD	prevention of significant deterioration
CAA.....	Clean Air Act	PTE.....	potential to emit
Department	Alaska Department of Environmental Conservation	SPC.....	Standard Permit Condition or Standard Operating Permit Condition
EPA	US Environmental Protection Agency	SO ₂	sulfur dioxide
EU.....	emissions unit	The Act.....	Clean Air Act
HAPs	hazardous air pollutants [as defined in AS 46.14.990]	tpy.....	tons per year
ID.....	emissions unit identification number	VOC	volatile organic compound [as defined in 40 C.F.R. 51.100(s)]
MMBtu/hr.....	million British thermal units per hour		
MMSCF.....	million standard cubic feet		
MMscfd	million standard cubic feet per day		

Section 1 Emissions Unit Inventory

Emissions Unit (EU) Authorization. The Permittee is authorized to install and operate the EUs listed in Table 1 in accordance with the minor permit application and the terms and conditions of this permit. The information in Table 1 is for identification purposes only, unless otherwise noted in the permit. The specific EU descriptions do not restrict the Permittee from replacing an EU identified in Table 1.

Table 1 – EU Inventory

EU #	EU Description	Make/Model	Fuel	Rating/Max Capacity	Installation Date
11	High Pressure (HP) Flare	Corona	FG	25.5 MMscf/hr	2001
12	Low Pressure (LP) Flare	Corona	FG	25.5 MMscf/hr	2001
13	Glycol Reboiler	Natco	FG	5.0 MMBtu/hr	2001
23	Dehydrator	Glycol Dehydrator	NA	600 MMscfd	TBD

Notes:

^A EUs 1 through 9c and 16 through 22 have already been installed at the stationary source and are not included in this permit action.

^B EUs 11, 12, 13, and 23 have already been installed at the stationary source.

1. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement EU, including any applicable minor or construction permit
2. **Verification of Equipment Specifications and Maintenance of Equipment.** The Permittee shall install and maintain the equipment listed in Table 1 according to the manufacturer's or operator's maintenance procedures. Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make records available to the Department personnel upon request. The records may be kept in electronic format.

Section 2 *Fee Requirements*

3. **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 – 499.

Section 3 ORLs to Avoid Permit Classifications

PSD Modification for VOCs and HAP Major Classification Avoidance Limits:

4. The Permittee shall limit the total combined emissions of HAPs from EUs 11, 12, 13, and 23 to less than 12 tons and the total combined VOCs emissions increase from EUs 11, 12, 13, and 23 to less than 39 tons in any 12 consecutive months. The Permittee shall ensure compliance with the limit in Condition 4 as follows:
 - 4.1 Route all gas from the reboiler and the flash tank of the dehydrator (EUs 13 and 23) to the low pressure flare (EU 12) at all times either EU 13 or EU 23 operates.
 - 4.2 Flare all gas from EUs 13 and 23 in EU 12 at all times either EU 13 or 23 operates, in accordance with the manufacturer's operating procedures to achieve a minimum HAP and VOC destruction efficiency of 98%.
 - 4.3 EU 12 shall be designed for and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours and except for periods of startup, shutdown, or malfunction.
 - 4.4 Report in each quarterly facility operating report in accordance with the applicable operating permit issued to the source under 18 AAC 50 and AS 46.14.130, an affirmation that Conditions 4.1 through 4.3 are met.
 - 4.5 Within 90 days of permit issuance the Permittee shall conduct a visible emission observation in accordance with 40 C.F.R. 60 Appendix A, Method 22. The Method 22 observation period shall not be less than 2 hours in duration. Observation of the flares may be postponed for safety or weather reasons. If visible emissions are noted for a total of more than 5 minutes during the Method 22 observation:
 - a. Determine whether the flares are being properly operated and maintained.
 - b. Initiate corrective actions, if necessary, to eliminate visible emissions from the emission unit within 24 hours of the Method 22 observation;
 - c. Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce visible emissions; and
 - d. After completing the corrective actions, conduct a follow-up visible emissions observation in accordance with 40 C.F.R. 60 Appendix A, Method 22 within 3 days. The Method 22 visible emissions observation period shall not be less than 2 hours in duration. The 3-day time limit to conduct observations may be extended by the Department for sufficient cause.
 - 4.6 Report as an excess emissions or permit deviation described by the applicable operating permit issued to the source under 18 AAC 50 and AS 46.14.130 if any of Conditions 4 through 4.5 are not met.

Section 4 *Recordkeeping, Reporting, and Certification Requirements*

5. **Certification.** The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: *“Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.”* Excess emissions reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.
 - 5.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
 - a. A certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and
 - b. The person providing the electronic signature has made an agreement with the certifying authority described in Condition 5.1a that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.
6. **Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall submit reports, compliance certifications, and/or other submittals required by this permit, via the Department’s AOS System at <http://dec.alaska.gov/applications/air/airtoolsweb> using the Permittee Portal option.
 - 6.1 Alternatively, documents certified in accordance with Condition 5 may be submitted either by:
 - a. Email under a cover letter using dec.aq.airreports@alaska.gov; or
 - b. Certified mail to the following address: ADEC Air Permits Program, ATTN: Compliance Technician, 610 University Ave., Fairbanks, AK 99709-3643.

Section 5 Standard Permit Conditions

7. 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
 - 7.1 an enforcement action; or
 - 7.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
8. 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.
9. 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.
10. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
11. The permit does not convey any property rights of any sort, nor any exclusive privilege.
12. 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
 - 12.1 enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;
 - 12.2 have access to and copy any records required by this permit;
 - 12.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 12.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 6 Permit Documentation

<u>Date</u>	<u>Document Details</u>
March 28, 2019	Application Received
April 11, 2019	<p>The Department requested additional application information via email for a PDF of input data used by the software GRI-GLYCalc Version 4.0 to generate the results summarized in the permit application, manufacturer data, schematics, and/or other process information to verify the flare design as it relates to destruction efficiency for HAPs and VOCs in the low pressure flare. Specifically the department requested: combustion temperature, residence time, maximum emission stream flow rate, combustion chamber volume, flare tip diameter, expected emission stream flow rate, and flare exit gas velocity. The Department also requested clarification of normal operating scenarios of the flash tank and regenerator of the dehydrator.</p>
April 12, 2019	<p>Response received from Applicant regarding additional application information. Krystin McClure, SLR, responded with PDFs of input data, schematics of the flare, and confirmed that the dehydrator operates on a continuous basis and is vented to the flare continuously through pressure relief valves from different components of the dehydrator.</p>

Attachment 1 – Visible Emissions Form

VISIBLE EMISSION OBSERVATION FORM

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

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

Attachment 2 - ADEC Notification Form

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

Northstar Production Facility	AQ0503MSS04
Stationary Source Name	Air Quality Permit
Hilcorp Alaska, LLC	
Company Name	Date

When did you discover the Excess Emissions/Permit Deviation?

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

When did the event/deviation?

Begin Date: ____ / ____ / ____ Time: ____ : ____ (Use 24-hr clock.)

End Date ____ / ____ / ____ Time: ____ : ____ (Use 24-hr clock.)

What was the duration of the event/deviation? ____ : ____ (hrs:min) or ____ days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for notification: (please check only 1 box and go to the corresponding section)

- Excess Emissions Complete Section 1 and Certify
 Deviation from permit conditions complete Section 2 and certify
 Deviation from COBC, CO, or Settlement Agreement Complete Section 2 and certify

Section 1. Excess Emissions

(a) Was the exceedance Intermittent or Continuous

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

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

(c) Description

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

(d) Emission unit(s) Involved:

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

EU ID	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 Record Keeping Failure
 Marine Vessel Opacity Failure to monitor/report 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)

- Emission Unit Specific
- General Source Test/Monitoring Requirements
- Recordkeeping/Reporting/Compliance Certification
- Standard Conditions Not Included in Permit
- Generally Applicable Requirements
- Reporting/Monitoring for Diesel Engines
- Insignificant Emission Unit
- Stationary Source-Wide
- Other Section: (title of section and section # of your permit)

(b) **Emission unit(s) Involved:**

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

<u>EU ID</u>	<u>Emission Unit Name</u>	<u>Permit Condition /Potential Deviation</u>

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

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

(d) **Corrective Actions:**

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

Certification:

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

Printed Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

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

To submit this report:

1. Department's Air Online Services using the Permittee Portal option:

<http://dec.alaska.gov/applications/air/airtoolsweb>

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

Or

2. Fax to: 907-451-2187

Or

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

Or

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

Or

5. Phone Notifications: 907-451-5173

Phone notifications require a written follow-up report.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION AIR QUALITY CONTROL CONSTRUCTION PERMIT

Permit AQ0503CPT07 Revision 1
Rescinds Permit AQ0503CPT07

Final – November 18, 2014

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Construction Permit AQ0503CPT07 Revision 1 to the Permittee listed below.

Permittee: Hilcorp Alaska, LLC
3800 Centerpoint Drive, Suite 1400
Anchorage, AK 99503

Owner/Operator: Same as Permittee

Stationary Source: Northstar Production Facility

Location: Seal Island-Six miles offshore north of Point Storkersen in the Beaufort Sea

Physical Address: Northing 7,821,359.17 meters, 436,781.97 meters; Zone 6

Permit Contact: Mike Dunn
(907) 777-8300

Project: Increase in Annual Flaring Limit

This permit is issued under 18 AAC 50.306 and 18 AAC 50.508(6). The permit revises terms and conditions of a Title I permit issued under 18 AAC 50. This permit satisfies the obligation of the Permittee to obtain a construction permit under these provisions.

J. Z. Sildute

for

John F. Kuterbach
Air Permits Program Manager

Table of Contents

Section 1	Emission Unit Inventory	3
Section 2	Emission Fees	5
Section 3	State Emission Standards	6
Section 4	Ambient Air Quality Protection Requirements.....	8
Section 5	Best Available Control Technology (BACT)	13
Section 6	New Source Performance Standards for EU 22.....	17
Section 7	Certification and Information Requests Requirements.....	18
Section 8	Standard Permit Conditions	19
Section 9	Permit Documentation	20

Section 1 Emission Unit Inventory

- Authorization:** The Permittee is authorized to install and operate the emission units (EUs) listed in tables Group A, Group B, and Group C in accordance with the terms and conditions of this permit and the construction permit application. Except as noted elsewhere in the permit, the information listed in the tables is for information purposes only. The specific EU descriptions do not restrict the Permittee from replacing the EUs identified in the tables. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement EU including any applicable minor or construction permit requirements.

Group A - Stationary EUs

EU ID	Equipment Use	Description	Fuel Type	Rating
1	Turbines (Compressor)	GE LM2500	Fuel Gas	32,715 hp
2	Turbines (Compressor)	GE LM2500	Fuel Gas	32,715 hp
3	Turbines (Generator)	Solar Mars 90	Fuel Gas	11,892 kW
4	Turbines (Generator)	Solar Mars 90	Fuel Gas	11,892 kW
5	Turbines (Generator)	Solar Mars 90	Fuel Gas	11,892 kW
6	Emergency Generators	Cummins QSK	Diesel	2,180 kW
7	Emergency Generators	60-G6 [2003]	Diesel	2,180 kW
8	Fire Water Pump	Cummins KTA19	Diesel	755 hp
9a	Incinerator	Unknown	Waste	< 35 tons per day
			Fuel Gas	2.4 MMBtu/hr
10a	Waste Heat Recovery – Supplemental Burner	Tulsa/Zeeco	Fuel Gas	52.183 MMBtu/hr
10b	Waste Heat Recovery – Fresh Air Burner	Tulsa/Zeeco	Fuel Gas	82 MMBtu/hr
11	High Pressure (HP) Flare	Corona	Pilot, Purge, Produced Gas	25.5 MMscf/hr
12	Low Pressure (LP) Flare	Corona		25.5 MMscf/hr
13	Glycol Reboiler	Natco	Fuel Gas	5 MMBtu/hr
16	Space Heater, Warehouse	James P. Sheldon Co	Fuel Gas	0.7 MMBtu/hr
17	Space Heater, Warehouse	James P. Sheldon Co	Fuel Gas	1.075 MMBtu/hr
18	Space Heater, Warehouse	James P. Sheldon Co	Fuel Gas	1.082 MMBtu/hr
19	Diesel Storage Tank	Unknown	Diesel	3,060 barrels
20	Triethylene Glycol (TEG) Storage Tank	Unknown	Not Applicable	245 barrels
21	Corrosion Inhibitor Storage Tank	Unknown	Corrosion Inhibitor	245 barrels
22	Fire Water Pump	Cummins 1760	Diesel	144 hp (107 kW)

Table Notes:

This permit does not authorize the installation of an EU. The Department authorized the EUs under previous permit actions.

Group B - Portable Equipment

EU No	Equipment Use	Description	Fuel Type	Maximum Capacity
N/A	Crane	Unknown	Diesel	250 hp
N/A	Snow Melters	Unknown	Diesel	10 MMBtu/hr
N/A	Heaters	Various	Diesel	3 MMBtu/hr

Group C - Intermittent Well Servicing Equipment

EU No	Equipment Use	Description	Fuel Type	Maximum Capacity
N/A	I.C. Engines 400 to 600 hp	Various	Diesel	1,675 hp
N/A	IC Engines > 600 hp	Various	Diesel	1,475 hp
N/A	Heaters and Boilers	Various	Diesel	21.5 MMBtu/hr
N/A	Turbines	Various	Diesel	6,200 bhp
N/A	Portable Spill Cleanup Tanks	Six Tanks	Hydrocarbon Waste	25,290 gallons each

Section 2 Emission Fees

2. **Assessable Emissions.** The Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410(b). The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:
 - 2.1 the stationary source's assessable potential to emit of 2,690 tpy; or
 - 2.2 the stationary source's projected annual rate of emissions that will occur from July 1st to the following June 30th, based upon actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the Department.
3. **Assessable Emission Estimates.** Emission fees will be assessed as follows:
 - 3.1 no later than March 31st of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; 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
 - 3.2 if no estimate is submitted on or before March 31st of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 2.1.

Section 3 State Emission Standards

4. **Visible Emissions (VE) for Incinerator (EU 9a):** The Permittee shall not cause or allow VE, excluding condensed water vapor, from the incinerator to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.
 - 4.1 No less than once each year and upon the Department's request, conduct VE surveillance on the exhaust stack of EU 9a in accordance with the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
 - 4.2 Attach the surveillance results to the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
5. **VE for Industrial Process and Fuel Burning Equipment:** The Permittee shall not cause or allow VE, excluding condensed water vapor, from an industrial process or fuel-burning equipment to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.
 - 5.1 For EUs 1 through 5, 10a, 10b, 13, 16, 17, and 18, burn only fuel gas. Certify in each operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50, the type of fuel burned in each of these EUs.
 - 5.2 Conduct VE surveillance in accordance with the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50 upon Department's request and as scheduled below:
 - a. For EUs 6 and 7 (Emergency Generators), no less than one surveillance per 400 unit-hours of operation (emergency and non-emergency hours combined) for each EU.
 - b. For EUs 8, no less than one surveillance per 1,000 unit-hours of operation.
 - c. For EU 22, monitor, record and report VE emission in accordance with the requirements for insignificant emission units in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
 - 5.3 Attach to the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50, VE Reports for surveillance conducted under Condition 5.2.
6. **Particulate Matter (PM):** The Permittee shall not cause or allow PM 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.
 - 6.1 Monitor, record and report PM emission for EU 22 in accordance with the requirements for insignificant emission units in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
7. **Sulfur Compounds:** The Permittee shall not cause or allow sulfur compound emissions from industrial process or fuel burning equipment, expressed as sulfur dioxide (SO₂), to exceed 500 parts per million averaged over a period of three hours.

- 7.1 Comply with fuel gas hydrogen sulfide (H₂S) content limits in Condition 11.1.
 - a. Monitor, record, and report as described in Condition 11.1 and its sub-conditions.
- 7.2 Comply with diesel fuel sulfur content limits in Condition 11.2.
 - a. Monitor, record, and report as described in Condition 11.2 and its sub-conditions.
- 7.3 Comply with diesel fuel sulfur content limits in Condition 11.3
 - a. Monitor, record and report as described in Conditions 11.3 and its sub-conditions.

Section 4 *Ambient Air Quality Protection Requirements*

8. **Notification.** The Permittee shall provide unique identification and labels on each EU listed in Condition 1 and at the stationary source. Maintain additional information on EU category, subcategory, and EU Identification Number as applicable, in on-site logs available to the Department's compliance officers for:
 - 8.1 Stationary EUs, Section 1, Group A;
 - 8.2 Portable Equipment, Section 1, Group B;
 - 8.3 Intermittent Well Servicing Equipment, Section 1, Group C:
 - a. Internal Combustion Engines between 400 to 600 brake horsepower (bhp), and
 - b. Internal Combustion Engines larger than 600 bhp
 - 8.4 Keep records of all on-site equipment. Maintain equipment inventories for EUs listed in Section 1, Group A (Stationary EUs).
9. **Used Oil.** Do not burn used oil at the stationary source.
10. **General Ambient Air Quality Provisions.** Comply with the following provisions to protect the nitrogen dioxide (NO₂), SO₂, PM with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM-10), and carbon monoxide (CO) air quality standards:
 - 10.1 **Stack Configuration:**
 - a. Construct and maintain vertical, uncapped exhaust stacks for: all permanent EUs; all portable EUs rated at or above 40 bhp; all intermittent engines rated at or above 400 bhp; and all intermittent heaters/boilers with a heat input rating of 2.8 MMBtu/hr or more. This condition does not preclude the use of flapper valve rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume.
 - b. Maintain the minimum exhaust stack heights listed in Table 1.

Table 1 – Minimum Stack Height Requirements

EU ID	Description of EU	Minimum Stack Height Above Grade (m)
1	GE LM2500 Turbines	35.1
2	GE LM2500 Turbines	35.1
3	Solar Mars Turbines	35.1
4	Solar Mars Turbines	35.1
5	Solar Mars Turbines	35.1
6	Emergency Diesel Generators	35.0
7	Emergency Diesel Generators	35.0
8	Fire Water Pump	17.3
9a	Incinerator	19.8
10a	Waste Heat Recovery Units (WHRU)	35.1
10b	Waste Heat Recovery Units (WHRU)	35.1
13	Glycol Reboiler	35.1
16	Space Heaters	10.0
17	Space Heaters	10.0
18	Space Heaters	10.0
22	Fire Water Pump	17.3

- c. Provide as-built drawings of each exhaust stack for permanent EUs listed in Table 1 in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

11. Fuel Sulfur Limits:

- 11.1 Limit the H₂S content of the fuel gas burned in any EU to no more than 300 parts per million by volume (ppmv) at any time.
- a. Monitor, record, and report the H₂S content of the fuel gas as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- 11.2 Burn only ultra low sulfur diesel fuel in Group C EUs, all intermittently used oil field service equipment such as internal combustion engines, boilers/heaters rated at less than 400 hp or 2.8 MMBtu/hr, and all other non-road diesel fired engines.
- a. Maintain dedicated fuel tanks for the EUs described in Condition 11.2.
- b. Attach vendor receipts to the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50 that confirm that the diesel fuel delivered to the fuel tanks in Condition 11.2a is ultra low sulfur diesel fuel.
- 11.3 Burn diesel fuel containing no more than 0.1 percent of sulfur by weight in diesel-fired Group A and Group B EUs.

- a. Monitor, record, and report the sulfur content of the diesel fuel as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

12. Operating Limits for Ambient Air Protection. Comply with the operating limits specified in Table 2 for each EU.

Table 2 – EU Specific Hourly, Daily, and Annual Limits

EU ID	Description/Operation	Rating	Daily Limits	12-months Rolling Limits
<i>Stationary Emission Units - Group A</i>				
1 and 2	GE LM2500 Turbines	Not Available	<i>unrestricted</i>	234 tons NOx (combined)
3, 4, and 5	Solar Mars Turbines	Not Available	<i>unrestricted</i>	249 tons NOx (combined)
6 and 7	Emergency Diesel Generators	Not Available	<i>unrestricted</i>	1,000 hours (combined)
8	Fire Water Pump	Not Available	<i>unrestricted</i>	104 hours
10b	Fresh Air Burner	Not Available	<i>unrestricted</i>	1,000 hours
11 and 12	HP and LP Flare	25.5 MMscf/hr	200.5 MMscf	1,332 MMscf
22	Fire Water Pump	Not Available	<i>unrestricted</i>	1,000 hours
<i>Portable Equipment - Group B</i>				
	Heaters	3 MMBtu/hr	<i>unrestricted</i>	162,038 gal
	Snow Melters	10 MMBtu/hr	<i>unrestricted</i>	164,422 gal
	Cranes	250 bhp	<i>unrestricted</i>	<i>unrestricted</i>
<i>Intermittent Well Servicing Equipment - Group C</i>				
	ICES: 400 to 600 bhp	1,675 bhp	<i>unrestricted</i>	106,032 gal
	ICES> 600 bhp	1,475 bhp	<i>unrestricted</i>	56,713 gal
	Heaters and Boilers	21.5 MMBtu/hr	<i>unrestricted</i>	479,719 gal
	Turbines	6,200 bhp	3,262 gal	16,311 gal

Table 2 Notes:
ICE: Internal Combustion Engine
Operating hour limit of EU 8 applies to non-emergency use

13. Monitoring and Recording for Compliance with Condition 12

- 13.1 Monitor and record the hours of operation each calendar month for EUs 1 through 10b, and 22. Record monthly the cumulative 12-month rolling hours of operation for each month by the end of the following month.
- 13.2 For each equipment pool subject to a cumulative rated capacity limit (bhp or MMBtu/hr), record the date, time, rated capacity, and duration each EU is in service, and the cumulative total capacity used for the equipment pool for operations each day the limit applied. In lieu of monitoring and recording the time, duration, and total capacity, the Permittee may assume continuous operation for either each day or 12-

hour shift the EU operates and the nameplate equipment load or vendor specified maximum load.

Alternatively, for Portable Equipment listed in Section 1, Group B, and for Intermittent Equipment in Section 1, Group C, if diesel fuel burned on the island during a day is less than 1,158 gallons, then list only the total fuel burned on the island for the day.

- 13.3 For each EU or equipment pool subject to annual diesel fuel use limits, measure and record the total volume of diesel fuel delivered to the EU or equipment pool each calendar month. For the turbines (in Group C) subject to daily fuel use limits, measure and record the volume of diesel fuel used each day. Fuel use may be estimated by measurement techniques and calculations approved by the Department.
 - a. Flow meters and totalizers, if used, must be calibrated and certified to within ± 5 percent.
 - b. Provide a statement of calibration or certification in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50, and note the date of last calibration or certification.
- 13.4 For the high pressure flare (EU 11) and low pressure flare (EU 12), measure and record the combined hourly, daily and monthly flaring rates, and the 12-month rolling flaring for each month by the end of the following month. Include pilot, purge, and produced gases in the flaring rate measurements.
- 13.5 For the Turbines (EUs 1-5), calculate and record the daily NO_x emissions based on hours of operation and emission factors for specific temperature and load ranges listed in Appendix A. Calculate and record the total NO_x emissions for EUs 1 and 2 (GE LM2500 Turbines) and EUs 3, 4, and 5 (Solar Mars Turbines) for each month and 12-month rolling period by the end of the following month by summing the NO_x emissions for each day the EUs operate during the time period.
14. **Reporting for Compliance with Condition 12:** Report in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50:
 - 14.1 For each of the following EUs subject to an hourly operational limit (e.g., MMscf, bhp, or MMBtu), list the limit and the highest hourly recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded:
 - a. EUs 11 and 12 (High Pressure Flare and Low Pressure Flare) listed in Group A;
 - b. Cranes, Heaters and Snow Melters listed in Group B, the inventory of the portable EUs including capacity; and
 - c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C, the inventory of the portable EUs including capacity.

-
- 14.2 For each of the following EUs subject to a daily operation limit (e.g., hours, MMscf, or gallons), list the limit and the highest daily recordings for each month of the reporting period. For each month the limit is exceeded, list the recording for every instance the limit is exceeded for:
- a. the MMscf of fuel gas burned in EUs 11 and 12 (Flares);
 - b. the diesel fuel burned in the Group C turbines; and
 - c. Alternatively, if diesel fuel burned on the island during a day is less than 1,158 gallons, then report only the total fuel burned on the island for the day.
- 14.3 For each of the following EUs subject to a 12-month rolling total operation limit (e.g., hours, cubic feet, gallons, or MMscf) list the limit, the monthly, and 12-month rolling total for each month of the reporting period:
- a. EUs 6, 7, 8, 10b, 11, 12, and 22 listed in Group A;
 - b. Heaters and Snow Melters listed in Group B;
 - c. ICEs of capacity 400-600 bhp and larger than 600 bhp, Heaters and Boilers and Turbines listed in Group C; and
 - d. Alternatively, for Portable Equipment listed in Section 1, Group B, and for Intermittent Equipment in Section 1, Group C, if diesel fuel burned on the island each day is less than 1,158 gallons, report only the total fuel burned on the island for the month and 12-month rolling total.
- 14.4 For each of the following equipment pools subject to a tons per year limit of NO_x, list the limit, and 12-month rolling total for each month of the reporting period:
- a. EUs 1 and 2 (GE LM250 Turbines) listed in Section 1, Group A;
 - b. EUs 3, 4, and 5 (Solar Turbines) listed in Group A.
- 15. Commercial and Industrial Wastes Burned in Incinerator (EU 9a).**
- 15.1 *Composition of Wastes Incinerated as Listed in 40 CFR 62.14525(c)(2)*: Limit incineration to at least 30 percent municipal solid waste or refuse-derived fuel.
- 15.2 *Monitoring of operations as Listed in 40 CFR 62.14525(c)(2)(ii)*: Except as provided for in a United States Environmental Protection Agency alternate monitoring schedule or waiver, keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and waste burned in the incinerator.

Section 5 Best Available Control Technology (BACT)

16. Nitrogen Oxides (NO_x) BACT:

- 16.1 Install and operate as BACT for the following fuel burning equipment at Northstar.
 - a. EUs 6 and 7 (Emergency Generators) with variable fuel injection timing retard as incorporated by the manufacturer;
 - b. EUs 1 and 2 (Turbines) with dry low NO_x combustion technology; and
 - c. EUs 3, 4, and 5 (Turbines) with SoloNO_x dry low NO_x combustion technology.
- 16.2 Comply with the following not-to-exceed NO_x emission limits.
 - a. For EUs 1 and 2 (Turbines):
 - (i) 25 ppmv corrected to 15 percent Oxygen (O₂) and 24.3 pounds per hour (lb/hr) per unit, expressed as nitrogen dioxide (NO₂), at 0°F or greater, and
 - (ii) 43 lb/hr per unit, expressed as NO₂, at less than 0°F.
 - b. For EUs 3, 4, and 5 (Turbines):
 - (i) 42 ppmv corrected to 15 percent O₂ and 21.7 lb/hr per unit, expressed as NO₂, in low emissions operations and at 0°F or greater; and
 - (ii) 83.4 lb/hr per unit, expressed as NO₂, at less than 0°F or when not operating in low emissions operation.
 - c. For EUs 6 and 7 (Emergency Generators), NO_x emissions shall not exceed 13 grams per kilowatt-hour (g/kWh);
 - d. For EUs 10a (Waste Heat Recovery Supplemental Burner), NO_x emissions shall not exceed 0.10 pounds per million British thermal units (lb/MMBtu); and
 - e. For EU 10b (Waste Heat Recovery Supplemental Burner), NO_x emissions shall not exceed 0.12 lb/MMBtu.
- 16.3 Monitor compliance as follows:
 - a. For EUs 3, 4, and 5, monitor emissions mode (low, intermediate, or full) using continuous tracking of gas producer speed through the control panel. Record the date, time, and duration for which each of the EUs 3, 4, and 5 is in each mode.
 - b. Conduct NO_x emissions source tests upon Department request in accordance with the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- 16.4 Report NO_x emission source tests as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

17. Carbon Monoxide (CO) BACT

- 17.1 Install and operate as BACT for the following fuel burning equipment:
 - a. EU 9a (Incinerator) with secondary combustion chamber; and
 - b. EU 11 (high pressure flare) and EU 12 (low pressure flare) with air-assist or sonic design and smokeless flare technology.

17.2 Comply with the following not-to-exceed CO emission limits:

- a. For EUs 1 and 2:
 - (i) 25 ppmv corrected to 15% O₂ and 14.8 lb/hr per unit at 0°F or greater;
 - (ii) 38 lb/hr per unit at less than 0°F; and
 - (iii) a cumulative total of 143 tons per 12-month rolling period.
- b. For EUs 3, 4, and 5:
 - (i) 50 ppmv corrected to 15% O₂ and 15.7 lb/hr per unit in low emissions operation and at 0°F or greater;
 - (ii) 37.1 lb/hr per unit in low emissions operation and at less than 0°F;
 - (iii) 367 lb/hr per unit when not operating in low emissions operation; and
 - (iv) a cumulative total of 3,000 hours when not operating in low emissions operation per 12-month rolling period.
- c. For EUs 6 and 7 (Emergency Generator), no greater than 13.2 lb/hr per unit.
- d. For EU 8 (Fire Water Pump), no greater than 6.4 lb/hr.
- e. For EU 10a (Waste Heat Recovery System Supplemental Burner) and EU 10b (Waste Heat Recovery System Fresh Air Burner), no greater than 0.08 lb/MMBtu for each of them.
- f. For EUs 11 and 12 (flares), no greater than 0.37 lb/MMBtu.

17.3 Monitor compliance as follows:

- a. For EUs 3, 4, and 5, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Appendix A. Calculate and record the total CO emission rates for Units 3, 4, and 5 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day. If the cumulative total CO emission rate exceeds 504 tons per 12-month rolling period, reassess CO BACT for Units 3, 4, and 5 and submit to the Department within 90 days of discovery.
- b. For EUs 1 and 2, calculate and record daily average CO emission rates from the turbines based on hours of operation and emission factors for specific temperature and load ranges as set out in Appendix A. Calculate and record the total CO emission rates for EUs 1 and 2 for each month and 12-month rolling period, by the end of the following month, by summing the CO rates for each day the EUs operate during the time period to ascertain compliance with the limit listed in Condition 17.2a(iii).

- c. For EUs 11 and 12, *operate the equipment according to specific design parameters provided by the manufacturer.* Keep a copy of the *manufacturer's design parameters* on site and make them available to Department personnel on request.
 - d. Conduct CO emission source tests upon Department's request as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.
- 17.4 Report CO source test results as described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50. If CO emissions from EUs 3, 4, and 5 exceed a cumulative total of 504 tons per 12-month rolling period, submit a current best BACT reassessment for EUs 3, 4, and 5 within 90 days of discovery.
- 17.5 Report in the operating report described in the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50:
- a. For EUs 3, 4, and 5, the cumulative 12-month rolling total hours of operation in each emissions mode; and
 - b. The cumulative monthly and 12-month rolling total CO emissions from EUs 1 and 2 and EUs 3, 4, and 5.

18. SO₂ BACT

- 18.1 Comply with the following fuel sulfur limits as BACT:
- a. H₂S content of fuel gas burned shall not exceed 300 ppmv; and
 - b. Monitor, record, and report the H₂S content of the fuel gas in accordance with Condition 11.1a.
- 18.2 Comply with the following sulfur content of the diesel fuel as BACT:
- a. Sulfur content of the diesel fuel shall not exceed 0.1 percent by weight; and
 - b. Monitor, record, and report the sulfur content of the diesel fuel burned in the EUs in accordance with Condition 11.3a.

19. Volatile Organic Compounds (VOC) BACT

- 19.1 Install and operate as BACT:
- a. EU 9a (Incinerator) with secondary combustion chamber;
 - b. EUs 11 and 12 (high pressure and low pressure flares) with air-assist or sonic design and smokeless technology;
 - c. Water Injection Tanks and Slop Oil Tank with a sealed system design vented to the flaring system; and
 - d. Portable Fuel Oil Storage Tanks with conservation vents.

19.2 Operate and maintain each pump, pressure relief device, open-ended valve or line, valve compressor and flange, or other connector in VOC or wet gas service, and each natural gas processing device or system in accordance with good operational practices. Tag and repair all leaking connectors, pumps, and compressors in VOC, or wet gas service as soon as practicable. Maintain a log of preventive maintenance, surveillance activities, and repairs.

20. PM-10 (PM with aerodynamic diameter not exceeding 10 microns) BACT

20.1 Install and operate as BACT:

- a. Fuel burning equipment with good operating operating practices;
- b. EU 9a with secondary combustion chamber;
- c. EUs 11 and 12 with air-assist or sonic design and smokeless flare technology.

20.2 Comply with the following surrogate PM-10 emission limits as representative of BACT. VE from:

- a. EUs 1 through 5 (Turbines) and EUs 10a and 10b (Waste Heat Recovery System Burner) shall not exceed 10 percent opacity for greater than three minutes in any one hour; and
- b. All industrial processes, incinerators, and fuel-burning equipment shall comply with the applicable state VE and grain loading standards listed in Conditions 4, 5, and 6.

20.3 Monitor compliance as follows:

- a. Conduct VE surveillance monitoring and emission source tests in accordance with the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

20.4 Report the results of the VE surveillance reports and emissions source tests in accordance with the operating permit issued for the stationary source under AS 46.14.130(b) and 18 AAC 50.

Section 6 *New Source Performance Standards for EU 22*

21. The emission rates of EU 22 shall not exceed the limits in Table 3.

Table 3: Emission Limits for EU 22:

Pollutant	g/kWh
NO _x + THC ¹	4.0
CO	5.0
PM	0.30

21.1

21.2 Monitor compliance by keeping manufacturer data that indicates that emission rates of EU 22 do not exceed the emission rates in Table 3.

¹ Total Hydrocarbons

Section 7 Certification and Information Requests Requirements

22. **Certification.** The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.” Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.
- 22.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
- a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and
 - b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 22.1a that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.
23. **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.

Section 8 Standard Permit Conditions

24. 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:
 - 24.1 an enforcement action; or
 - 24.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
25. 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.
26. 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.
27. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
28. The permit does not convey any property rights of any sort, nor any exclusive privilege.

Section 9 *Permit Documentation*

- April 19, 2012 The Department receives an application to increase flaring and set CO BACT limits for flares.
- September 12, 2012 The Department publishes the preliminary permit and requested comments on the preliminary permit
- October 15, 2012 The Department receives a comment on the preliminary permit from Alison Cooke, Environmental Advisor, BPXA.

Appendix A: Emission Factors (EFs) for Primary Turbines

CO Emission Factors for Solar Mars 90

Operating Condition	Predictive Emission Rate (lbs/hr)
Below 0° F	
Low %NGP ($\leq 86\%$)	Maximum value of 367
Medium %NGP ($>86\%, \leq 90\%$)	Average value of 317.8
High %NGP ($>90\%$)	Maximum value of 30.8
Above 0° F	
Low %NGP ($\leq 86\%$)	Maximum value of 367
Medium %NGP ($>86\%, \leq 90\%$)	Average value of 238.9
High %NGP ($>90\%$)	Maximum value of 15.7

NOx Emission Factors for Solar Mars 90

Operating Condition	Predictive Emission Rate (lbs/hr)
Below 0° F	
Very Low %NGP ($\leq 79\%$)	Maximum value of 6.2
Low %NGP ($>79, \leq 90\%$)	$0.8029 * [\%NGP] - 57.196$
High %NGP ($>90\%, \leq 94.7\%$)	Average value of 20.4
Very High %NGP ($>94.7\%$)	Average value of 28.4
Above 0° F	
Very Low %NGP ($\leq 84\%$)	Maximum value of 5.4
Low %NGP ($>84, \leq 90\%$)	$1.2408 * (\%NGP) - 98.796$
High %NGP ($>90\%, \leq 94.7\%$)	Average value of 13.6
Very High %NGP ($>94.7\%$)	Average value of 10.3

NOx Emission Factors (lb/hr) for GE LM2500

Mean Daily Temperature (°F)	Average Daily Load	
	> 75%	$\leq 75\%$
≥ 59	21	18
< 59 and ≥ 10	23	20
<10 and ≥ 0	37	34
< 0	20	19

CO Emission Factors (lb/hr) for GE LM2500

Mean Daily Temperature (°F)	Average Daily Load	
	> 75%	$\leq 75\%$
≥ 59	13	11
< 59 and ≥ 10	14	12
<10 and ≥ 0	33	17
< 0	12	7

Note: The Department approved site-specific emission factors for NO_x and CO for the GE LM2500 turbine inlet temperatures below 0°F on July 31, 2003.