

# Public Notice

## DEQ Requests Comments on Northwest Natural Gas Company Proposed Air Quality Permit



State of Oregon  
Department of  
Environmental  
Quality

**Western Region**  
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[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

*DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*

The Oregon Department of Environmental Quality invites the public to submit written comments on the conditions of NW Natural's Newport LNG proposed air quality permit, known officially as a Standard permit. The permit is for the Newport LNG facility in Lincoln County.

### Summary

This is a permit renewal for an existing permit that originally expired on June 1, 2019. The company submitted a timely renewal application on March 28, 2019. Therefore, the current permit remains in effect until the renewal is issued. Upon issuance this permit will be effective for five years. The proposed permit includes updates to current processes and operational equipment.

### How do I participate?

To submit your comments for the public record, send them by mail, fax or email:

Suzy Luttrell  
DEQ Western Region Air Quality Permit  
Coordinator  
4026 Fairview Industrial Dr. SE  
Salem, OR 97302

**Fax:** 503-378-4196

**Email:** [luttrell.suzy@deq.state.or.us](mailto:luttrell.suzy@deq.state.or.us)

Written comments are due by 5 p.m. Fri. Oct. 16, 2020.

### About the facility

The proposed permit renewal is for Newport LNG, located at 1554 Yaquina Bay Road in Newport. The permittee is a storage facility of liquefied natural gas, or LNG.

Regulated emissions that are generated from operations activities include particulate matter and volatile organic compounds.

### What air pollutants would the permit regulate?

This permit regulates emissions of the pollutants listed in the table at the end of this document.

### How does DEQ determine permit requirements?

DEQ evaluates types and amounts of pollutants and the facility's location, and determines permit requirements according to state and federal regulations.

### What special conditions are in this permit?

There are no special conditions in this permit.

### How does DEQ monitor compliance with the permit requirements?

This permit would require the facility to monitor pollutants using federally approved monitoring practices and standards.

If the permittee uses used oil as a fuel, the permittee must obtain analyses from the marketer or, if generated onsite, have the used oil analyzed to ensure the oil does not exceed the used oil specifications.

The permittee must maintain required records on emergency fire pump engine and the emergency backup generator.

Annual reporting of the records is required and DEQ staff will continue to conduct periodic on-site inspections.

### What happens after the public comment period ends?

DEQ will consider and provide responses to all comments received after the close of the comment period. DEQ may modify the proposed permit based on the comments received. If a facility meets all legal requirements, DEQ will issue the facility's air quality permit.

### Where can I get more information?

Find out more and view the application at <https://www.oregon.gov/deq/Get-Involved/Pages/Public-Notices.aspx> or contact Suzy Luttrell, Western Region Air Quality Permit Coordinator, using the following contact information:

**Phone:** 503-378-5305 or 800-349-7677

**Fax:** 503-378-4196

**Email:** [luttrell.suzy@deq.state.or.us](mailto:luttrell.suzy@deq.state.or.us)

View the application and related documents in person at the DEQ office in Salem. For a review

Notice issued: 9/11/2020  
By: Suzy Luttrell  
Permit number: 21-0042-ST-01

appointment, call Scott Dunn at 541-776-6269 or Suzy Luttrell at 503-378-5305.

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).

## Alternative Formats

## Emissions limits

**Criteria Pollutants:** Table 1 below presents maximum **allowable** emissions of criteria pollutants for the facility. The current emission limit reflects maximum emissions the facility can emit under the existing permit. The proposed emission limit reflects maximum emissions the facility would be able to emit under the proposed permit. Typically, a facility's actual emissions are less than maximum limits established in a permit; however, actual emissions can increase up to the permitted limit.

**Table 1**

Criteria Pollutant	Current Limit (tons per year)	Proposed Limit (tons per year)
Particulate matter	24	24
Small particulate matter	14	14
Very small particulate matter	9	9
Nitrogen oxides	39	39
Sulfur dioxide	39	39
Carbon monoxide	99	99
Volatile organic compounds	39	39

For more information about criteria pollutants, go to: [www.epa.gov/criteria-air-pollutants](http://www.epa.gov/criteria-air-pollutants).

### **Hazardous air pollutants:**

Newport LNG does not have the potential to be a major source of hazardous air pollutants. The U.S. Environmental Protection Agency has determined that these types of businesses do not warrant such regulation. In the past calendar year, Newport LNG estimated total hazardous air pollutants emissions of 0.21 tons per year and 0.01 tons per year of Hexane.





**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY**

**STANDARD**

**AIR CONTAMINANT DISCHARGE PERMIT**

Western Region  
4026 Fairview Industrial Drive SE  
Salem, OR 97302

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

## ISSUED TO:

Northwest Natural Gas Company  
220 NW Second Ave  
Portland, OR 97209

## INFORMATION RELIED UPON:

Application No.: 30674  
Date Received: 3/28/2019

## PLANT SITE LOCATION:

Newport LNG  
1554 Yaquina Bay Road  
Newport, OR 97365

## LAND USE COMPATIBILITY FINDING:

Approving Authority: City of Newport  
Approval Date: 03/31/1999

**ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

\_\_\_\_\_  
Claudia Davis, Western Region Air Quality Manager

\_\_\_\_\_  
Date

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-8010):

<b>Table 1 Code</b>	<b>Source Description</b>	<b>SIC/NAICS</b>
Part B, 85	Source not elsewhere listed that would emit 10 or more tons/year of any criteria pollutant if operated uncontrolled (natural gas storage/distribution)	4924 / 221210
Part C, 3	Source retaining baseline emission rates	n/a

## TABLE OF CONTENTS

1.0	DEVICE, PROCESS AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION.....	3
2.0	GENERAL EMISSION STANDARDS AND LIMITS .....	3
3.0	OPERATION AND MAINTENANCE REQUIREMENTS .....	5
4.0	PLANT SITE EMISSION LIMITS .....	7
5.0	COMPLIANCE DEMONSTRATION .....	7
6.0	RECORDKEEPING REQUIREMENTS .....	8
7.0	REPORTING REQUIREMENTS .....	10
8.0	ADMINISTRATIVE REQUIREMENTS .....	11
9.0	DEQ CONTACTS / ADDRESSES .....	12
10.0	GENERAL CONDITIONS AND DISCLAIMERS .....	13
11.0	EMISSION FACTORS.....	15
12.0	PROCESS/PRODUCTION RECORDS.....	16
13.0	ABBREVIATIONS, ACRONYMS, AND DEFINITIONS .....	17

## 1.0 DEVICE, PROCESS AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

The devices, processes, and pollution control devices regulated by this permit are the following:

Devices and Processes Description	Device ID	Pollution Control Device Description	PCD ID
Turbine	T1	None	
Vaporizers	V1	Water Bath	WB1
Valves & Fittings	Fugitives	None	
Mole Sieve Heaters	MSH1	None	

## 2.0 GENERAL EMISSION STANDARDS AND LIMITS

### 2.1. Visible Emissions

The permittee must comply with the following visible emission limits from air contaminant sources other than fugitive emission sources, as applicable. Opacity must be measured as a six-minute block average using EPA Method 9.

Emissions from any air contaminant source must not equal or exceed 20% opacity. [OAR 340-208-0110(3)(a) and (4)]

## 2.2. Fugitive Emissions

- a. The permittee must take reasonable precautions to prevent fugitive dust emissions from leaving the property of a source. Reasonable precautions include, but are not limited to: [OAR 340-208-0210]
  - i. Applying water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
  - ii. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
- b. If requested by DEQ, the permittee must:
  - i. Prepare and submit a fugitive emission control plan within 60 days of the request;
  - ii. Implement the DEQ approved plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period; and
  - iii. Keep the plan on site and make the plan available upon request. [OAR 340-208-0210]
- c. In no case may fugitive dust emissions leave the property of a source for a period or periods totaling more than 18 seconds in a six-minute period. Fugitive emissions must be measured by EPA Method 22 with the minimum observation time of six minutes.

## 2.3. Particulate Matter Emissions

The permittee must comply with the following particulate matter emission limits. For fuel burning equipment that burns fuels other than wood, emission results are corrected to 50% excess air.

- a. Particulate matter emissions from any air contaminant source must not exceed 0.14 grains per dry standard cubic foot. [OAR 340-228-0210(2)(b)(B)].

## 2.4. Particulate Matter Fallout

The permittee must not cause or permit the deposition of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. [OAR 340-208-0450]

## 2.5. Complaint Log

The permittee must maintain a log of all complaints received by the permittee in person, in writing, by telephone or through other means that specifically refer to air pollution or odor concerns associated with the permitted facility. Documentation must include: [OAR 340-214-0114]

- a. The date the complaint was received;
- b. The date and time the complaint states the condition was present;
- c. A description of the pollution or odor condition;
- d. The location of the complainant/receptor relative to the plant site;
- e. The status of plant operation or activities during the complaint's stated time of pollution

or odor condition; and

- f. A record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

## **2.6. Fuels and Fuel Sulfur Content**

- a. The permittee must not use any fuels other than natural gas, propane, butane or any of the ASTM grade fuel oils listed below. The sulfur content cannot exceed:
  - i. 0.0015% sulfur by weight for ultra low sulfur diesel;
  - ii. 0.3% sulfur by weight for ASTM Grade 1 distillate oil; [OAR 340-228-0110]
  - iii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil; [OAR 340-228-0110]
  - iv. 1.75% sulfur by weight for residual oil; [OAR 340-228-0100]
- b. The permittee is allowed to use on-specification used oil as fuel which contains no more than 0.5% sulfur by weight. The permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, to demonstrate that each shipment of oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1. The permittee may not use used oil as fuel that does not meet the used oil specifications in 40 CFR Part 279.11, Table 1. [OAR 340-228-0130]

## **3.0 OPERATION AND MAINTENANCE REQUIREMENTS**

### **3.1. Operating Conditions for Emergency Stationary RICE**

The permittee must operate any emergency stationary RICE in compliance with the following conditions: [40 CFR 63.6640(f)]

- a. There is no time limit on the use of emergency stationary RICE in emergency situations.
- b. Emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required maintenance and testing of such units is limited to 50 hours per year.
- c. The permittee is prohibited from using any emergency stationary RICE for any non-emergency use including but not limited to peak shaving, demand response operation, and/or generation of income from the sale of power. To perform such activity, the permittee must first obtain a modified permit in accordance with Condition 8.2 or a separate permit for power generation that appropriately addresses and allows this activity.

### **3.2. Operation and Maintenance for Emergency Stationary RICE**

The permittee must comply with the following requirements for each emergency stationary reciprocating internal combustion engines (RICE) Emergency Fire Pump Engine and Emergency Back-up Generator: [40 CFR 63.6640(f)]

- a. At all times, 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. [40 CFR 63.6605(b)]
- b. Change oil and filter every 500 hours of operation or annually, whichever comes first; [40 CFR 63. 6603(a), table 2d(4)(a)]
  - c. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. [40 CFR 63. 6603(a), table 2d(4)(b)] The permittee may elect to comply with the oil analysis requirements of §63.6625(i) in lieu of the oil change requirement. Oil analyses must be conducted at the same frequency as the oil change requirement;
  - d. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary; [40 CFR 63. 6603(a), table 2d(4)(c)]
  - e. The permittee must operate and maintain each stationary RICE according to the manufacturer's emission-related written instructions, including operation and maintenance instructions. If the permittee develops their own maintenance plan it 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. If an oil change extension program is used, it must be included in the maintenance plan., A permittee developed plan may substitute for the manufacturer's instructions. [40 CFR 63.6625(e) and 40 CFR 63.6640(a), Table 6(9)]
  - f. During periods of startup, minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply; and [40 CFR 63. 6603(a), table 2d]
  - g. The permittee must install a non-resettable hour meter on each emergency stationary RICE, if one is not already installed. [40 CFR 63.6625(f)]

## 4.0 PLANT SITE EMISSION LIMITS

### 4.1. Plant Site Emission Limits (PSEL)

The permittee must not cause or allow plant site emissions to exceed the following: [OAR 340-222-0040 and/or OAR 340-222-0041, OAR 340-222-0060]

Pollutant	Limit	Units
PM	24	tons per year
PM <sub>10</sub>	14	
PM <sub>2.5</sub>	9	
SO <sub>2</sub>	39	
NO <sub>x</sub>	39	
CO	99	
VOC	39	
Hexane	9	
Combined HAPs	24	

### 4.2. Annual Period

The annual plant site emissions limits apply to any 12-consecutive calendar month period. [OAR 340-222-0035]

## 5.0 COMPLIANCE DEMONSTRATION

### 5.1. PSEL Compliance Monitoring using Emission Factors

The permittee must calculate the emissions for each 12-consecutive calendar month period based on the following calculation for each pollutant except GHGs: [OAR 340-222-0080]

$$E = \Sigma(EF \times P) \times 1 \text{ ton}/2000 \text{ pounds}$$

where:

E = pollutant emissions (tons/year);

Σ = symbol representing “summation of”;

EF = pollutant emission factor (see Condition 11.0);

P = process production (see Condition 12.0)

## 5.2. Emission Factors

The permittee must use the default emission factors provided in Condition 11.0 for calculating pollutant emissions, unless alternative emission factors are approved in writing by DEQ. The permittee may request or DEQ may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by DEQ. [OAR 340-222-0080]

## 5.3. PSEL Compliance Monitoring

The permittee must demonstrate compliance with the PSEL by totaling the emissions from all point sources calculated under Conditions 5.1. [OAR 340-222-0080]

# 6.0 RECORDKEEPING REQUIREMENTS

## 6.1. Operation and Maintenance

The permittee must maintain the following records related to the operation and maintenance of the facility and associated air contaminant control devices: [OAR 340-214-0114]

- a. All operating parameters and information to be reported to the Department as required by Condition 6.1.
- b. If used oil is used as fuel, the permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, so that it can be demonstrated that the used oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1.
- c. The following records for each emergency stationary RICE identified: [40 CFR 63.6655(f)]
  - i. Hours of operation of each emergency stationary RICE that is recorded through the non-resettable hour meter;
  - ii. Notification of the emergency situation; including what classified the operation as emergency;
  - iii. Date, start time, end time and hours of non-emergency operation used for maintenance checks and readiness testing;
  - iv. Records of operation and maintenance requirements in Condition 3.2.

## 6.2. Excess Emissions

- a. The permittee must maintain the records of excess emissions listed below and as defined in OAR 340-214-0300 through 340-214-0340, recorded on occurrence. Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity as a six-minute block average.

- i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;
  - ii. The date and time the permittee notified DEQ of the event;
  - iii. The equipment involved;
  - iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;
  - v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
  - vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations); and
  - vii. The final resolution of the cause of the excess emissions;
- b. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must immediately take action to minimize emissions by reducing or ceasing operation of the equipment or facility, unless doing so could result in physical damage to the equipment or facility, or cause injury to employees. In no case may the permittee operate more than 48 hours after the beginning of the excess emissions, unless continued operation is approved by DEQ in accordance with OAR 340-214-0330(4).
  - c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
  - d. The permittee must maintain a log of all excess emissions in accordance with OAR 340-214-0340(3).

### **6.3. Complaint Log**

The permittee must maintain a log of all complaints received by the permittee in person, in writing, by telephone or through other means that specifically refer to air pollution concerns associated to the permitted facility. Documentation must include date of contact, date and time of observed nuisance condition, description of nuisance condition, location of receptor, status of plant operation during the observed period, and date and time of response to complainant. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution. [OAR 340-214-0114]

### **6.4. Retention of Records**

Unless otherwise specified, the permittee must retain all records for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application and make them available to DEQ upon request. The permittee must maintain the two (2) most recent years of records onsite. [OAR 340-214-0114]

## 7.0 REPORTING REQUIREMENTS

### 7.1. Excess Emissions

- a. The permittee must notify DEQ of excess emissions events if the excess emission is of a nature that could endanger public health.
- b. The permittee must also submit follow-up reports summarizing records of excess emissions as required in Condition 6.2 when required by DEQ. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 9.0 by email, telephone, facsimile, or in person.

### 7.2. Annual Report

For each year this permit is in effect, the permittee must submit to DEQ by **February 15** two (2) paper copies and one (1) electronic copy of the following information for the previous calendar year. If February 15 falls on a weekend or Monday holiday, the permittee must submit their annual report on the next business day.

- a. Operating parameters:
  - i. Amount of natural gas combusted by the turbine (MMscf/year); and
  - ii. Number of hours the turbine and associated valves are fittings operated (hours/year); and
  - iii. Amount of natural gas combusted by vaporizers (MMscf/year); and
  - iv. Amount of natural gas combusted by the mole sieve heaters (MMscf/year).
- b. Calculations of annual pollutant emissions determined each month in accordance with Condition 5.1.
- c. A brief summary listing the date, time, and the affected device/process for each excess emission that occurred during the reporting period.
- d. Summary of complaints relating to air quality received by permittee during the year in accordance with Condition 6.3.
- e. The following records for each emergency stationary RICE identified: [40 CFR 63.6655(f)]
  - i. Hours of operation of each emergency stationary RICE that is recorded through the non-resettable hour meter;
  - ii. Hours of emergency operation; including what classified the operation as emergency; and
  - iii. Hours of non-emergency operation used for maintenance checks and readiness testing.
- f. List permanent changes made in facility process, production levels, and pollution control equipment which affected air contaminant emissions.
- g. List major maintenance performed on pollution control equipment.

### **7.3. Notice of Change of Ownership or Company Name**

The permittee must notify DEQ in writing using a DEQ “Transfer Application Form” within 60 days after the following:

- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
- b. Sale or exchange of the activity or facility.

### **7.4. Construction or Modification Notices**

The permittee must notify DEQ in writing using a DEQ “Notice of Intent to Construct Form,” or other permit application form and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;
- b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
- c. Constructing or modifying any air pollution control equipment.

## **8.0 ADMINISTRATIVE REQUIREMENTS**

### **8.1. Permit Renewal Application**

The permittee must submit the completed application package for renewal of this permit **180 days prior to the expiration date**. Two (2) paper copies and one (1) electronic copy of the application must be submitted to the DEQ Permit Coordinator listed in Condition 9.2. [OAR 340-216-0040]

### **8.2. Permit Modifications**

Application for a modification of this permit must be submitted at least 60 days prior to the source modification. When preparing an application, the applicant should also consider submitting the application 180 days prior to allow DEQ adequate time to process the application and issue a permit before it is needed. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the DEQ Business Office.

### **8.3. Annual Compliance Fee**

The permittee must pay the annual fees specified in OAR 340-216-8020, Table 2, Part 2 and 3 for a Standard ACDP by **December 1** of each year this permit is in effect. An invoice indicating

the amount, as determined by DEQ regulations will be mailed prior to the above date. **Late fees in accordance with Part 5 of the table will be assessed as appropriate.**

#### **8.4. Change of Ownership or Company Name Fee**

The permittee must pay the non-technical permit modification fee specified in OAR 340-216-8020, Table 2, Part 4 with an application for changing the ownership or the name of the company.

#### **8.5. Special Activity Fees**

The permittee must pay the special activity fees specified in OAR 340-216-8020, Table 2, Part 4 with an application to modify the permit.

### **9.0 DEQ CONTACTS / ADDRESSES**

#### **9.1. Business Office**

The permittee must submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:

Oregon Dept. of Environmental Quality  
Financial Services – Revenue Section  
700 NE Multnomah St., Suite 600  
Portland, Oregon 97232-4100

#### **9.2. Permit Coordinator**

The permittee must submit all notices and applications that do not include payment to the Permit Coordinator.

Oregon Dept. of Environmental Quality  
Western Region  
Air Quality Permit Coordinator  
4026 Fairview Industrial Drive SE  
Salem, OR 97302-1142  
wraqpermits@deq.state.or.us

### 9.3. Report Submittals

Unless otherwise notified, the permittee must submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Region. If you know the name of the Air Quality staff member responsible for your permit, please include it:

Oregon Dept. of Environmental Quality  
Western Region  
4026 Fairview Industrial Drive SE  
Salem, OR 97302-1142

### 9.4. Web Site

Information about air quality permits and DEQ's regulations may be obtained from the DEQ web page at [www.oregon.gov/deq/](http://www.oregon.gov/deq/).

## 10.0 GENERAL CONDITIONS AND DISCLAIMERS

### 10.1. Permitted Activities

- a. Until this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from the following:
  - i. Processes and activities directly related to or associated with the devices/processes listed in Condition 1.0 of this permit;
  - i. Any categorically insignificant activities, as defined in OAR 340-200-0020, at the source; and
  - ii. Construction or modification changes that are Type 1 or Type 2 changes under OAR 340-210-0225 that are approved by DEQ in accordance with OAR 340-210-0215 through 0250, if the permittee complies with all of the conditions of DEQ's approval to construct and all of the conditions of this permit.
- b. Discharge of air contaminants from any other equipment or activity not identified herein is not authorized by this permit.

### 10.2. Other Regulations

In addition to the specific requirements listed in this permit, the permittee must comply with all other applicable legal requirements enforceable by DEQ.

### 10.3. Conflicting Conditions

In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply. [OAR 340-200-0010]

#### **10.4. Masking of Emissions**

The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [OAR 340-208-0400]

#### **10.5. DEQ Access**

The permittee must allow DEQ's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468.095.

#### **10.6. Permit Availability**

The permittee must have a copy of the permit available at the facility at all times. [OAR 340-216-0020(3)]

#### **10.7. Open Burning**

The permittee may not conduct any open burning except as allowed by OAR 340, division 264.

#### **10.8. Asbestos**

The permittee must comply with the asbestos abatement requirements in OAR 340, division 248 for all activities involving asbestos-containing materials, including, but not limited to, demolition, renovation, repair, construction, and maintenance.

#### **10.9. Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

#### **10.10. Permit Expiration**

- a. A source may not be operated after the expiration date of the permit, unless any of the following occur prior to the expiration date of the permit: [OAR 340-216-0082]
  - i. A timely and complete application for renewal of this permit or for a different ACDP has been submitted; or
- b. A timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or
- c. Another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.

- d. For a source operating under an ACDP or Oregon Title V Operating Permit, a requirement established in an earlier ACDP remains in effect notwithstanding expiration of the ACDP, unless the provision expires by its terms or unless the provision is modified or terminated according to the procedures used to establish the requirement initially.

### 10.11. Permit Termination, Revocation, or Modification

DEQ may terminate, revoke, or modify this permit pursuant to OAR chapter 340 division 216. [OAR 340-216-0082].

## 11.0 EMISSION FACTORS

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF Reference
<b>Turbine</b>	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	42.7	lb/MMscf	AP-42, Tbl 3.1-2
	SO <sub>2</sub>	11.5		NW Natural Gas
	NO <sub>x</sub>	449.0		AP-42, Tbl 3.1-1
	CO	112		AP-42, Tbl 3.1-1
	VOC	24.5		AP-42, Tbl 3.1-2
	Heating value of natural gas is 1,020 BTU/scf			
<b>Vaporizers</b>	NO <sub>x</sub>	100	lb/hr	DEQ, AQ EF-05
	CO	84		DEQ, AQ EF-05
<b>Valves &amp; Fittings (Approximate)</b>	VOC		lb/hr	EPA-453/R-95-017
74 - Valves		0.85		
11 - Pressure Relief Valves		1.04		
54 - Flanges/connectors		0.33		
101 - Compression Seals		1.10		
<b>Mole Sieve Heaters</b>	NO <sub>x</sub>	46.6	lb/MMscf	Mfg. Data
	CO	88.5		

**12.0 PROCESS/PRODUCTION RECORDS**

<b>Emissions device or activity</b>	<b>Process or production parameter</b>	<b>Frequency</b>
Turbine	Hours of operation	Monthly/Annually
	MMscf natural gas combusted	
Vaporizers	MMscf natural gas combusted	Monthly/Annually
Valves & Fittings	Hours of operation	Monthly/Annually
Mole Sieve Heaters	MMscf natural gas combusted	Monthly/Annually

## 13.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	OAR	Oregon Administrative Rules
ASTM	American Society for Testing and Materials	ORS	Oregon Revised Statutes
AQMA	Air Quality Maintenance Area	O&M	operation and maintenance
calendar year	The 12-month period beginning January 1st and ending December 31 <sup>st</sup>	Pb	lead
CAO	Cleaner Air Oregon	PCD	pollution control device
CFR	Code of Federal Regulations	PEMS	Predictive emission monitoring system
CO	carbon monoxide	PM	particulate matter
CO <sub>2e</sub>	carbon dioxide equivalent	PM <sub>10</sub>	particulate matter less than 10 microns in size
DEQ	Oregon Department of Environmental Quality	PM <sub>2.5</sub>	particulate matter less than 2.5 microns in size
dscf	dry standard cubic foot	ppm	part per million
EPA	US Environmental Protection Agency	PSD	Prevention of Significant Deterioration
FCAA	Federal Clean Air Act	PSEL	Plant Site Emission Limit
Gal	gallon(s)	PTE	Potential to Emit
GHG	greenhouse gas	RACT	Reasonably Available Control Technology
gr/dscf	grains per dry standard cubic foot	scf	standard cubic foot
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	SER	Significant Emission Rate
I&M	inspection and maintenance	SIC	Standard Industrial Code
lb	pound(s)	SIP	State Implementation Plan
MMBtu	million British thermal units	SO <sub>2</sub>	sulfur dioxide
NA	not applicable	Special Control Area	as defined in OAR 340-204-0070
NESHAP	National Emissions Standards for Hazardous Air Pollutants	TACT	Typically Achievable Control Technology
NO <sub>x</sub>	nitrogen oxides	VE	visible emissions
NSPS	New Source Performance Standard	VOC	volatile organic compound
NSR	New Source Review	year	A period consisting of any 12-consecutive calendar months
O <sub>2</sub>	oxygen		



## STANDARD AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

Northwest Natural Gas Company  
 1554 Yaquina Bay Road  
 Newport, OR 97365

### Source Information:

SIC	4924
NAICS	221210
EPA ICIS-Air ID	

Source Categories (Table 1 Part, code)	B-85 & C3
Public Notice Category	II

### Compliance and Emissions Monitoring Requirements:

FCE	
Compliance schedule	
Unassigned emissions	
Emission credits	
Special Conditions	

Source test	
COMS	
CEMS	
PEMS	
Ambient monitoring	

### Reporting Requirements

Annual report (due date)	15 Feb
Quarterly report (due dates)	

Monthly report (due dates)	
Excess emissions report	
Other (specify)	

### Air Programs

Synthetic Minor (SM)	
SM -80	
NSPS (list subparts)	
NESHAP (list subparts)	ZZZZ
CAO	
NSR	

PSD	
GHG	
RACT	
TACT	
Other (specify)	

**TABLE OF CONTENTS:**

PERMITTING .....3  
SOURCE DESCRIPTION.....3  
COMPLIANCE HISTORY .....5  
EMISSIONS .....5  
TITLE V MAJOR SOURCE APPLICABILITY .....6  
CLEANER AIR OREGON.....7  
ADDITIONAL REQUIREMENTS.....8  
PUBLIC NOTICE.....9  
ATTACHMENT A – EMISSION DETAIL SHEETS .....10

## **PERMITTING**

### PERMITTEE IDENTIFICATION

1. Northwest Natural Gas Company operates Newport LNG at 1554 Yaquina Bay Road in Newport, Oregon.

### PERMITTING ACTION

2. The proposed permit is a renewal of an existing Standard Air Contaminant Discharge Permit (ACDP) that was issued on 1/30/2015 and was originally scheduled to expire on 6/1/2019. The permittee is on a Standard because the permittee wishes to maintain its baseline emissions. The existing ACDP remains in effect until final action is been taken on the renewal application because the permittee submitted a timely and complete application for renewal.
3. Northwest Natural Gas has been determined to be an existing source for the purposes of Cleaner Air Oregon in accordance with OAR 340-245-0020 because the air quality permit application was submitted and deemed complete, or construction had commenced on this facility prior to November 16, 2018. As an existing source the permittee is required to perform a risk assessment in accordance with OAR 340-245-0050, and demonstrate compliance with the Risk Action Levels for an “Existing Source” in OAR 340-245-8010 Table 1 when called in by DEQ. Northwest Natural Gas has not been called in and therefore, has not performed a risk assessment.

### OTHER PERMITS

4. No other DEQ land quality or water quality permits have been issued or are required for this source.

### ATTAINMENT STATUS

5. The source is located in an attainment area for all criteria pollutants.

## **SOURCE DESCRIPTION**

### OVERVIEW

6. Northwest Natural Gas Company operates a liquefied natural gas (LNG) storage facility located on Yaquina Bay Road in Newport, Oregon. The original plant design was for an ocean shipment receiving facility. However, prior to construction, a management decision was made to modify the plant to store natural gas only to meet peak demands. Natural gas is liquefied during the summer months, stored until winter, then vaporized and redistributed to meet customer demand. As originally installed, the liquefaction

7. system consisted of a turbine driven compressor, an air-cooled process exchanger, a cryogenic heat exchanger, and a cryogenic CO<sub>2</sub> extraction vessel. The natural gas arrives at the facility in a gaseous state at approximately 60°F. The compressor reduces the temperature to -250°F. Methanol was added prior to cooling to prevent the formation of ice in the piping. The temperature reduction results in the separation of the “heavies” which are piped into storage tanks. CO<sub>2</sub> was removed in the CryEx CO<sub>2</sub> extraction vessel. The CO<sub>2</sub> and the heavies are added to the gas used in the turbine. The mixed refrigeration loop (MRL) provides the refrigeration necessary to liquefy the natural gas, with some additional refrigeration provided by recycling the boil-off gas from the tank. The liquefaction capacity is approximately 5 million cubic feet/day and the process usually operates for 150 days per year. The liquefied natural gas is piped to a 12.6-million gallon above-ground cryogenic tank until it is vaporized. The plant has only one inlet/outlet pipeline; therefore, the liquefaction and vaporization processes cannot occur simultaneously. The vaporization system consists of two submerged combustion vaporizers, which raise the pressurized LNG’s temperature to 50°F. Each vaporizer’s capacity is 53 million cubic feet of LNG/day and they usually operate ten days a year. Construction of the plant was completed in 1977.

In 1997 an open vented 4000-gallon methanol storage tank was replaced with a pressurized 5000-gallon tank.

An 80 hp stationary natural gas-fired engine generator was replaced with a 275 kW (369 hp) stationary diesel-fired emergency generator in 2003.

8. In 2015 the methanol tank, methanol injection system, and the CryEx CO<sub>2</sub> removal vessel were replaced with a molecular sieve system under NC#27954, submitted 11/7/14. The molecular sieves use a zeolite material that allows the natural gas to pass through the sieves, but stops the larger water and CO<sub>2</sub> molecules. When the sieves become saturated with CO<sub>2</sub> and water they are regenerated by heating to 425°F. Two convection heaters fired by natural gas with a combined heat input of 9.5 MMBtu/hour supply heat for the regeneration. Emissions from the molecular sieve system arise from the combustion of natural gas. The CryEx vessel may remain in place as a flash tank but will no longer be used for CO<sub>2</sub> removal. The methanol tank and injection system were removed.
9. Categorically insignificant activities not considered in the PSEL include one 182 hp emergency fire pump and one 275 kW stationary emergency generator used for electrical back-up capabilities during unexpected power outages.

## PROCESS AND CONTROL DEVICES

10. Existing air contaminant sources at the facility consist of the following:
  - a. One 3,945 hp Solar Centaur natural gas-fired turbine-driven compressor, installed in 1977.

- b. Two three-burner vaporizers, installed in 1977, rated at 36 MMBtu/hour each, but the capacity is limited by the capacity of the gas pipeline. Particulate matter from the vaporizer is scrubbed from the gas stream in a water bath.
- c. Two convection heaters to regenerate the molecular sieves with a combined rated heat capacity of 9.5 MMBtu/hour.
- d. Valves and fittings, including seals from two electrically-driven compressors, installed in 1977.

## COMPLIANCE HISTORY

11. The equipment at this facility was inspected on 7/20/2016 and 6/15/2017 and found to be in compliance with permit conditions.
12. During the prior permit period there were no complaints recorded for this facility.
13. No enforcement actions have been taken against this source since the last permit renewal.

## EMISSIONS

14. Proposed PSEL information:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limits (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM	3	3	3	24	24	-
PM <sub>10</sub>	3	3	3	14	14	-
PM <sub>2.5</sub>	NA	3	3	9	9	-
SO <sub>2</sub>	1	1	1	39	39	-
NO <sub>x</sub>	36	36	36	39	39	-
CO	9	9	9	99	99	-
VOC	10	10	10	39	39	-

- a. The baseline emission rate was established in previous permitting actions and there is no new information that effects the previous determination.

- b. The netting basis is equal to the baseline emission rate minus emission reductions required by rule plus emission increases approved in accordance with OAR 340, division 224.
- c. Greenhouse gases (GHG), collectively, have been deemed to be a criteria pollutant. No baseline, netting basis, or PSEL is established for GHG's. The facility's calculated PTE for greenhouse gases is 1,270 short tons, less than the reportable amount.
- d. The previous PSEL is the PSEL in the last permit.
- e. The proposed PSELs for all pollutants are equal to the Generic PSEL in accordance with OAR 340-216-0064(3)(b).
- f. The basis for the PSEL are included in the emission detail sheets in attachment A.
- g. The PSEL is a federally enforceable limit on the potential to emit.

#### SIGNIFICANT EMISSION RATE ANALYSIS

- 15. For each pollutant, the proposed Plant Site Emission Limit is less than the sum of the Netting Basis and the significant emission rate, thus no further air quality analysis is required at this time.

#### **TITLE V MAJOR SOURCE APPLICABILITY**

- 16. A major source is a facility that has the potential to emit 100 tons/year or more of any criteria pollutant or 10 tons/year or more of any single HAP or 25 tons/year or more of combined HAPs. This facility is not a major source of emissions.
- 17. A source that has potential to emit at the major source levels but accepts a PSEL below major source levels is called a synthetic minor (SM). This source does not have the potential to emit at major source levels. Therefore, this source is not a synthetic minor.
- 18. A source that has the potential to emit above the Title V major source thresholds but is willing to take a limit that is 80% or greater of the major source thresholds (e.g., 80 tons per year or greater for criteria pollutants) is called a synthetic minor 80 (SM-80).
- 19. A source that has the potential to emit less than major source thresholds is called a true minor. This source is a true minor.
- 20. A source that has the potential to emit less than major source thresholds but is required by rule to obtain a Title V permit is called a Title V minor source. This source is not a Title V minor source.

## CRITERIA POLLUTANTS

21. This facility is a true minor, minor source of criteria pollutant emissions. The basis for this determination can be found in Attachment A: Emission Detail sheets.

## HAZARDOUS AIR POLLUTANTS

22. This source is not a major source of hazardous air pollutants. The basis for this determination can be found in Attachment A: Emission Detail sheet.

## CLEANER AIR OREGON

23. The Cleaner Air Oregon Toxic Air Contaminant emissions inventory for this source can be found on this website: <https://www.deq.state.or.us/aq/aqpermitonline/SearchFilter.asp> by filling in the permit number and clicking on the document that has "ATEI" in the file name.
24. Northwest Natural Gas has not been called in and therefore, has not performed a risk assessment.

## TOXICS RELEASE INVENTORY

25. The Toxics Release Inventory (TRI) is federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which DEQ has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, [chemicals covered by the TRI Program](#) are those that cause:
  - a. Cancer or other chronic human health effects;
  - b. Significant adverse acute human health effects; or
  - c. Significant adverse environmental effects.
26. There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical.
27. Northwest Natural Gas is not covered by the TRI program because:
  - a. It does not employ 10 or more full-time employees at this site.

## **ADDITIONAL REQUIREMENTS**

### NEW SOURCE PERFORMANCE STANDARDS APPLICABILITY

28. 40 CFR Part 60, Subpart KKKK does not apply to the turbine at this facility because it was installed before 2005.
29. 40 CFR Part 60, Subpart GG does not apply to the turbine because it was constructed in 1976, and this NSPS applies to sources constructed after October 3, 1977.

In April 2013, Northwest Natural exchanged the engine in the turbine for a functionally identical, refurbished engine as part of a maintenance overhaul. The cost of the exchange engine is typically 17-32% of a new unit. Thus the engine exchange does not meet the definition of “reconstruction” in the federal rules and applicability does not change.

### NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS APPLICABILITY

30. 40 CFR Part 63, Subpart ZZZZ is applicable to the source’s emergency generator and the fire pump engine. Both are existing sources because construction commenced prior to 6/12/2006. The initial compliance date for both engines was May 3, 2013. The following specific requirements apply to the engines:
  - a. Change oil and filter every 500 hours of operation or annually whichever come first unless oil change extended by testing
  - b. Inspect air cleaner every 1,000 hours of operation or annually whichever come first
  - c. Inspect all hoses and belts every 500 hours of operation or annually whichever comes first and replace as necessary
  - d. Operational requirements
  - e. Non-resettable hour meter
  - f. Maintenance plan or manufacturer’s instructions for maintenance

### GREENHOUSE GAS REPORTING APPLICABILITY

31. The source is not subject to greenhouse gas reporting under division 215 because actual greenhouse gas emissions are less than 2,500 metric tons (2,756 short tons) of CO<sub>2</sub> equivalents per year. If the source ever emits more than this amount, they will be required to report greenhouse gas emissions.

### REASONABLY AVAILABLE CONTROL TECHNOLOGY APPLICABILITY

32. The RACT rules are not applicable to this source because it is not in the Portland AQMA, Medford AQMA, or Salem SKATS.

**PUBLIC NOTICE**

33. Pursuant to OAR 340-216-0066(4)(a)(A), issuance of Standard Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(b), which requires DEQ to provide notice of the proposed permit action and a minimum of 30 days for interested persons to submit written comments. **The public notice was emailed/mailed on Sept. 11, 2029 and the comment period will end on Oct. 16, 2020.**
34. DEQ issued the permit on \_\_\_\_\_.

:SD

**ATTACHMENT A – EMISSION DETAIL SHEETS**

Facility Name: Northwest Natural Gas Company		Permit Number: 21-0
Emissions Details Sheet		Total PTE and PSEL
<b>Total PTE and Proposed PSEL</b>		
Pollutant	Tons/yr	
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	3.2	
SO <sub>2</sub>	0.9	
NO <sub>x</sub>	35.2	
CO	11.0	
VOC	8.7	
<b>Total PTE and Proposed HAPs</b>		
Pollutant	Source	Tons/yr
All HAPs	Turbine	0.08
All HAPs	Vaporizers	0.02
All HAPs	Mole Sieve Heaters	0.03
All HAPs	Valves and Fittings	0.07
<b>Total</b>		<b>0.21</b>

Facility Name: Northwest Natural Gas Company		Permit Number: 21-0042-ST-01	
Emissions Details Sheet		Proposed PSEL and PTE	
<b>Turbine</b>			
Operating parameter		146.91 MMscf/yr	
Pollutant	Emission Factor (lb/MMscf)	Reference	Tons/yr
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	42.7	AP-42 (1)	3.1
SO <sub>2</sub>	11.5	DEQ	0.8
NO <sub>x</sub>	449	AP-42 (1)	33.0
CO	112	AP-42 (1)	8.2
VOC	24.5	AP-42 (1)	1.8
<b>Turbine Starts</b>			
Operating parameters		30 starts/yr	
Pollutant	Emission Factor (lb/start)	Reference	Tons/yr
VOC	6.23	NW Natural Gas (3)	0.09
<b>Vaporizers</b>			
Operating parameters		26.33 MMscf/yr	
Pollutant	Emission Factor (lb/MMscf)	Reference	Tons/yr
SO <sub>2</sub>	1.7	DEQ	0.02
NO <sub>x</sub>	100	AP-42 (4)	1.32
CO	84	AP-42 (4)	1.11
VOC	5.5	AP-42 (4)	0.07

<b>Valves and Fittings</b>			
Operating parameters	4,322	hours/yr	
<b>Source of VOC Emissions</b>	<b>Emission Factor (lb/hr)</b>	<b>Reference</b>	<b>Tons/yr</b>
74 valves	0.846	Engr. Calc. (5)	1.8
11 pressure release valves	1.04	Engr. Calc. (5)	2.2
54 flanges/connectors	0.331	Engr. Calc. (5)	0.7
101 compressor seals	1.1	Engr. Calc. (5)	2.4
<b>4,000 Gallon Methanol Storage Tank</b>			
Operating parameter	1	tank fill/yr	
<b>Source of VOC Emissions</b>	<b>Emission Factor (lb/1,000 gal)</b>	<b>Reference</b>	<b>Tons/yr</b>
Tank Filling	7.3	AP-42 (7)	0.01
Evaporation (not closed loop)	Engr. Est.	Records (7)	1.1
Note: Tank relaced in 1997 with closed-loop system			
<b>Total Baseline Emissions</b>			
<b>Pollutant</b>	<b>Tons/yr</b>		
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	3.3		
SO <sub>2</sub>	0.9		
NO <sub>x</sub>	35.6		
CO	9.1		
VOC	10.3		
(1) AP-42, Section 3 (1/95), Table 3.1-2 "Emission Factors for Large Uncontrolled Gas Turbines; (1,020 BTU/scf conversion factor, 2000 Version of AP-42 was not used as it relates only to water injected turbines and the 1995 version closely matched the manufacturer's data			
(2) Supporting information submitted July 2014 and Appendix B of NC 17455 submitted 4/7/99			
(3) Appendix A of NC 17455 submitted 4/7/99			
(4) DEQ emission factor for medium size natural gas boiler			
(5) Protocol for Equipment Leak Emission Estimates, EPA-453/R-93026, 6/93, Table 2-3 for Gas Plant Average Emission Factors (Do not update to 11/95 document version; not applicable)			
(6) AP-42, Section 3(10/96), Table 3.3-1 Emission Factors for Uncontrolled Gasoline and Diesel Industrial Eninges			
(7) AP-42, Section 5, Table 5.2-7 "Evaporative Emissions from Gasoline Service Station Operations" in combination with usage records for baseline			
(8) Manufacturer's Data, Appendix B, NC 27954, sybnuted 11/7/14			
(9) Categorically insignificant activities are not included in the PSEL calculations and are listed for informational purposes			

<b>Vaporizers</b>			
Operating parameters	26.33 MMscf/yr		
Pollutant	Emission Factor (lb/MMscf)	Reference	Tons/yr
SO <sub>2</sub>	1.7	NW Natural Gas (4)	0.02
NO <sub>x</sub>	100	AP-42 (4)	1.32
CO	84	AP-42 (4)	1.11
VOC	5.5	AP-42 (4)	0.07
<b>Valves and Fittings</b>			
Operating parameters	4,050 hours/yr		
Source of VOC Emissions	Emission Factor (lb/hr)	Reference	Tons/yr
74 valves	0.846	Engr. Calc. (5)	1.7
11 pressure release valves	1.04	Engr. Calc. (5)	2.1
54 flanges/connectors	0.331	Engr. Calc. (5)	0.7
101 compressor seals	1.1	Engr. Calc. (5)	2.2
<b>Mole Sieve Heaters</b>			
Operating parameters	37.72 MMscf/yr		
Pollutant	Emission Factor (lb/MMscf)	Reference	Tons/yr
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.1	Manufacture (8)	0.02
SO <sub>2</sub>	1.7	NW Natural Gas (4)	0.03
NO <sub>x</sub>	46.6	Manufacture (8)	0.9
CO	88.5	Manufacture (8)	1.7
VOC	1	Manufacture (8)	0.02

<b>Categorically Insignificant Activities</b>			
Back-up Diesel-Fired Emergency Fire Pump		182 hp/hour	
		250 hours	
Pollutant	Emission Factor (lb/hp-hr)	Reference	Tons/yr
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0022	AP-42 (6)	0.05
SO <sub>2</sub>	0.0021	AP-42 (6)	0.05
NO <sub>x</sub>	0.031	AP-42 (6)	0.71
CO	0.0067	AP-42 (6)	0.15
VOC (TOC Factor)	0.0025	AP-42 (6)	0.06
Back-up Diesel-Fired Engine Generator		369 hp/hour	
		250 hours	
Pollutant	Emission Factor (lb/hp-hr)	Reference	Tons/yr
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0022	AP-42 (6)	0.10
SO <sub>2</sub>	0.0021	AP-42 (6)	0.10
NO <sub>x</sub>	0.031	AP-42 (6)	1.43
CO	0.0067	AP-42 (6)	0.31
VOC (TOC Factor)	0.0025	AP-42 (6)	0.12