SIMPLE
AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Northwest Region
700 NE Multnomah St Ste 600
Portland, Oregon 97232

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:

City of Gresham
1333 NW Eastman Parkway
Gresham, OR 97030

PLANT SITE LOCATION:

Wastewater Treatment Plant
20015 NE Sandy Boulvard
Gresham, OR 97030

INFORMATION RELIED UPON:

Application No.: 027217
Date Received: 02/01/2013

LAND USE COMPATIBILITY FINDING:

Approving Authority: City of Gresham
Approval Date: 01/11/1999

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Matt Hoffman, DEQ Northwest Region Air Quality Manager — 11/28/2018 Dated

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

Table 1 Code	Source Description	SIC/ NAICS
Part B, 75	Sewage treatment facilities employing internal combustion engines for digester gasses	4952 221320

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1.0 GENERAL EMISSION STANDARDS AND LIMITS

1.1. Visible Emissions

The permittee must not allow emissions from any air contaminant source to equal or exceed 20% opacity 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, 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 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, constructed or modified on or after April 16, 2015 must not exceed 0.10 grains per standard cubic foot, corrected to 12% CO_2 or 50% excess air;

b. Particulate matter emissions from any air contaminant source installed, constructed or modified on or after April 16, 2015, other than fuel burning equipment and fugitive emission sources must not exceed 0.10 grains per standard cubic foot;

c. Particulate matter emissions from any fuel burning equipment installed, constructed, or modified on or after June 1, 1970 but before April 16, 2015 must not exceed 0.14 grains per dry standard cubic foot, corrected to 12% CO_2 or 50% excess air;

d. Particulate matter emissions from any air contaminant source installed, constructed, or modified on or after June 1, 1970, but before April 16, 2015, other than fuel burning equipment and fugitive emission sources must not exceed 0.14 grains per dry standard cubic foot.

1.3. Fugitive Emissions

The permittee must take reasonable precautions to prevent fugitive dust emissions, as measured by EPA method 22.

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 which 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. Installing adequate containment during sandblasting or other similar operations;

f. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;

g. Promptly removing earth or other material that does or may become airborne from paved streets, and;

h. Developing a DEQ approved fugitive emission control plan upon request by DEQ if the above precautions are not adequate and implementing the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period.

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.

1.6. Fuels and Fuel Sulfur Content

The permittee is authorized to burn digester gas, natural gas and the fuel oils listed below:

i. 0.0015% sulfur by weight for ultra-low sulfur diesel;

ii. 0.3% sulfur by weight for ASTM Grade 1 distillate oil;

iii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil;

iv. 1.75% sulfur by weight for residual oil.

1.7. Emergency Stationary RICE 3208 and 8473

The permittee must comply with the following requirements for emergency stationary reciprocating internal combustion engines (RICE): [40 CFR 63.6603(a), 63.6625(f), 63.6640(a), and 63.6640(f)(2)]

For each emergency stationary RICE, the permittee must:

a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [40 CFR 63. 6603(a), table 2d(4)(a)]

b. Inspect air cleaner every 1,000 hours of operation or annually,

whichever comes first; [40 CFR 63. 6603(a), table 2d(4)(b)]

c. 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)]

d. During periods of startup, minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply; and [40 CFR 63. 6603(a), table 2d]

e. 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)]

1.8. Operating Conditions for Emergency Stationary RICE 3208 and 8473

The permittee must operate the emergency stationary RICE in compliance with the following conditions: [40 CFR 63.6640(f)(2)]

a. There is no time limit on the use of emergency stationary RICE in emergencies.

b. Emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, if the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit for routine testing and maintenance.

c. Emergency stationary RICE may be operated for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another utility.

1.9. Operating Conditions for Emergency Stationary RICE 3208 and 8473

The permittee must keep records of the hours of operation of each emergency stationary RICE that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation.

2.0 40 CFR 60, SUBPART JJJJ: STANDARDS OF PERFORMANCE FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES (CO-GENERATION UNIT 9302)

2.1. Emissions Standards for Co-generator 9302

The permittee must comply with the following emission standards (in g/HP-hr or PPMVD at 15percent O_2) for co-generator 9302:

g/HP-hr			PPMVD at 15percent O_2		
NO_x	CO	VOC	NO_x	CO	VOC
2.0	5.0	1.0	150	610	80

2.2. Performance Testing Requirements for Co-generator 9302

Permittee must conduct performance testing of co-generator 9302 for NO_x, CO, and VOC every 8,760 hours of operation or every 3 years, whichever comes first. Performance testing must be conducted in accordance with Condition 6.1, DEQ's source sampling manual, and the following conditions:

a. Each performance test must be conducted within 10 percent of 100 percent peak load;

b. Performance tests must not be conducted during periods of startup, shutdown, or malfunction;

c. Permittee must conduct three separate test runs for each performance test required and last at least one hour;

d. Permittee must use the following test methods, or those listed in 40 CFR 60, Subpart JJJJ, Table 2, when determining compliance with emission standards:

Test Methods		
Pollutant	**Emissions**	**O_2 Concentration**
NO_X CO VOC	Method 7E Method 10 Method 25A and 18	Method 3, 3A, or 3B[b] of 40 CFR part 60, appendix A-2 or ASTM Method D6522-00

2.3. Compliance Requirements for Co-generator 9302

Permittee must demonstrate compliance with emission standards according to the following requirements for co-generator 9302:

a. Keep a maintenance plan and records of conducted maintenance;

b. Install and operate an air-to-fuel ratio controller in an appropriate manner as to minimize emissions at all times;

c. Install a non-resettable hour meter.

2.4. Record Keeping Requirements for Co-generator 9302

Permittee must maintain the following records associated with co-generator 9302:

a. All notifications and supporting documentation submitted demonstrating compliance with Subpart JJJJ;

b. Records of all maintenance performed;

c. Documentation showing co-generator 9302 meets the emission standards listed in Condition 2.1;

d. Record the total hours of operation of co-generator 9302;

e. Permittee must maintain the following records required to be submitted as part of the initial notification requirements:

i. Date construction has commenced;

ii. Name and address of the owner or operator;

iii. The address of the affected source;

iv. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

v. Emission control equipment, and;

vi. Type of fuel used.

2.5. Reporting Requirements for Co-generator 9302

Permittee must submit the following records related to the operation and maintenance of co-generator 9302 to DEQ at the address listed in Condition 9.3 and EPA at the address listed in Condition 2.6:

a. Records associated with permit Condition 2.4.e;

b. Copies of performance test results for co-generator 9302.

2.6. U.S. EPA Region 10 Address

U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

3.0 40 CFR 63, SUBPART ZZZZ: NESHAPS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES (CO-GENERATION UNIT 9301)

3.1. Emissions and Operating Limitations for Co-generator 9301

Permittee must meet the following emissions and operating limitations for co-generator 9301:

a. Change oil and filter every 1,440 hours of operation or annually, whichever occurs first;

b. Inspect spark plugs every 1,440 hours of operation or annually, whichever occurs first, and replace as necessary;

c. Inspect hoses and belts every 1,440 hours of operation or annually, whichever occurs first, and replace as necessary;

d. Permittee must minimize the engines time at idle and minimize the engines start-up time at start-up to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

3.2. Compliance Requirements for Co-generator 9301

At all times permittee must operate and maintain co-generator 9301 in a manner consistent with safety and good air pollution practices.

3.3. Operations and Maintenance for Co-generator 9301

Permittee must operate and maintain co-generator 9301 in accordance with the manufacturer's emission-related written instructions and Condition 3.1.

3.4. Annual Reporting Requirements 9301

Permittee must submit results of annual compliance demonstration by no later than February 15 of each year the permit is active.

3.5. Record Keeping Requirements for Co-generator 9301

Permittee must maintain the following records associated with 40 CFR 60, Subpart ZZZZ for co-generator 9301:

a. A copy of each notification and report submitted to comply with this subpart, including Initial Notification or Notification of Compliance Status;

b. Records of the occurrence and duration of each malfunction of operation (process equipment) or the pollution control and monitoring equipment;

c. Records of performance tests and performance evaluations, as required;

d. Records of all required maintenance performed on the air pollution control and monitoring equipment;

e. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment;

f. Permittee must maintain all records for five years.

4.0 OPERATION AND MAINTENANCE REQUIREMENTS

4.1. Work Practices

The permittee must at all times maintain and operate all air contaminant generating processes and control equipment at the highest reasonable efficiency and effectiveness to minimize emissions.

4.2. O&M procedure

The permittee must operate and maintain waste gas flares and co-generators 9301 and 9302 according to manufacturer's O&M recommendations to maintain optimum efficiency and minimize emissions. If permittee is unable to obtain the manufacturers O&M plan, they must develop a plan to maintain efficiency and minimize emissions and submit the plan to DEQ for approval no more than 90 days from the issuance of this permit.

4.3. Complaint Response

The permittee must investigate, document, and log the findings of all nuisance complaints received during the operation of the facility. Permittee must maintain the complaint log on site at all times and immediately available to DEQ upon request. Permittee must provide a response to complainant no more than 24 hours from receipt. The complaint investigation must document the following items in response to the citizen complaint:

a. Date and time of complaint;
b. Description of nuisance condition;
c. Location of receptor;
d. Status of plant operation during the observed period.

5.0 PLANT SITE EMISSION LIMITS

5.1. Plant Site Emission Limits (PSEL)

The permittee must not cause or allow plant site emissions to exceed the following:

Pollutant	Limit	Units
SO_2	39	tons per year
NO_X	39	tons per year
CO	99	tons per year
VOC	39	tons per year

5.2. Annual Period

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

6.0 COMPLIANCE DEMONSTRATION AND SOURCE TESTING

6.1. Source Testing Requirements Co-generator 9302

By no more than 8,760 hours, or every 3 years from the last source test, the permittee must conduct stack testing of co-generator 9302 for NO_x, CO, and VOC. Permittee must use the following test methods and procedures, unless alternate measures are approved in writing by DEQ:

a. Test Method 7E for NO_x, Method 10 for CO, Method 25A and 18 for VOC, or other appropriate test method listed in 40 CFR 60, Subpart JJJJ, Table 2;

b. Permittee must conduct three separate test runs for each performance test required and last at least one hour;

c. The following parameters must be monitored and recorded during the source test:

i. Visible emissions as measured by EPA Method 9 for a period of at least six minutes during or within 30 minutes before or after each test run;

ii. Process operating parameters.

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, 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.

6.2. Monitoring Requirements

The permittee must monitor the operation and maintenance of the plant and associated air contaminant control devices as follows:

a. Daily fuel usage for co-generator 9301 and 9302 must be monitored and recorded with fuel meter to measure the volumetric flow rate of digester gas;

b. Daily fuel usage for emergency generator 3208 and 8473 must be monitored and recorded;

c. Digester gas meters must record separate amounts of digester gas used by the flares and boiler, on a monthly basis;

d. Hours of operation of the emergency generators 3208 and 8473 must be recorded, including maintenance, test runs, as well as emergency run time.

6.3. PSEL Compliance Monitoring

The permittee must comply with the PSEL as determined 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 12.0);
P = process production (see Condition 13.0)

6.4. Emission Factors

The permittee must use the default emission factors provided in Condition 12.0 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 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.

7.0 RECORDKEEPING REQUIREMENTS

7.1. Operation and Maintenance

The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:

a. Quarterly maintenance records for the emergency generator engines 3208 and 8473, co-generators 9301 and 9302, and boiler. Records must include maintenance performed and include the time and date maintenance was performed;

b. Annual maintenance records for waste gas flares, emergency generators 3208 and 8473, co-generators 9301 and 9302, and boiler. Records must include regularly scheduled and unplanned maintenance;

c. Amount and type of fuel burned in co-generators 9301 and 9302, flares, and boiler on a monthly basis;

d. Hours of operation of the emergency generators 3208 and 8473, on a monthly basis;

e. Calculation of the monthly rolling average PSEL based on Condition 6.3;

f. Records associated with Condition 2.4;

g. Records associated with Condition 3.5.

7.2. 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. 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).

7.3. 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.

7.4. 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.

8.0 REPORTING REQUIREMENTS

8.1. 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 regional office identified in Condition 9.3 by e-mail, 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.

8.2. 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. Monthly itemized fuel usage and type for co-generators 9301 and 9302, flares, and boiler;

ii. Hours of operation of the emergency generators 3208 and 8473 for emergency and non-emergency usage;

iii. Total emissions of each pollutant for the calendar year, as calculated in Condition 6.3.

b. Records of all planned and unplanned excess emissions events;

c. Summary of complaints relating to air quality received by permittee during the year;

d. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions;

e. List of major maintenance performed on pollution control equipment;

f. All records as required by Condition 2.5.

8.3. Greenhouse Gas Registration and Reporting

If the calendar year emission rate of greenhouse gases (CO_2e) 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.

8.4. Notice of Change of Ownership or Company Name

The permittee must notify DEQ in writing using a Departmental "Permit 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.

8.5. Construction or Modification Notices

The permittee must notify DEQ in writing using a Departmental "Notice of Construction Form," or "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.

8.6. Where to Send Reports and Notices

The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 9.3.

9.0 ADMINISTRATIVE REQUIREMENTS

9.1. Permit Renewal Application

The permittee must submit the completed application package for renewal of this permit 120 days prior to permit expiration. The permittee must submit two (2) copies of the application to the DEQ Permit Coordinator listed in Condition 9.3.

9.2. Permit Modifications

The permittee must submit an application for a modification of this permit not less than **120** days prior to the source modification. 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 Business Office of DEQ.

9.3. Permit Coordinator

All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator address is as follows:

Department of Environmental Quality
Northwest Region
700 NE Multnomah ST STE 600
Portland, Oregon 97232

9.4.	**Department Contacts**	Information about air quality permits and DEQ's regulations may be obtained online: http://www.oregon.gov/DEQ/. All inquiries about this permit should be directed to DEQ's regional office: Department of Environmental Quality Portland Office 700 NE Multnomah ST STE 600 Portland, Oregon 97232

10.0 FEES

10.1.	**Annual Compliance Fee**	The permittee must pay the Annual Fee specified in OAR 340-216-8020, Table 2, Part 2 for a Simple 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 4 of the table will be assessed as appropriate.**
10.2.	**Change of Ownership or Company Name Fee**	The non-technical permit modification fee specified in OAR 340-216-8020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.
10.3.	**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.
10.4.	**Where to Submit Fees**	The permittee must submit fees to: Department of Environmental Quality Business Office 700 NE Multnomah St. Ste. 600 Portland, Oregon 97232

11.0 GENERAL CONDITIONS AND DISCLAIMERS

11.1.	**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.

11.2.	**Other Regulations**	In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ.
11.3.	**Conflicting Conditions**	In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
11.4.	**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.
11.5.	**Department 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.
11.6.	**Permit Availability**	The permittee must have a copy of the permit available at the facility at all times.
11.7.	**Open Burning**	The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
11.8.	**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 limit to, demolition, renovation, repair, construction, and maintenance.
11.9.	**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.

11.10. 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,

c. 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.

11.11. Permit Termination, Revocation, or Modification

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

12.0 EMISSION FACTORS

Emissions device or activity	Pollutant	Emission factor (EF)	EF units	EF reference
Cogen-9301 (GEN 3508LE)	CO	93.66	*lbs/MMCF	Stack Test
	NO_x	31.22	*lbs/MMCF	Stack Test
	SO_2	166.0	*lbs/MMCF	Eng. Calcs.
	VOC	6.24	*lbs/MMCF	Eng. Calcs.
Cogen-9302 (GEN 3508LE)	CO	304.66	*lbs/MMCF	Stack Test
	NO_x	390.54	*lbs/MMCF	Stack Test
	SO_2	166.0	*lbs/MMCF	Eng. Calcs.
	VOC	6.4	*lbs/MMCF	Stack Test
Emergency Genset 3208 & 8473	CO	0.95	lbs/MMBtu	AP42 Table 3.3-1
	NO_x	4.41	lbs/MMBtu	AP42 Table 3.3-1
	SO_2	166.0	lbs/MMCF	Eng. Calcs.
	VOC	49.3	lbs/10^3 gal	DEQ EF AQ-EF07
Boiler	CO	24.0	*lbs/MMCF	AP42 Table 1.4-1
	NOx	100.0	*lbs/MMCF	AP42 Table 1.4-1
	SO2	166.0	*lbs/MMCF	Eng. Calcs.
	VOC	5.5	*lbs/MMCF	AP42 Table 1.4-2

Emissions device or activity	Pollutant	Emission factor (EF)	EF units	EF reference
Flare (2)	CO	222.00	*lbs/MMCF	AP42 Table 13.5-1
	NOx	41.00	*lbs/MMCF	AP42 Table 13.5-1
	SO2	166.0	*lbs/MMCF	Eng. Calcs.
	VOC	84.00	*lbs/MMCF	AP42 Table 13.5-1

* refers to digester gas

13.0 PROCESS/PRODUCTION RECORDS

Emissions device or activity	Process or production parameter	Frequency
Co-generators 9301 and 9302	ft^3 digester gas	monthly total
Waste Gas Flare 1 and 2	ft^3 digester gas	monthly total
Boiler	ft^3 digester gas	monthly total
Emergency Generators 3208 and 8473	hours of operation	monthly total

14.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit
ASTM	American Society for Testing and Materials
AQMA	Air Quality Maintenance Area
calendar year	The 12-month period beginning January 1st and ending December 31st
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
DEQ	Oregon Department of Environmental Quality
dscf	dry standard cubic foot
EPA	US Environmental Protection Agency
FCAA	Federal Clean Air Act
Gal	gallon(s)
GHG	greenhouse gas
gr/dscf	grains per dry standard cubic foot
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040
I&M	inspection and maintenance
lb	pound(s)
MMBtu	million British thermal units
NA	not applicable
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NO_X	nitrogen oxides
NSPS	New Source Performance Standard
NSR	New Source Review
O_2	oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	operation and maintenance
Pb	lead
PCD	pollution control device
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
ppm	part per million
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
scf	standard cubic foot
SER	Significant Emission Rate
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	sulfur dioxide
Special Control Area	as defined in OAR 340-204-0070
VE	visible emissions
VOC	volatile organic compound
year	A period consisting of any 12-consecutive calendar months

State of Oregon
Department of
Environmental
Quality

Simple AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

Department of Environmental Quality
Northwest Region

Source Information:

SIC	4952
NAICS	221320

Source Categories (Table 1 Part, code)	Part B, 75
Public Notice Category	II

Compliance and Emissions Monitoring Requirements:

Compliance schedule	No
Unassigned emissions	No
Emission credits	No
Special Conditions	No

Source test [date(s)]	May 2019
COMS	No
CEMS	No
Ambient monitoring	No

Reporting Requirements

Annual report (due date)	February 15
Quarterly report (due dates)	No

Monthly report (due dates)	No
Excess emissions report	No
Semiannual report	No

Air Programs

Synthetic Minor (SM)	No
SM -80	No
NSPS (list subparts)	JJJJ
NESHAP (list subparts)	ZZZZ
Part 68 Risk Management	No
CFC	No

NSR	No
PSD	No
RACT	No
TACT	X
Other (specify)	No

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PERMITTING

PERMITTEE IDENTIFICATION

1. City of Gresham Wastewater Treatment Plant
20015 NE Sandy Boulevard
Gresham, OR 97030

PERMITTING ACTION

2. The proposed permit is a renewal of an existing Air Contaminant Discharge Permit (ACDP) that was issued on 3/17/2008 and scheduled to expire on 4/1/2013. The existing ACDP remains in effect until final action is taken on the renewal application because the permittee submitted a timely and complete application for renewal.

OTHER PERMITS

3. Other permits issued or required by DEQ for this source include a wastewater discharge permit and a storm water discharge permit.

ATTAINMENT STATUS

4. The source is located in a maintenance area for CO and Ozone and an attainment area for PM_{10}, NO_x, and SO_2.

SOURCE DESCRIPTION

OVERVIEW

5. The permittee operates a wastewater treatment plant in Gresham, Oregon. The process comprises of primary and secondary treatment of sewage, including anaerobic digesters. Anaerobic digestion reduces the volume of treated sludge. The methane off-gasses produced from the anaerobic digestion is burned on-site for heat and the excess biogas is flared off. Gaseous emissions from the digester are burned in a reciprocating internal combustion engine (RICE), providing electricity to the plant and hot water for the digestion process. The facility was first built in the 1950's. The secondary treatment plant was erected in the 1970's. The anaerobic digesters, engines, and boiler were installed in November of 1991.

6. The following changes have been made to the facility since the last permit renewal:

    - In 2014, a 395kW Caterpillar 3508LE co-generator was added (GEN-9302).

- Equipment identification number of co-generator 1 (GEN-1192), was changed to GEN-9301.
- In 2014, emergency generator, SG-LO1 was replaced with one with the same operational capacity (GEN-8473).
- In 2018, a second 3.67 MMBtu flare was installed.

PROCESS AND CONTROL DEVICES

7. Air contaminant sources at the facility consist of the following:

Equipment	Mfg/model	Capacity	Control Equipment	Installed
Co-generator 9301 and 9302	Caterpillar Model 3508LE	395 kW, 530 HP	none	(1) 2005 (2) 2014
Emergency Generator	Caterpillar UNAN Model No. 3208/ MTU Model DS200D6SRA	200 kW 315 HP	none	2001
Emergency Generator	Caterpillar - 8473	200 kW 315 HP	none	2014
Boiler	Weil McLain	6.49 MMBTU/hr	none	1991
Flare (2)		3.67 MMBTU/hr	none	1991 2018

COMPLIANCE

8. The facility was inspected on 6/01/2012 and 8/25/2017 and found to be compliant with permit conditions.

9. During the prior permit period there were no complaints recorded for this facility.

10. No enforcement actions have been taken against this source since the last permit renewal.

EMISSIONS

11. 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)
SO_2	0	0	0	39	39	0
NO_x	0	0	0	39	39	0
CO	0	0	0	99	99	0
VOC	0	0	0	39	39	0

a. The proposed PSELs' for all pollutants are equal to the Generic PSEL in accordance with OAR 340-216-0064(4)(b).
b. Refer to Attachment A for emissions detail sheet.
c. Particulate matter emissions are expected to remain less than the de minimis level of one ton per year and are not included in the PSEL.
d. The PSEL is a federally enforceable limit on the potential to emit.

SIGNIFICANT EMISSION RATE ANALYSIS

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

TITLE V MAJOR SOURCE APPLICABILITY

CRITERIA POLLUTANTS

13. A major source is a facility that has the potential to emit 100 tons/yr or more of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

GREENHOUSE GAS

14. For greenhouse gases, the source must have the potential to emit 75,000 tons/year or more CO2e to be a major source. This facility is not a major source of greenhouse gas emissions.

HAZARDOUS AIR POLLUTANTS

15. A major source is a facility that has the potential to emit 10 tons/yr or more of any single HAP or 25 tons/yr or more of combined HAPs. This source is not a major source of hazardous air pollutants.

ADDITIONAL REQUIREMENTS

NSPS APPLICABILITY

16. 40 CFR Part 60, Subpart Dc is not applicable to the boiler because it is rated at less than 10 MMBtu/hr input.

17. 40 CFR 60, Subpart JJJJ is applicable to co-generator 9302, because it was installed after June 12, 2006. Co-generator 1 was installed prior to June 12, 2006 and is exempt from meeting the requirements outlined in this subpart.

NESHAPS/MACT APPLICABILITY

18. 40 CFR Part 63, Subpart ZZZZ is applicable to the source, because facility operates co-generator - 9301 and 2 emergency use generators, 3208 and 8473 at an area source. Co-generator - 9302 must meet the requirements of this subpart by meeting the conditions of NSPS JJJJ for SI internal combustion engines. Co-generator - 9301 must meet all applicable requirements of this subpart, because it was installed prior to June 12, 2006.

RACT APPLICABILITY

19. 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

20. Co-generator 9302 is not subject to TACT because it is subject to NSPS JJJJ. Co-generator 9301 and emergency use generators 3208 and 8473 are meeting TACT by operating the units according to the manufacturers recommended settings and by complying with NESHAP ZZZZ.

SOURCE TESTING

PRIOR TESTING RESULTS

21. Results of the most recent source test are listed below:

Emission Device	Test Date	Production Rate	Pollutant	Emission Factor
Caterpillar Model 3508LE Co-generator - 9301	March 1995	238 kW and 0.0057 10^6 ft^3/hr digester gas flow	CO NO_X SO_2	154.4 lb/10^6ft^3 1119.3 lb/10^6ft^3 29.8 lb/10^6ft^3
Caterpillar Model 3508LE Co-generator - 9302	May 2018	386 kW and 0.0053 10^6 ft^3/hr digester gas flow	CO NO_X VOC	304.66 lb/MMscf 390.54 lb/MMscf 6.4 lb/MMscf

PROPOSED TESTING

22. The Caterpillar Model 3508LE Co-generator - 9302 was source tested in May 2018 and is to be re-tested every three years or 8,760 hours, whichever occurs first, for the life of the permit for NO_x, CO, and VOC. The following production and control device parameters will be recorded during the tests:

    a. Each performance test must be conducted within 10 percent of 100 percent peak load.
    b. Performance tests must not be conducted during periods of startup, shutdown, or malfunction.
    c. Permittee must conduct three separate test runs for each performance test required and last at least one hour.
    d. Permittee must submit a copy of the completed performance test to DEQ no later than 60 days after the test.

PUBLIC NOTICE

23. Pursuant to OAR 340-216-0064(5)(a), issuance of Simple 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 October 24, 2018 and the comment period ended on Monday November 26, 2018 at 5 p.m.**

24. During the public notice period, one citizen comment, Alan Johnston from the City of Gresham WWTP provided comments 2-12. Those comments and DEQ's response are attached in a separate document at the end of this review report.

ATTACHMENT A

25. Emissions Detail Sheet:

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF reference	Annual Emissions (tons/yr)
Cogen-9301 (GEN 3508LE)	CO	93.66	*lbs/MMCF	Stack Test	2.73
	NO_x	31.22	*lbs/MMCF	Stack Test	0.91
	SO_2	166.0	*lbs/MMCF	Eng. Calcs.	4.85
	VOC	6.24	*lbs/MMCF	Eng. Calcs.	0.18
Cogen-9302 (GEN 3508LE)	CO	304.66	*lbs/MMCF	Stack Test	8.9
	NO_x	390.54	*lbs/MMCF	Stack Test	11.40
	SO_2	166.0	*lbs/MMCF	Eng. Calcs.	4.85
	VOC	6.4	*lbs/MMCF	Stack Test	0.19
Emergency Genset 3208 & 8473	CO	0.95	lbs/MMBtu	AP42 Table 3.3-1	0.01
	NO_x	4.41	lbs/MMBtu	AP42 Table 3.3-1	0.04
	SO_2	166.0	lbs/MMCF	Eng. Calcs.	0.1
	VOC	49.3	lbs/10^3 gal	DEQ EF AQ-EF07	0.00
Boiler	CO	24.0	*lbs/MMCF	AP42 Table 1.4-1	0.144
	NOx	100.0	*lbs/MMCF	AP42 Table 1.4-1	0.6
	SO2	166.0	*lbs/MMCF	Eng. Calcs.	0.1
	VOC	5.5	*lbs/MMCF	AP42 Table 1.4-2	0.03

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF reference	Annual Emissions (tons/yr)
Flare (2)	CO	222.00	*lbs/MMCF	AP42 Table 13.5-1	0.3
	NOx	41.00	*lbs/MMCF	AP42 Table 13.5-1	0.25
	SO2	166.0	*lbs/MMCF	Eng. Calcs.	1.0
	VOC	84.00	*lbs/MMCF	AP42 Table 13.5-1	0.5

*all lbs/MMCF refers to digester gas

The City of Gresham Wastewater Treatment Plant: Permit 26-3228-SI-01

Public Notice Dates
October 24th 2018
November 26, 2018

Response to Comment

The following responses to comments combine like topics and comments so responses are not repeated multiple times. Comments are paraphrased as necessary to address the main point and may not be included here verbatim. Written and oral (transcribed) comments are included as an addendum to this document for review by interested parties. Comments relating to other facilities are not addressed by the responses below.

Comment 1 – Dorothy Shoemaker

The reason for air pollution from this plant is largely the way that it generates energy for its functioning as a wastewater treatment plant. According to the "About the facility" section of the public notice, "The proposed permit allows the combustion of digester gas, natural gas, and diesel fuel in the plants emergency generators, co-generators, boiler, and flare." According to Table1, this activity causes Carbon Monoxide, Nitrogen oxides, Sulfur dioxide and Volatile organic compounds to be released to the air in Gresham.

If the wastewater treatment plant used electricity from a standard source such as Portland General Electric (PGE), then this pollution would not happen.

Also, I think somebody should check into what they mean by "digester gas."

There is a "flare," and the flare might not be necessary.

If there is any way to convert the plant to power from the electric grid, that would be preferable.

DEQ Response

The City of Gresham WWTP operates two co-generators (9301 and 9302), two emergency generators (3208 and 8473), one boiler, and two flares. The co-generators, boiler, and flares fire on digester gas and the emergency generators on diesel fuel and no state or federal regulations limit or restrict the use of these fuels for plant site operations. The City of Gresham is utilizing byproducts of anaerobic digestion, which would otherwise be directly emitted into the atmosphere, to operate the facility, in place of direct emission to the atmosphere, or routing to a control device using additional fuel to capture and destroy the pollutants.

Should the facility replace digester gas with a similar alternative fuel type, we would expect to see a similar amount and type of pollutants emitted. Utilizing the digester gas produced from anaerobic activity as a fuel lowers the net emission rate because it utilizes a process byproduct to fuel a control device, rather than relying on an additional fuel source to operate controls.
DEQ cannot require the facility to operate the equipment from power supplied from the public utility grid. According to state and federal regulation, digester gas and diesel fuel are acceptable fuels for powering the generators, flares, and boiler.

Comments 2-12 provided by Alan Johnston from the City of Gresham

Comment 2

Federal regulations restrict non-emergency runtime for emergency generators to a total of 100 hours per year, which includes time for testing, maintenance, and other non-emergency operation. See 40 CFR 63.6640(f)(2). To reflect these restrictions, the City believes the last sentence in proposed Condition 1.8.b should be revised to state: "Required testing and maintenance of such units, and for operation in non-emergency situations, should not exceed 100 hours each year."

DEQ Response

The commenter is citing federal regulations for emergency RICE, which allows the facility to operate their emergency RICE for 50 hours per year for maintenance and readiness testing and an additional 50 hours for non-emergency operation. Oregon DEQ regulation only allows operation of an emergency RICE for emergency response and maintenance and readiness testing, there are no allowances for operation for non-emergencies. There is no time limit for emergency operation or maintenance and readiness testing.

Comment 3

Following a decision of federal court, a stationary RICE may not be operated for demand response unless it is in compliance with the standards for non-emergency engines. As such, the City believes the last sentence in proposed Condition 1.9 should be deleted.

DEQ Response

The last sentence of Condition 1.9 relates to RICE emergency demand response, under Oregon DEQ regulation, RICE are restricted from operating for demand response, the last sentence of Condition 1.9 will be deleted.

Comment 4

The City completes performance testing on co-generator 9302 every 8,760 hours or operation or every 3 years, whichever comes first. The City last tested co-generator 9302 on May 30, 2018. The City will retest this unit by May 30, 2019, before the unit operates for an additional 8,760 hours. This test schedule is set by Subpart JJJJ (40 CFR§ 4243(b)(ii)). Accordingly, the City requests that proposed Condition 2.2 be revised to (1) state the Subpart JJJJ performance testing requirement (i.e., testing to be completed every 8,760 hours of operation or every 3 years, whichever comes first) and (2) delete language that would require testing within 180 days of the permit's issuance.

DEQ Response

DEQ was unaware of the recent source test of co-generator 9302 as mentioned above. The proposed language and rule citation will be incorporated into the permit and the 180-day testing requirement deleted.

Comment 5

As proposed, Condition 2.5 would require the City to send Subpart JJJJ compliance records to US EPA Region 10 in Seattle. Our understanding is that DEQ has adopted and been delegated authority to implement Subpart JJJJ for all ACDP holders. Therefore, the City believes that it is DEQ (not EPA) that should receive the Subpart JJJJ reports.

DEQ Response

DEQ is an authorized representative of the Environmental Protection Agency to enforce NSPS JJJJ requirements and receive all related reports required by NSPS JJJJ, but the facility must also send copies, in duplicate, to EPA at the address identified in the permit.

General Provisions of 40 CFR 60, Subpart A state; all records submitted to the EPA must also be submitted to the state agency delegated to enforce the regulations of the subpart.

Comment 6

As DEQ previously acknowledged, proposed Condition 3.3 is inconsistent with Subpart ZZZZ (which does not require annual compliance demonstrations of existing non-emergency digester-gas fueled engines at area sources). There are no requirements for performance tests for existing area source emergency CI engines. Therefore, we appreciate DEQ's willingness to remove proposed Condition 3.3 from the permit for co-generator 9301.

DEQ Response

The source testing conditions in the draft permit were focused on diesel fired RICE units, but the permittee operates digester gas fired emergency RICE units. For digester gas fired RICE, there are no source testing requirements and Condition 3.3 will be removed from the permit language, no additional testing required by rule.

Comment 7

Proposed Condition 4.1 includes very broad language that appear to us to impose unique requirements that go beyond applicable regulations. The City requests that DEQ modify proposed Condition 4.1, consistent with OAR 340-226-0120(1), to state: "The permittee must at all times maintain and operate all air contaminant generating processes and control equipment at the highest reasonable efficiency and effectiveness to minimize emissions."

DEQ Response

Incorporated language suggested by permittee and deleted draft conditional language:

The permittee must at all times maintain and operate all air contaminant generating processes and control equipment at full efficiency and effectiveness, such that the emissions of air contaminants are kept at the lowest levels.

Comment 8

Item (a)(i) requires tracking the diesel fuel consumption of emergency generators 3208 and 8473. The requirement for diesel fuel usage tracking could not be found in the federal regulations and is in fact difficult to monitor over time. The requirement for an hour meter referenced in 63.6603(f) is noted and the hour meter data required of Item (a)(ii) should be sufficient for DEQ. The City believes that emergency generators 3208 and 8473 should be removed from (a)(i).

DEQ Response

DEQ agrees with commenter, tracking fuel usage for emergency generators is unnecessary and will be removed from reporting requirements.

Comment 9

Add digester flare 2 as identified above to this section.

DEQ Response

DEQ omitted flare 2 from the permit, specifically Conditions 12 and 13. Permit will be updated to account for the second flare. DEQ will make appropriate modifications to the permit to include fuel monitoring and reporting for the additional flare.

Comment 10

Modify "Waste Gas Flare" in this section to "Waste Gas Flare 1 and 2."

DEQ Response

See DEQ Response to comment 9, above.

Review Report: Update report to include new digester flare 2. Update discussion of Cogen 2 source test to include most recent source test attached.

DEQ Modifications, Post Public Notice Period

While addressing the comments received during the Public Notice Period, DEQ identified and corrected the following permit conditions:

Permit Condition 2.2.d – Updated source test methods to be used for emissions testing.

Removed: Method 1 or 1A of 40 CFR part 60, Appendix A-1

Added: Method 7E, Method 10, Method 25A and 18.

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

December 26, 2018

Mike Nacarelli
City of Gresham WWTP
20015 NE Sandy Blvd
Portland OR 97230

Re: Renewal of a Simple Air Contaminant Discharge Permit
Permit No.: 26-3228-SI-01-01 Application No.: 027217

The Department of Environmental Quality has completed its review of the renewal application for City of Gresham Waste Water Treatment Plant located at 20015 NE Sandy Blvd in Gresham, OR. Based on the information in the application; DEQ has issued the enclosed permit.

The effective date of the permit is the date it was signed by the regional Air Quality Manager. The signature and date appears on the first page of the document. The permit is issued pursuant to Oregon Revised Statutes 468A.040 and Oregon Administrative Rules Chapter 340 Division 216.

You may appeal conditions or limitations contained in the attached permit by applying to 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 found 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. **You are expected 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
DEQ Northwest Region Air Quality Manager

Enclosure
Cc: HQ/AQ