



# Oregon

Kate Brown, Governor

Department of Environmental Quality

Northwest Region

700 NE Multnomah St Ste 600

Portland, OR 97232-4100

(503) 229-5263

FAX (503) 229-6945

TTY 711

June 27, 2018

Scott Briggs  
Oil Re-Refining Company, Inc.  
4150 N Suttle Road  
Portland OR 97217

**Re: Renewal of a Standard Air Contaminant Discharge Permit**

Permit No.: 26-3048-ST-01 Application No.: 029076 & 026818

The Department of Environmental Quality has completed its public notice process and review of comments received for the air quality permit renewal application for Oil Re-Refining Company, Inc., located at 4150 N Suttle Road in Portland, OR. On April 24, 2018, DEQ held a public hearing for Oil Re-Refining Company's renewed air quality permit. The hearing offered interested citizens the opportunity to provide DEQ with written and verbal comments on the enforceable permit conditions identified in Oil Re-Refining Company's renewed air quality permit. Comments received during the public notice process and DEQ's responses are included as an attachment in this renewal packet. Considering the information provided by Oil Re-Refining Company submitted in their permit renewal application and the comments received during the public notice period, DEQ has issued the enclosed permit.

The renewed air quality permit is effective on the date it is signed by DEQ's regional Air Quality Manager. The signature and date are located on the first page of the renewed permit. DEQ is issuing Oil Re-Refining Company's renewed air quality permit in accordance with Oregon Revised Statutes 468A.040 and Oregon Administrative Rules Chapter 340 Division 216.

You may appeal conditions or limitations contained in the attached air quality permit by contacting the Environmental Quality Commission, or its authorized representative, within twenty days from the date of this letter. Appeals are pursuant to ORS Chapter 183 and procedures are outlined in OAR Chapter 340, Division 11.

A copy of the current permit must be available at the facility at all times. Failure to comply with permit conditions may result in civil penalties issued by DEQ's Office of Compliance and Enforcement. **It is Oil Re-Refining Company's responsibility to read the permit carefully and comply with all conditions** to protect the environment of Oregon.

If you have any questions, please contact Louis Bivins at 503-229-6333.

Sincerely,

Matt Hoffman  
Northwest Region Air Quality Manager

Enclosure  
Cc: HQ/AQ





State of Oregon  
 Department of  
 Environmental  
 Quality

**STANDARD  
 AIR CONTAMINANT DISCHARGE PERMIT**

Department of Environmental Quality  
 Northwest Region  
 700 NE Multnomah St., Suite 600  
 Portland, OR 97232  
 503-229-5263

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:**

Oil Re-Refining Company, Inc.  
 4150 N Suttle Road  
 Portland, OR 97217-7717

**PLANT SITE LOCATION:**

4150 N Suttle Road  
 Portland, OR 97217-7717

**INFORMATION RELIED UPON:**

Application No.: 029076 & 026818  
 Date Received: 04/25/17 & 04/20/12

**LAND USE COMPATIBILITY FINDING:**

Approving Authority: City of Portland  
 Approval Date: 01/27/1984

**ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

Matt Hoffman, Northwest Region Air Quality Manager

6/27/2018

Dated

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

Table 1 Code	Source Description	SIC/NAICS
Part B, 64	Petroleum refining and re-refining of lubricating oils and greases including asphalt production by distillation and the reprocessing of oils, and/or solvents for fuels.	2992/423930

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## **1.0 GENERAL EMISSION STANDARDS AND LIMITS**

- 1.1. Visible Emissions** Permittee must not allow emissions from any air contaminant source to equal or exceed 20% opacity. Permittee must measure opacity in six-minute block average using EPA Method 9, a continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60, or an alternative monitoring method approved in writing by DEQ that is equivalent to EPA Method 9.
- 1.2. Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:
- a. Particulate matter emissions from any fuel burning equipment installed on or after April 16, 2015 must not exceed 0.10 grains per dry standard cubic foot, corrected to 12% CO<sub>2</sub> or 50% excess air.
  - b. Particulate matter emissions from any air contaminant source other than fuel burning equipment and fugitive emission sources installed before April 16, 2015 must not exceed 0.14 grains per dry standard cubic foot.
  - c. Particulate matter emissions from any air contaminant source other than fuel burning equipment and fugitive emission sources installed on or after April 16, 2015 must not exceed 0.10 grains per standard cubic foot.
- 1.3. Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions by:
- a. Using, where possible, water, or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
  - b. Applying water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces that can create airborne dusts.
  - c. Enclosing (full or partial) materials stockpiles in cases where application of water or other suitable chemicals are not sufficient to prevent particulate matter from becoming airborne.
  - d. Installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials.
  - e. Promptly removing earth or other material that does or may become airborne from paved streets.
- 1.4. 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.
- 1.5. Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. DEQ personnel will verify nuisance conditions.

- 1.1. Visible Emissions** Permittee must not allow emissions from any air contaminant source to equal or exceed 20% opacity. Permittee must measure opacity in six-minute block average using EPA Method 9, a continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60, or an alternative monitoring method approved in writing by DEQ that is equivalent to EPA Method 9.
- 1.6. Fuels and Fuel Sulfur Content** The permittee must only burn fuel containing 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, so that it can be demonstrated that each shipment of oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1, as outlined in Condition 2.1.

## **2.0 40 CFR 279.11: USED OIL SPECIFICATIONS**

- 2.1. 40 CFR 279.11 – Used Oil Specifications** Used oil processors and re-refiners are subject to 40 CFR 279.11, Table 1: Used Oil Specifications. Permittee must not burn used oil exceeding the following level of pollutants:
- a. Arsenic - 5 ppm maximum.
  - b. Cadmium - 2 ppm maximum.
  - c. Chromium - 10 ppm maximum.
  - d. Lead - 100ppm maximum.
  - e. Flash point - 100 °F minimum.
  - f. Total halogens - 4,000 ppm maximum
  - g. PCB's – lowest quantifiable limit (EPA defines lowest quantifiable limit as 2.0 ppm).
- Note: Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e).*
- 2.2. Used Oil Processors and Re-Refiners** Permittee must comply with permit Condition 2.1 and all applicable solid waste and hazardous waste regulations contained in **40 CFR 279: Standards for the Management of Used Oil.**

## **3.0 40 CFR PART 63, SUBPART JJJJJJ: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AREA SOURCES**

**3.1. National Emission Standards for Hazardous Air Pollutants (NESHAP Subpart 6J)**

Permittee must comply with the following conditions as required in 40 CFR Part 63, Subpart JJJJJJ:

- a. Conduct burner tune-ups on all hot oil heaters within 60 days of permit issuance, or provide documentation that the initial tune-ups have been completed in accordance with 40 CFR 63.11214 and within the past two years.
- b. Conduct burner tune-ups on hot oil heaters every two years, beginning no longer than one calendar year from the issuance date of this permit.
- c. The tune-ups must consist of the following:
  - i. Inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection).
  - ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  - iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection).
  - iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
  - v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

## **4.0 SPECIAL CONDITIONS**

**4.1. Thermal Oxidizer Installation**

Prior to installing and operating the Thermal Oxidizer, permittee must submit a Notice of Intent to Construct in accordance with OAR 340-210-0225, and:

- a. Install and operate a continuous temperature monitor in the burning chamber of the Thermal Oxidizer prior to startup.

The temperature monitor must be equipped with audible and visual alarms capable of logging and storing temperature data every 15 seconds or less and displaying real time temperature readings at all times.

- b. The audible and visual alarm must trigger automatically should the operating temperature of the Thermal Oxidizer deviate below 1500 degrees Fahrenheit by 20 degrees Fahrenheit or greater. Permittee must restore the Thermal Oxidizers operating temperature to 1500 degrees Fahrenheit within 30 minutes of the initial audible and visual alarms, or cease operating the Wiped Film Evaporator, Rocket, and Sour Water Stripper until the unit is repaired and able to operate at the stated 1500 degrees Fahrenheit.
- c. Permittee must not operate the Wiped Film Evaporator, Rocket, or Sour Water Stripper if the temperature of the Thermal Oxidizer falls below 1500 degrees Fahrenheit by 20 degrees or more for 30 minutes or greater, on any one occurrence, unless the permittee can demonstrate through source testing that the Thermal Oxidizer can operate at a temperature lower than 1500 degrees Fahrenheit.

**4.2. Thermal Oxidizer Operation**

Post install and operation of the Thermal Oxidizer, permittee must maintain the oxidizer operating temperature at a minimum 1500 degrees Fahrenheit at all times the Rocket, sour water stripper, or Wiped Film Evaporator are operational.

## **5.0 OPERATION AND MAINTENANCE REQUIREMENTS**

**5.1. Operation: New Equipment**

Prior to installing the Rocket, Wiped Film Evaporator, or Tube and Shell Condenser, permittee must install and operate a Thermal Oxidizer to control emissions from the Rocket and Wiped Film Evaporator and submit a complete Notice of Intent to Construct form in accordance with OAR 340-210-0225, and;

- a. Install and operate a continuous temperature monitor on the Wiped Film Evaporator, and.
- b. Install and operate continuous temperature monitor(s) with audible and visual alarms on the Tube and Shell Condenser coolant inlet(s) and outlet(s) and the condenser vapor outlet(s);

- i. Condenser coolant inlet temperature must not exceed the ambient temperature by 30 degrees Fahrenheit, or reach 130 degrees Fahrenheit.
  - ii. Condenser outlet temperature must not exceed the ambient temperature by 80 degrees Fahrenheit, or reach 200 degrees Fahrenheit.
  - iii. Condenser vapor temperature must not exceed the ambient temperature by 50 degrees Fahrenheit, or reach 180 degrees Fahrenheit.
- c. If the condenser temperature exceeds the values in Condition 5.1.b, the audible and visual alarm must be triggered automatically, and;
- i. Permittee must reestablish operating temperature in Condition 5.1.b.i-iii.
  - ii. Immediately shutdown and discontinue use of the associated cook tank, and cease all feeds to condenser until repaired and operable according to Conditions 5.1.b.i-iii.
  - iii. It is not a violation to exceed the condenser coolant inlet and outlet temperatures, but it is a violation if permittee fails to take action as outlined in Condition 5.1.c.i, ii.
  - iv. During all times of operation, permittee must vent exhaust gasses from cook tanks 9, 10 and 11 through the Bubble Condenser or the Tube and Shell Condenser(s).
  - v. In the event of a temperature malfunction, permittee must notify DEQ in writing within 24-hours of the malfunction, including the date, time, and cause for the alarm.
- d. All continuous temperature monitors must be equipped with audible and visual alarms that log and store temperature data every 15 seconds or less and display real time temperature readings.
- e. During all times of operation, permittee must route exhaust emissions from the Rocket, Wiped Film Evaporator, and sour water stripper to the Thermal Oxidizer, operating at a minimum 1500 degrees Fahrenheit.

**5.2. Operation:  
Existing  
Equipment**

Within 60 days of the issuance of this permit, permittee must install and operate a continuous temperature monitor equipped with audible and visual alarms on the activated Carbon Canisters, and Bubble Condenser, according to the following:

- a. The temperature monitors must be capable of logging and storing temperature data every 15 seconds or less and display real time temperature readings.
- b. The audible and visual alarms must trigger automatically if the operating temperature(s) of the equipment deviate above or below the manufacturers recommended temperature settings.

Permittee must restore the operating temperature to the manufacturer's recommended operating temperature within 30 minutes of the initial alarm, or discontinue use of the equipment until repaired.

- c. Permittee must not operate the activated Carbon Canisters, Cook Tank Heaters (9, 10, and 11), or Bubble Condenser at any temperature other than the manufacturer recommended settings for more than 30 minutes on a single occurrence.
- d. Permittee must notify DEQ if the audible and visual temperature monitor alarms are triggered. The notification must be in writing and sent to DEQ within 24-hours of the triggered alarm.

**5.3. Bubble Condenser**

Within 60 days of the issuance of this permit, permittee must install and calibrate a water level sensor on the Bubble Condenser according to the following conditions:

- a. The sensor must be equipped with audible and visual alarms capable of logging and storing the internal water level every 15 seconds or less and display real time water level readings.
- b. The audible and visual alarm must trigger automatically if the water level sensor indicates the condenser medium deviates from the manufacturers recommended fill range.
- c. The permittee must restore the Bubble Condensers water level to the manufacturers recommended range within 30 minutes of the initial alarm, or discontinue use of the condenser until repaired.
- d. Permittee must notify DEQ if the audible and visual temperature monitor alarms are triggered. The notification must be in writing and sent to DEQ within 24 hours of the triggered alarm.

**5.4. Maintenance**

Permittee must calibrate internal temperature sensor monitors, test the functionality of the audible and visual alarms, and preventatively maintain the emission control equipment listed in Condition 5.1 according to the manufacturers recommended maintenance schedule, annually, and;

- a. Tune the Thermal Oxidizer to the manufacturers recommended settings, annually.
- b. Replace the bauxite filter medium in the Rocket filtration columns when the filtered oil fails to meet the clarity as stated by the manufacturer.
- c. Replace or regenerate Carbon Canister medium as needed;
- d. Calibrate the water level sensor in the Bubble Condenser, as needed but not less than once every two years.

**6.0 PLANT SITE EMISSION LIMITS**

**6.1. PSEL** The permittee must not cause or allow plant site emissions to exceed the following:

Pollutant	Limit	Units
PM	24	tons per year
PM <sub>10</sub>	14	tons per year
PM <sub>2.5</sub>	9	tons per year
SO <sub>2</sub>	39	tons per year
NO <sub>x</sub>	39	tons per year
CO	99	tons per year
VOC	39	tons per year
GHGs (CO <sub>2</sub> e)	74,000	tons per year

**6.2. Annual Period** The annual plant site emissions limits apply to any 12-consecutive calendar month period.

**7.0 COMPLIANCE DEMONSTRATION AND SOURCE TESTING**

**7.1. Source Testing Requirements** Within 120 days of the install date, permittee must conduct VOC stack testing on the inlet and outlet of the Thermal Oxidizer. Within 180 days of the permit issuance date, permittee must conduct stack testing of Bubble Condenser. Stack testing of the Thermal Oxidizer and Bubble Condenser must be conducted in accordance with EPA methodology and the DEQ sampling manual. DEQ will consult the stack test results to verify the Bubble Condenser VOC emission factor and determine VOC destruction efficiency of the Thermal Oxidizer. Permittee must conduct additional stack testing on the Thermal Oxidizer no greater than every 36-months following the initial stack test. The oxidizer must achieve a minimum 97% VOC destruction efficiency. If the VOC inlet concentration is less than 100 ppm, outlet concentration must be less than 3 ppm. The Bubble Condenser and Thermal Oxidizer must be tested for VOC emissions at the inlet and outlet according to the permit issuance date for the condenser and the installation date of the Thermal Oxidizer. Permittee must use the following test methods and procedures when conducting stack testing:

- a. EPA method 25, 25A or 18 must be used for VOC emissions;
- b. Control device efficiency testing must be conducted while the associated equipment is operating at 90 to 110% of normal maximum production.

- c. The following parameters must be monitored and recorded during the source test:
  - i. Visible emissions using EPA method 9 within 30 minutes before, during, or 30 minutes after each test run.
  - ii. Process operating parameters for each system exhausted to the oxidizer.
  - iii. TO operating parameters, including temperature and flow rate.
  - iv. Type and amount of product processed thru the cook tanks.
  - v. Type and quantity of fuel burned in the Cook Tank Heaters.
- d. All tests must be conducted in accordance with DEQ's Source Sampling Manual and the approved pretest plan. The pretest plan must be submitted at least 30 days in advance and approved by the Regional Source Test Coordinator. Test data and results must be submitted for review to the Regional Source Test Coordinator within 60 days unless otherwise approved in the pretest plan.
- e. Only regular operating staff may adjust the combustion system or production processes and emission control parameters during the source test and within two hours prior to the source test. Any operating adjustments made during the source test, which are a result of consultation with source testing personnel, equipment vendors or consultants, may render the source test invalid.

**7.2. Monitoring Requirements**

The permittee must monitor and record the following parameters for each emission source and control device as follows:

- a. Continuously monitor the temperature of the Thermal Oxidizer, Carbon Canisters, Wiped Film Evaporator, cook tanks, Bubble Condenser (inlet and outlet), and Tube and Shell Condensers (inlet and outlet).
- b. Combined total amount of fuel oil burned (gal.) in the Thermal Oxidizer, Wiped Film Evaporator, Cook Tank Heaters, and Boiler, daily.
- c. Used oil throughput, in gallons, for the Rocket, Wiped Film Evaporator, and cook tanks, daily.
- d. PSEL compliance calculations for the Thermal Oxidizer, Rocket, Wiped Film Evaporator, cook tanks, Cook Tank Heaters, Bubble Condenser, and Tube and Shell Condensers, monthly.
- e. Continuously monitor the water level of the Bubble Condenser.

- 7.3. PSEL Compliance Monitoring** The permittee must demonstrate compliance with the PSEL for each 12-consecutive calendar month period based on the following calculation for each pollutant except GHGs:

$$E = \Sigma(EF \times P)/2000 \text{ lbs.}$$

where:

- E = pollutant emissions (ton/yr);  
EF = pollutant emission factor (see Condition 15.0);  
P = process production (see Condition 16.0)

- 7.4. Emission Factors** The permittee must use the default emission factors provided in Condition 15.0 to calculate emissions, unless DEQ approves in writing the use of alternative emission factors. The permittee may request or DEQ may require using alternative emission factors provided they be based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by DEQ.

## **8.0 SPECIAL CONDITIONS**

- 8.1. Special Conditions** The permittee must comply with the following special conditions:
- a. Conduct weekly inspections of all valves, flanges, pumps, piping, and any other potential areas of used oil or product leakage and repair any identified leaks within 5 days of initial discovery. If permittee is unable to repair the leaks or shut down the pipe, process, or tank involved within 5 days, they must notify DEQ in writing no later than 72 hours from the end of the fifth day.
  - b. Maintain hard copies, if available from the manufacturer, of all equipment, manufacturer literature, and operating instructions on site and available to DEQ at all times. If permittee is unable to obtain such material from the manufacturer, they must develop equipment specific operating instructions for any equipment not having manufacturer documentation. The equipment specific instructions must be submitted to DEQ for approval within 90 days from the issuance date of this permit.
  - c. Permittee must maintain the equipment specific operating instructions on site and available to DEQ at all times.
  - d. Operate process and control equipment in accordance with the manufacturer's specifications.
  - e. Monthly, perform a facility walkthrough, identifying leaks, rusty equipment, broken valves or flanges, spills, etc. Permittee must retain a written log of inspections and issues discovered and repair immediately, but no longer than 5 days, unless approved in writing by DEQ.

- f. Perform weekly perimeter inspections of the facility, documenting odors, including a description of the odor, time of occurrence, probable cause, and action to mitigate the odor; documenting inspection results.
- g. Oil burned as plant site fuel 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.
- h. Retain on site at all times records associated with Condition 8.0.

## **9.0 RECORDKEEPING REQUIREMENTS**

- 9.1. Operation and Maintenance Recordkeeping Requirements** The permit must be located on site at all times and make available to DEQ upon request. The permittee must maintain the following records on site at all times:
- a. Thermal Oxidizer:
    - i. Completed work order including the date, time, and company who installed and calibrated the Thermal Oxidizer and internal temperature monitor.
    - ii. Continuous temperature monitoring records.
    - iii. All notification records submitted to DEQ within 72 hours pertaining to Thermal Oxidizer malfunctions, if applicable.
    - iv. Continuous temperature sensor calibration test results, annually.
    - v. Type and quantity (gal) of fuel burned, including records indicating the fuel complies with the permit Condition 2.1, daily.
    - vi. Records of all maintenance performed, including the date, time, and repairs.
    - vii. Copy of most recent stack test results.
  - b. Rocket:
    - i. Inlet and outlet sulfur concentration (ppm) of used oil, daily.
    - ii. Gallons of used oil processed, daily.
    - iii. Gallons of polished oil recovered, daily.
    - iv. Gallons of waste oil recovered from the regeneration process, on occurrence.
    - v. Bauxite filter regenerations, on occurrence.

- c. Carbon Canisters:
  - i. Date and time of carbon replacement or regeneration.
  - ii. Continuous temperature monitoring records from Carbon Canisters 1 and 2.
  - iii. Temperature deviations cause and repair required.
  - iv. Temperature monitor calibration records, including time and date, annually.
  - v. Temperature monitor alarm test results, annually.
- d. Wiped Film Evaporator Wiped Film Evaporator:
  - i. Gallons of used oil processed, daily.
  - ii. Plant site fuel burned (gal.), daily.
  - iii. Temperature monitor calibration records, including date, time, and ambient temperature, annually;
  - iv. Visual and audible alarm functionality test results, annually.
  - v. Continuous temperature monitoring records.
  - vi. Type and quantity (gal.) of product recovered, daily.
- e. Boiler
  - i. Records of preventative maintenance; including date, time, operator who detected the issue.
  - ii. Type and quantity of fuel burned, daily.
- f. Cook Tanks
  - i. Used oil processed through Cook Tank Heaters, daily.
  - ii. Light end fuel products recovered, daily.
  - iii. Wastewater recovered, daily.
  - iv. Type and quantity of fuel burned, daily.
- g. Bubble Condenser
  - i. Inlet and outlet temperature monitor calibration records, annually.
  - ii. Water level sensor calibration records, annually.
  - iii. Visual and audible alarm test results, annually.
  - iv. Maintenance and repair records for service(s) performed on the Bubble Condenser, as needed.
  - v. Copy of the most recent stack test results.

**9.2. Excess Emissions**

The permittee must maintain records of excess emissions 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. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must cease operation of the equipment or facility no later 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).

- 9.3. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. 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.
- 9.4. 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.

## **10.0 REPORTING REQUIREMENTS**

- 10.1. Excess Emissions** The permittee must notify DEQ of excess emissions events if the excess emission is of a nature that could endanger public health.
- a. 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 business office identified in Condition 13.1 by email, telephone, facsimile, or in person.
  - b. If the excess emissions occur during non-business hours, the permittee must notify DEQ by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
  - c. The permittee must also submit follow-up reports when required by DEQ.
- 10.2. Annual Report** For each year this permit is in effect, the permittee must submit to DEQ by **February 15** two (2) copies of the following information for the previous calendar year:
- a. Operating parameters:
    - i. Total used oil received at the facility.
    - ii. Used oil through the cook tanks.
    - iii. Type and quantity of fuel usage for all fuel burning equipment and control devices, determined monthly.

- iv. Gallons of used oil processed through membrane filter.
  - v. Gallons of used oil recovered from membrane system, both product and asphalt flux.
  - vi. Gallons of used oil processed through Rocket.
  - vii. Gallons of polished oil recovered from Rocket.
  - viii. Gallons waste oil recovered from Rocket.
  - ix. Gallons light end fuel products recovered from condenser units.
  - x. Temperature sensor calibration records.
  - xi. Gallons of oil processed through the Wiped Film Evaporator.
- b. Summary of reporting requirements associated with Condition 10.0.
  - c. A summary of annual pollutant emissions determined each month in accordance with Condition 7.3.
  - d. Records of all planned and unplanned excess emissions events.
  - e. Summary of air quality complaints received by permittee during the year, including those DEQ forwarded to the facility.
  - f. List permanent changes made in plant process, production levels, and pollution control equipment, which affected air contaminant emissions.
  - g. List major maintenance performed on pollution control equipment.
- 10.3. Greenhouse Gas Registration and Reporting** If the calendar year emission rate of greenhouse gases (CO<sub>2</sub>e) is greater than or equal to 2,756 tons (2,500 metric tons), the permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215.
- 10.4. Notice of Change of Ownership or Company Name** The permittee must notify DEQ in writing using a Departmental "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.
- 10.5. Construction or Modification Notices** The permittee must notify DEQ in writing using a Departmental "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.

## 11.0 ADMINISTRATIVE REQUIREMENTS

- 11.1. **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) copies of the application must be submitted to the DEQ Permit Coordinator listed in Condition 13.2.
- 11.2. **Permit Modifications** Application for a modification of this permit must be submitted within **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.

## 12.0 FEES

- 12.1. **Annual Compliance Fee** The permittee must pay the annual fee specified in OAR 340-216-8020, Table 2, Part 2 for a Standard ACDP on **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 4 of the table will be assessed as appropriate.**
- 12.2. **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 3(a) with an application for changing the ownership or the name of the company.
- 12.3. **Special Activity Fees** The permittee must pay the special activity fees specified in OAR 340-216-8020, Table 2, Part 3 (b through k) with an application to modify the permit.

## 13.0 DEQ CONTACTS / ADDRESSES

- 13.1. **Business Office** The permittee must submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:  
**Department of Environmental Quality  
Accounting / Revenue  
700 NE Multnomah St., Suite 600  
Portland, Oregon 97232**
- 13.2. **Permit Coordinator** The permittee must submit all notices and applications that do not include payment to:  
**Northwest Region's AQ Permit Coordinator  
700 NE Multnomah St., Suite 600  
Portland, OR 97232**

- 13.3. 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:  
**Northwest Region Air Quality  
700 NE Multnomah St., Suite 600  
Portland, OR 97232**
- 13.4. 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)

## **14.0 GENERAL CONDITIONS AND DISCLAIMERS**

- 14.1. Permitted Activities** This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.
- 14.2. Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ.
- 14.3. Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 14.4. 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.
- 14.5. 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.
- 14.6. Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 14.7. Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340, division 264.
- 14.8. 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.
- 14.9. 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.

**14.10. 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:
  - i. A timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or;
  - ii. Another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.
- b. 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.

**14.11. Permit  
Termination,  
Revocation, or  
Modification**

DEQ may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

### 15.0 EMISSION FACTORS

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF Reference
Thermal Oxidizer	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
*Rocket Regenerative Polishing and filtration system	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
**Rocket Regenerative Polishing and filtration system	PM	0.167	lb/10 <sup>3</sup> gallons	Engineering estimate
	PM <sub>10</sub>	0.133	lb/10 <sup>3</sup> gallons	Engineering estimate
	PM <sub>2.5</sub>	0.075	lb/10 <sup>3</sup> gallons	Engineering estimate
	SO <sub>2</sub>	14.8	lb/10 <sup>3</sup> gallons	Engineering estimate
	NO <sub>x</sub>	0.062	lb/10 <sup>3</sup> gallons	Engineering estimate
	CO	0.016	lb/10 <sup>3</sup> gallons	Engineering estimate
	VOC	0.003	lb/10 <sup>3</sup> gallons	Engineering estimate
Tube and Shell Condenser	VOC	0.441	lb/10 <sup>3</sup> gallons	EA table 5
Bubble Condenser	VOC	3.3	lb/10 <sup>3</sup> gallons	Engineering Estimate
Boiler	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF Reference
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	CO	5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
WFE	VOC	0.27	lb/10 <sup>3</sup> gallons	Engineering Estimate
Cook Tank Heaters	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04

\*Emission factors when burning waste oil during filter regeneration.

\*\*Emission factors when filtering and polishing used oil.

## 16.0 PROCESS/PRODUCTION RECORDS

Emissions device or activity	Process or production parameter	Frequency
Thermal Oxidizer	Type of fuel burned (gal)	Daily and annually
Tube and Shell Condenser	Fuel processed (10 <sup>3</sup> gal)	Monthly and annually
Boiler	Fuel burned (gal)	Daily and annually
WFE	Fuel burned (gal)	Daily and annually
Cook tank heaters	Fuel burned (gal)	Daily and annually

## 17.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

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





State of Oregon  
 Department of  
 Environmental  
 Quality

## Standard AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

Department of Environmental Quality  
 Northwest Region

### Source Information:

SIC	2992
NAICS	423930

Source Categories (Table 1 Part, code)	Part B, 64
Public Notice Category	iv

### Compliance and Emissions Monitoring Requirements:

FCE	-
Compliance schedule	-
Unassigned emissions	-
Emission credits	-
Special Conditions	X

Source test	Every three years
COMS	-
CEMS	-
PEMS	-
Ambient monitoring	-

### Reporting Requirements

Annual report (due date)	February 15
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)	6J
Part 68 Risk Management	-
CFC	-

NSR	-
PSD	-
RACT	-
TACT	-
Other (specify)	-

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## **PERMITTING**

### PERMITTEE IDENTIFICATION

1. Oil Re-Refining Company, Inc.  
4150 N Suttle RD  
Portland, OR 97217-7717

### PERMITTING ACTION

2. The proposed permit is a renewal of an existing Air Contaminant Discharge Permit (ACDP) issued on 6/6/2008 and expired on 3/1/2013. The existing ACDP remains in effect until DEQ issues the proposed permit because the permittee submitted a timely and complete application for permit renewal.

### OTHER PERMITS

3. Other permits issued or required by the DEQ for this source include a Hazardous Waste transporter permit, ORD980975692.

### ATTAINMENT STATUS

4. The source is located in a maintenance area for Carbon Monoxide (CO) and Ozone (O<sub>3</sub>), and an attainment area for Particulate Matter (PM<sub>10</sub>), Nitrogen Oxides (NO<sub>x</sub>), and Sulfur Dioxide (SO<sub>2</sub>).

## **SOURCE DESCRIPTION**

### OVERVIEW

5. The permittee owns and operates a used oil re-refinery in North Portland. The process involves heating used oil to ≈250 degrees Fahrenheit, evaporating off water and light end fuel products. The water and light ends are captured by the Bubble Condenser and re-condensed back into a liquid state and collected. Light end products contain VOC's and are used as plant site fuel. The main emission points at the re-refinery include fuel burning equipment and Bubble Condenser. The facility was built in 1984.
6. The facility also processes fats, oils and greases, oily water, and recycles anti-freeze. Processed used oil is sold as refined fuel oil product. All water discharges from the facility meet the City of Portland's wastewater treatment standards and are determined to be non-hazardous.

7. The permittee requests to include permit conditions for future installation of a Wiped Film Evaporator, Thermal Oxidizer, and three Tube and Shell Condensers, replacing the current Bubble Condenser. Prior to the installation and operation of additional equipment, permittee must first install a Thermal Oxidizer to capture emissions from the Wiped Film Evaporator, Tube and Shell Condensers, and Rocket filtration system. Permittee must submit a Notice of Intent to Construct in accordance with OAR 340-210-0225 prior to installing the Thermal Oxidizer or additional equipment.
8. Since the last permit renewal, permittee discontinued operation of the pyro unit (kiln) and the wastewater evaporator.

### PROCESS AND CONTROL DEVICES

9. Existing air contaminant sources at the facility consist of the following:

#### **Current**

- a. Four cook tanks – Heated by steam generated oil-burners to 250 degrees Fahrenheit.
- b. Bubble condenser – Captures water and light end vapors, condensing them back to a liquid state. The water and light ends are gravitationally separated and the light ends are skimmed from the top and burned as plant site fuel. The remaining wastewater is processed onsite in the wastewater treatment area.
- c. A bag filter, oil separator, flocculation unit, and air stripper – Treat the wastewater remaining in the condensing tank.
- d. Ethylene glycol unit – Recycling operation of ethylene glycol involves filtration, heating and distillation to remove suspended solids and water. The recycled ethylene glycol is stored in tanks onsite and shipped to another recycler for final processing.
- e. Three oil filter crushers – used oil filters and empty drums once containing waste oil or other oily materials are collected and crushed in the oil filter crushers to remove residual oil. The steel in the filters and drums are reclaimed as scrap that is hauled to a local scrap-iron recycling facility.

#### **Future**

- a. Three Tube and Shell Condensers – Permittee plans to install new and more efficient condensers on the three existing cook tanks and remove the Bubble Condenser from operation.
- b. Thermal Oxidizer – Permittees plans include the installation of a used oil fired Thermal Oxidizer. The Thermal Oxidizer will control VOC emissions from the Rocket, Wiped Film Evaporator, and Sour Water Stripper.
- c. Wiped film evaporator – The Wiped Film Evaporator is a heated vertical cylinder with internal wiper blades that spread thin layers of used oil against the heated insides of the unit, distilling off different fuel at different temperatures.

### CONTINUOUS MONITORING DEVICES

10. Within 60 days of the issuance of this renewal permit, permittee must install and operate continuous temperature monitors on the Carbon Canisters and Bubble Condenser. The monitors must be equipped with visual and audible alarms, capable of triggering automatically, logging and storing temperature data, and displaying real time temperature readings.
11. Within 60 days of issuing the renewal permit, permittee must install and calibrate a water level sensor on the Bubble Condenser. The sensor must be equipped with audible and visual alarms, capable of triggering automatically.
12. Within 60 days of installing new equipment, the permittee must install and operate continuous temperature monitors on the Thermal Oxidizer, Wiped Film Evaporator, and Tube and Shell Condenser. The monitors must be equipped with visual and audible alarms, capable of triggering automatically, logging and storing temperature data, and displaying real time temperature readings.
13. Within 60 days of issuing the renewal permit, or the installation date of additional equipment, permittee must install and operate continuous temperature monitors on the Thermal Oxidizer, Wiped Film Evaporator, Carbon Canisters, Bubble Condenser, and Tube and Shell Condensers. The monitors must be equipped with visual and audible alarms, capable of triggering automatically, logging and storing temperature data, and displaying real time temperature readings.

### **COMPLIANCE**

14. DEQ inspected the facility on 8/17/2015 and 4/12/2017 and determined they complied with all applicable permit conditions.
15. During the prior permit period, there were there were numerous odor and emission related complaints recorded for this facility. DEQ reviewed all incoming complaints and forwarded them to the facility.
16. In 2015, DEQ issued warning letter 2015-WLOC-999 to the facility for installing and operating new equipment without first submitting a Notice of Intent to Construct and receiving DEQ approval.

**SPECIAL CONDITIONS**

17. The renewal permit contains the following special conditions:
- a. Permittee must conduct weekly inspections of all valves, flanges, pumps, piping, and any other potential areas of used oil or product leakage.
  - b. Permittee must retain hard copies of all equipment manufacturers' literature and operating instructions onsite and available to DEQ at all times.

**EMISSIONS**

18. 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	0	0	0	24	24	24
PM <sub>10</sub>	0	0	0	14	14	14
PM <sub>2.5</sub>	0	0	0	N/A	9	9
SO <sub>2</sub>	0	0	0	39	39	39
NO <sub>x</sub>	0	0	0	39	39	39
CO	0	0	0	99	99	99
VOC	0	0	0	39	39	39

- a. Baseline emissions have not been quantified for this source and are assumed zero.
- 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 (NSR rules).
- c. The previous PSEL is the same PSEL as included in this permit, with the addition of PM<sub>2.5</sub>. The facility has always emitted PM<sub>2.5</sub>, but a 2011 rule change requires the facility to calculate and track PM<sub>2.5</sub> emissions for all emission sources.
- d. The PSEL limit for all criteria pollutants is set to the generic PSEL level and does not require further analysis.
- e. Refer to the end of this review report for a detailed analysis of the PSEL basis.

f. The PSEL is a federally enforceable limit on the potential to emit.

**SIGNIFICANT EMISSION RATE ANALYSIS**

19. For each pollutant, the proposed Plant Site Emission Limit is less than the Netting Basis and the significant emission rate, thus no further air quality analysis is required.

**TITLE V MAJOR SOURCE APPLICABILITY**

- 20. A major source is a facility that has the potential to emit 100 tons/yr or more of any criteria pollutant or 10 tons/yr or more of any single HAP or 25 tons/yr or more of combined HAPs. This facility is not a major source of emissions. The basis for this determination can be found in the table at the end of this Review Report.
- 21. A source that has the potential to emit at major source levels, has permit limits below major source levels, and actual emissions are at least 80% of major source thresholds is called a synthetic minor 80 (SM-80). The source does not have the potential to emit at major source levels nor does it have actual emission of at least 80% of the major source level. The basis for this determination is below.
- 22. A source that has potential to emit at the major source levels but accepts a PSEL below major source levels is 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. The basis for this determination is found at the end of this Review Report.
- 23. A source hat has the potential to emit less than major source thresholds is called a true minor. This source is a true minor. The basis for this determination is in the table below.

Emissions device or activity	Pollutant	Emission factor (EF)	EF units	EF reference	Annual production rate (gal)	Annual emission tpy (estimate)
Thermal Oxidizer	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,000	0.10
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,000	0.08
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,000	0.05
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,000	0.15
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,000	0.04
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,000	0.01
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,000	0.002

Emissions device or activity	Pollutant	Emission factor (EF)	EF units	EF reference	Annual production rate (gal)	Annual emission tpy (estimate)
*Rocket Regenerative Polishing and filtration system	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,056	0.10
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,056	0.08
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,056	0.05
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,056	0.15
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,056	0.04
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	4,056	0.01
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	4,056	6.89*10 <sup>-4</sup>
**Rocket Regenerative Polishing and filtration system (one column)	PM	0.167	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.004
	PM <sub>10</sub>	0.133	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.003
	PM <sub>2.5</sub>	0.075	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.001
	SO <sub>2</sub>	14.8	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.38
	NO <sub>x</sub>	0.062	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.002
	CO	0.016	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.0004
	VOC	0.003	lb/10 <sup>3</sup> gallons	Engineering estimate	52,000	0.00008
Tube and Shell Condensers	VOC	0.441	lb/10 <sup>3</sup> gallons	EA Table 5	19,228	4.24
Bubble Condenser	VOC	3.3	lb/10 <sup>3</sup> gallons	NPI page 13	19,228	31.73
Boiler	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.46
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.37
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.21
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.66
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.17
	CO	5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.05
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	18,000	0.003
WFE	VOC	0.27	lb/10 <sup>3</sup> gallons	Engineering Estimate	4,380,000	0.59
Cook Tank Heaters	PM	8.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	913,668	23.39

Emissions device or activity	Pollutant	Emission factor (EF)	EF units	EF reference	Annual production rate (gal)	Annual emission tpy (estimate)
	PM <sub>10</sub>	5.5	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	913,668	18.64
	PM <sub>2.5</sub>	3.1	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	913,668	10.51
	SO <sub>2</sub>	73.5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	913,668	33.58
	NO <sub>x</sub>	19	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	913,668	8.68
	CO	5	lb/10 <sup>3</sup> gallons	AP-42 Table 1.11-2	913,668	2.28
	VOC	0.34	lb/10 <sup>3</sup> gallons	DEQ-AQ-EF04	913,668	0.16

\* Emission factors when burning waste oil during filter regeneration.

\*\* Emission factors when filtering and polishing used oil.

### CRITERIA POLLUTANTS

24. This facility is not a major source of criteria pollutant emissions.

### HAZARDOUS AIR POLLUTANTS

25. This source is not a major source of hazardous air pollutants. Provided below is a summary of the HAP emissions.

Hazardous Air Pollutant	Potential to Emit (tons/year)
n-Hexane	4.4
Toluene	1.2
Ethyl Benzene	1.1852
Isomers of Xylene	0.516
Benzene	0.288
Arsenic	0.054392
Manganese	0.033624
Chromium	0.00989
Naphthalene	0.006428
Methylene Chloride	0.0056
Phenanthrene/Anthracene	0.005439
Nickel	0.005439
Cadmium	0.004599
Pyrene	0.003511
Benz(a)anthracene/chrysene	0.001978

Hazardous Air Pollutant	Potential to Emit (tons/year)
Phenol	0.001187
Bis(2-ethylhexyl)phthalate	0.001088
Butylbenzylphthalate	0.000252
Benzo(a)pyrene	0.000198
Cobalt	0.000104
dichlorobenzene	3.88E-07
<b>Total</b>	<b>7.6</b>

## **ADDITIONAL REQUIREMENTS**

### NSPS APPLICABILITY

26. There are no sources at the facility for which NSPS standards have been promulgated.

### NESHAPS/MACT APPLICABILITY

27. 40 CFR Part 63 subpart JJJJJ (6J) tuning requirements are applicable to all hot oil heaters.

### RACT APPLICABILITY

28. The facility is located in the Portland AQMA, but it is not one of the listed source categories in OAR 340-232-0010, thus the RACT rules do not apply.

### TACT APPLICABILITY

29. A formal TACT analysis has not been completed on this facility, but they are likely meeting TACT requirements by operating a Bubble Condenser to control VOC emissions.

## **SOURCE TESTING**

### PROPOSED TESTING

30. The Thermal Oxidizer will be tested within 120 days of install and every three years following. The following production and control device parameters will be recorded during the tests:
- Oxidizer temperature.
  - Quantity of oil processed thru the refinery.

- c. Type and quantity of fuel burned in the hot oil heaters.
  - d. Quantity of oil process thru the sulfonation system.
  - e. Quantity of oil processed thru the oil polishing system.
31. The Bubble Condenser will be source tested within 180 days of the issuance of this renewal permit to verify emission factor.

## **PUBLIC NOTICE**

32. 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)(c), which requires DEQ to provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments. In addition, a hearing will be scheduled to allow interested persons to submit oral or written comments if DEQ receives written request for a hearing from ten persons, or from an organization representing at least ten persons, within 35 days of the mailing of the public notice. If a hearing is scheduled, DEQ will provide a minimum of 30 day's notice for the hearing. **The hearing notice was emailed/mailed on Friday March 23, 2018 and the hearing was held on April 24, 2018 starting at 6pm at the following venue.**

Red Lion on the River  
Washington & Clark meeting rooms  
909 N Hayden Island Drive  
Portland OR 97217

- DEQ received multiple verbal and written comments. Those comments have been summarized and responded to in a separate document that is attached.

