DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B283826414

FACILITY: Veolia Energy Grand Rapids, LLC		**SRN / ID:** B2838
LOCATION: 156 W Fulton Ave, GRAND RAPIDS		**DISTRICT:** Grand Rapids
CITY: GRAND RAPIDS		**COUNTY:** KENT
CONTACT: James Monterusso , General Manager		**ACTIVITY DATE:** 08/14/2014
STAFF: Steve Lachance	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FCE for FY '014. See CA_B283826414 (SLachance, 8/14/14)		
RESOLVED COMPLAINTS:		

On August 14, 2014, starting at about 9:30 AM, SL conducted a scheduled, unannounced inspection of the Veolia district steam plant. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) Number MI-ROP-B2838-2011; Permit to Install No. 78-13; and applicable RICE MACT requirements. After meeting with Responsible Official Mr. Jim Monterusso, the facility was further represented by on-site personnel Mr. Larry Gephardt (operations) and Mr. Brent Buller (safety and environment).

FACILITY DESCRIPTION

The facility provides steam to meet the heating and cooling demands of a defined district/portion of downtown Grand Rapids. Steam is produced by four oil/gas-fired boilers. Three of the boilers are each designed to generate up to 100,000 pounds per hour of steam with a maximum heat input of 120 million Btu per hour. The fourth boiler is designed to generate up to 150,000 pounds per hour of steam with a maximum heat input of 180 million Btu per hour.

Operations began at this downtown Grand Rapids location in 1888 as the Grand Rapids Edison Light and Fuel Company. In the 1920's, Consumers Power Company rebuilt this source into a coal-fired steam plant with a back pressure turbine/generator. In 1964, Consumers Power Company installed three larger capacity boilers in December and replaced the fourth boiler in November, 1969. These new (current) boilers could burn either natural gas or fuel oil. Kent County became the owner of the system in 1986. Veolia Energy Grand Rapids, LLC acquired the facility in late 2008.

The stationary source is located in Kent County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit carbon monoxide, sulfur dioxide and nitrogen oxides exceeds 100 tons per year.

The stationary source is not considered to be a major source of Hazardous Air Pollutant (HAP) emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112 is less than10 tons per year and the potential to emit of all HAPs combined is less than 25 tons per year. As such, the stationary source equipment is subject to applicable Area Source MACT Rules (see below).

No emission units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR, Part 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations. Modifications of the process equipment at this stationary source may be subject to the PSD requirements for attainment pollutants.

The stationary source is not subject to any New Source Performance Standards (NSPS). The most recent permitting action enabling additional fuel flexibility was not considered to be a modification subject to NSPS, since the equipment had the existing ability to burn the fuel oil in question and there was no net increase in emissions due to the permitted change.

While natural gas is the primary fuel fired, the facility also has the capability to burn fuel oil in Units 1-3. There is a 150,000-gallon tank located immediately south of the plant. This storage tank is exempt from a permit-to-install pursuant to Rule 336.1284(d).

The stationary source is not subject to Acid Rain permitting (40 CFR 72), the NOx Budget Trading program pursuant to Rules 802 through 816, or Rule 801.

The facility recently installed a natural gas-fired emergency backup engine/generator set. This engine is subject to 40 CFR 60, Subpart JJJJ (which covers the requirements of the Reciprocating Internal Combustion Engine {RICE} MACT.) This is a certified engine and so testing will not be required.

No emission units are subject to the federal Compliance Assurance Monitoring rule under 40 CFR, Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

COMPLIANCE EVALUATION

The field portions of the evaluation were primarily completed on August 14, 2014. Visible emissions evaluations were completed on various previous dates, and no visible emissions have been observed. See the accompanying FCE Report. Weather conditions were clear, about 60 degrees F, and with generally northerly winds of about 10 mph. Prior to ambulatory arrival at the site, no visible emissions or malodors attributable to the source were noted.

On-site inspection activities began at about 9:30 AM at the facility's (new) main offices with an entrance interview with Mr. Jim Monterusso. SL provided DEQ's "Environmental Inspections; Rights and Responsibilities" brochure at this time.

- Mr. Monterusso indicated no known operational issues at this time.
- He indicated no known issues with the permit at this time.
- No known changes requiring immediate permitting activity were identified, however, the facility has installed a natural gas-fired engine/generator set. While this engine is less than 10 mmBtu/hr heat input (and so exempt from PTI requirements per Rule 285(g)), it is subject to 40 CFR 60, Subpart JJJJ (which covers the requirements of the Reciprocating Internal Combustion Engine (RICE) MACT, 40 CFR 63, Subpart ZZZZ). Per previous review of "Life After ROP", this is an "Off-Permit Change;" and the facility submitted a notification of change with an M-001 form to AQD and USEPA when

installation was complete. This is an Area Source of HAPs and so this equipment will be rolled into the ROP upon renewal.

- The facility again confirmed operations on natural gas only, with oil reserved only for emergency backup. Oil has reportedly not been burned in years.
- Mr. Monterruso provided analytical results for on-site oil reserves (attached). Heating value and sulfur-in-oil content are in expected value ranges.
- The facility has begun exploration of adding propane capability as the backup fuel. This is seen as a change in process that would likely require pre-construction permitting review.
- Only Unit 4 was operating (on natural gas) at the time of the inspection (confirmed in boiler-house, later in inspection.)

FG-UNITS-01-04

Boiler Units 1 through 3 have a maximum steam capacity of 100,000 pounds per hour (pph), while Unit 4 has a maximum steam capacity of 150,000 pph. Unit 4 (the largest and most frequently used) fires only natural gas. Each unit is too small for regulation under Part 8. .

Per the current version of the Boiler MACT for Area Sources (40 CFR 63, Subpart JJJJJJ), operations with oil are enforcably limited to levels (emergency use only; 48 hours per year for testing, etc.) per PTI that define the boilers as Gas1 units. The units are therefore exempted from regulation per this rule, subject to the requirements of PTI 78-13.

Applicable requirements are outlined in Table "FG-UNITS-01-04" of the ROP. Other than stack and reporting requirements, all applicable requirements are based on the use of compliant fuel oil and associated monitoring/recordkeeping.

Emission Limits

Each of the applicable Sulfur Dioxide (SO2) emission limits (pounds per mmBtu and pph) is based on the use of compliant oil. Use of natural gas only guarantees compliance with these limits. SL reviewed various Daily Logs (examples attached) and there was no indication of oil use. Facility personnel indicated that no oil has been used or purchased since prior to the last inspection in 2012.

The current oil inventory is the same as that which was on-site during the 2007 inspection. As part of that inspection, SL sampled and tested this oil, and the DEQ Laboratory indicated 0.32% sulfur and 17,800 Btu/pound, for emissions equating to about 0.36 pounds SO2/mmBtu heat input. This oil easily complies with these sulfur limits. See A-GR-11684 in MCDS.

Current lab results supplied by Mr. Monterusso (attached) indicate similar compliant values: 0.33% sulfur and about 17,871 Btu/pound.

The facility is also subject to a general opacity requirement (20% for a 6-minute average with the exception of one value per hour not to exceed 27% opacity.) Method 9 observations by AQD on June 19, 2014; and August 13, 2014 (since the last FCE) have all indicated 0%

opacity. Operation on natural gas (only) on these dates was confirmed via review of the attached daily logs.

Material Limits
The facility only burns natural gas and oil.

Process/Operational Restrictions
SL previously confirmed that all startups use natural gas only.

Design/Equipment Parameters
The facility uses supplier certification as the basis for documenting compliant oil. Per A-GR-11684 and sample results discussed above, laboratory results substantiate these specifications.

Monitoring/Recordkeeping
The facility maintains daily records of fuel use. These are electronically archived, including daily heat input and steam production.

The facility was operating during the visible emissions readings noted above (June 19 and August 13, 2014). See attached daily records for these dates.

Current operating conditions observed were:

EU-UNIT -4

- **55** kpph steam produced
- **37**% "throttle"/capacity
- **64,600** scf/hr

ECONOMIZER

- **230** degrees F air IN
- **122** degrees F air OUT

(The heat recovered is indicated in the increased temperature of water for steam production.)

Operator Mr. Larry Gephardt was formerly Method 9 certified, but indicated that he is "lapsed" on certification. Mr. Brent Buller is currently Method 9 certified. While the facility is not in the practice of burning oil currently, personnel observe for emissions during startup and during periods of oil combustion (should they occur), and Method 9 readings are required if opacity were to exceed 20%.

Reporting
Per the FCE Summary Report attached to this, the facility has submitted each of the required periodic certification reports; there has been no recent action required by AQD based on the contents of these reports.

Stack/Vent Restrictions

Each of the stacks appears to be constructed in accordance with these exhaust and height dimensions. Note, with the economizer project, Unit 4 has received an identical stack (post economizer) with the existing stack remaining as a by-pass.

PTI #78-13

This PTI simply legally defines the source boilers as Gas1 units based on restrictions for oil use. Since this is an area source of HAPS, the units are therefore exempted from 40 CFR 563 Subpart JJJJJJ as gas units. This defining language will be incorporated into the ROP upon renewal.

FG-PARTSCLEANERS

The existing cold cleaner was observed to be closed while not in use at the time of the inspection. Procedures were properly posted. The unit uses an aqueous "Aquawash" solvent; same as in previous inspection(s). Based on this, the unit may in fact be unregulated, but the facility has elected to maintain this flexible group in their permit so as to allow operational flexibility (solvent used, number of machines, etc.)

RICE MACT NOTES

The Kohler natural gas-fired, emergency-use (only) engine serving the 185 kW generator is exempt from state permitting per Rule 285(g). The 10-cylinder engine is nominally subject to the RICE MACT (40 CFR 63, Subpart ZZZZ), but this category points to the NSPS, 40 CFR 60, Subpart JJJJ for requirements. This is a certified engine (see 2012 Inspection Report) and so no further testing will be required per this rule.

The required hour meter on this engine indicated 54 hours of use; the engine was installed in late 2012.

Addition of this equipment to the facility at this time seems to be an “Off-Permit Change”, and as discussed above, this equipment will be rolled into the ROP upon renewal for this Area Source of HAPs.

REALITY CHECK

SL reviewed the current gas meter readings. These were 9948358 and 9977698 **ccf**, and so correspond well to the 8/13/14 end-of-day readings. SL used the 8/13/14 daily log and confirmed the math behind "24-Hour, Total ccf" and daily "MMBtu" estimates. The MMBtu estimate incorporates the monthly "Gas Btu/cf" estimate provided by DTE as well as the "ccf" component of the meter. SL confirmed each day's MMBtu estimate.

USEFUL SITE ACCESS INFO

The facility is manned 24/7. The direct PLANT ACCESS NUMBER is 616-456-7438. There's a buzzer at the west-side entry door. Each should be answered at any time.

EVALUATION SUMMARY

As delivered to Mr. Monterusso at the exit interview, based on all information reviewed, SL considers the facility to be in compliance with applicable air use rules, permit requirements and regulations at the time of the inspection.

Furthermore, the opening of the "window" for application for renewal of the ROP is pending; a reminder letter will be sent soon. Having outlined several known changes to the next ROP (as discussed above), SL discussed the benefit of a pre-application meeting for ROP renewal.

ATTACHMENTS

- **Oil Analysis**

- **Daily Records for June 19 and August 13, 2014**

NAME _____ DATE 8/15/14 SUPERVISOR _____