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

G712625981

FACILITY: GRAND VALLEY STATE UNIVERSITY		**SRN / ID:** G7126
LOCATION: 123 Service Building, ALLENDALE		**DISTRICT:** Grand Rapids
CITY: ALLENDALE		**COUNTY:** OTTAWA
CONTACT: DAVID COX , SAFETY MANAGER		**ACTIVITY DATE:** 07/16/2014
STAFF: Steve Lachance	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection for FY '014; on-site activities 7/16/14		
RESOLVED COMPLAINTS:		

This scheduled, unannounced inspection commenced at about 10:30 AM, Wednesday, 7/16/14. Weather conditions were about 70 degrees F, clear, with mild NW winds. No visible emissions from the Allendale Campus Utilities Building were noted upon approaching the facility. The facility was represented during the inspection by Mr. David Cox (Safety Manager and main AQD contact); and student intern "Alex". Other staff (John - Boiler Operator; Jeff - Boiler Facilities "Boss") assisted as necessary. The primary purpose for the inspection was to assess compliance with opt-out permit No. 182-84A.

FACILITY DESCRIPTION:

Grand Valley State University, Allendale Campus is located in Ottawa County, which is currently designated as attainment for all criteria pollutants.

Permit to Install (PTI) No. 182-84A regulates emissions from two boilers in the Central Utilities Building as well as source-wide emissions. This permit limits emissions of sulfur dioxide to less than 100 tpy, thereby opting the facility out of regulation by the Renewable Operating (RO) Permit Program (i.e., "Title V".) This is accomplished primarily through restrictions on fuel oil quanitity and quality (sulfur content), accompanied by appropriate monitoring and recordkeeping. The facility is considered to be a true minor source of other Criteria Pollutants and Hazardous Air Pollutants (HAPs).

Other on-site equipment includes emergency diesel engine electric generators and various Rule 201-exempt natural gas-fired boilers and water heaters.

SL observed that the campus is actively growing; much new construction was noted.

Entrance Interview: Upon entry into the facility, SL announced his intent to inspect the facility and provided Mr. Cox and Alex with copies of DEQ's "Environmental Inspections: Rights and Responsibilities" pamphlet. SL stated his objectives for the inspection; to review current boiler operations and available records relative to PTI No. 182-84A's requirements; to review the "opt-out" conditions of this permit; and to assess any other Clean Air Act applicable requirements.

COMPLIANCE EVALUATION:

Two Boilers in the Central Utilities Building ("FGBOILERS" in PTI No. 182-84A); 2 Wickes boilers were installed in about 1965. (As such, these precede regulation under NSPS.) These boilers provide heating/cooling to the entire campus, with the exception of the Calder Arts Center. Boiler No. 1 is capable of operating on either natural gas or fuel oil, while Boiler No. 2 operates only on natural gas.

At the time of the inspection, only Boiler No. 2 was operating (on natural gas only), producing steam at about 75-80 psi and throttling at about 11% of fuel capacity. (This boiler's rated capacity is nominally about 40 kpph.) No visible emissions were noted.

(A note here about future campus growth and energy needs; the campus needs to have redundant facilities (multiple units and secondary fuel capability.) Future growth might challenge the ability of existing units to cover these needs, especially during winter. Facility personnel were on top of this issue and SL was able to convey the need to incorporate Clean Air Act requirements into any future changes, whether it be new emissions units or changes in processes for existing units. The facility appeared ready to do so.)

In a previous inspection, SL had obtained a sample of the fuel oil serving FGBOILERS. The sample was submitted to the MDEQ Laboratory for analysis of heating value and sulfur content. Based on the analytical results for the fuel oil sample (see the 11/06/08 MACES report), the oil inventory at that time was compliant with the sulfur-in-oil requirements of PTI No. 182-84A. Moreover, oil shipments since that time have all been designated as "MV15" or "Ultra LSD2" oil with sulfur contents defined as less than 15 ppm, which equates to <0.0015% sulfur (compliant with PTI No. 182-84A.)

SL requested monthly records (starting in January 2013) for boiler fuel use, as required by the permit and for MAERS reporting. See attached.

Recent diesel fuel usage is minimal (see attached; none in 2014 so far and 46 hours in 2013). The facility is fully aware of the restriction to 48 hours of diesel operation per annum in order to maintain "Gas1" status with respect to the Area Source Boiler MACT, 40 CFR 63, Subpart JJJJJJ.

FGBOILERS SUMMARY; these records indicate compliance with PTI No. 182-84A. Specifically;

- Boiler No. 1 burns only natural gas or compliant No. 2 fuel oil;
- Boiler No. 2 burns only natural gas;
- The facility demonstrated acceptable usage records and sulfur-in-oil documentation;
- Acceptable Monitoring and Recordkeeping practices are in place;
- Stacks appear to be constructed in compliance with the permit's Stack/Vent restrictions; and
- No visible emissions were noted from the operating boiler.

FGFACILITY SUMMARY; based on fuel oil used and the documented sulfur content of this oil, facility-wide SO2 emissions are much less than the 5 tpy allowed. Acceptable records to document this are in place.

Note, the Records for 2013 received during the inspection correspond to the throughput values used in the EI 2013 MAERS submittal reviewed as part of this Full Compliance Evaluation.

GHG Discussion; the PTI does not address GHGs, and so SL investigated the status of this facility with regards to GHG/CO2e emissions. The facility is a True Minor source of GHG/CO2e, and so does not need to seek any GHG permitting at this time. Per previous inspection:

- DEQ's Environmental Assistance Bulletin on GHG Permitting indicates that the facility does not have the capacity to burn threshold quantities of fuel to be a major source of GHG;
- An Internal memo dated 12/8/09 states that GVSU is below the GHG reporting requirement threshold;
- This is supported by results from an EPA GHG Calculator in which CO2e emissions are estimated at about 15,000 tpy; and

GHG/CO2e Emissions estimates from the boilers for 2014 to date are on the order of 4500 tons, well below permitting applicability thresholds. See attached.

Boiler MACT Discussion; this facility is an Area Source of HAPs and so is potentially subject to 40 CFR 63, Subpart JJJJJJ. Reviewing EPA's March 2012 Summary of Regulations for this rule (attached and shared with facility), SL previously concluded that as a natural-gas-fired boiler, Boiler No. 2 is not subject to this rule. Moreover, Boiler No. 1 also qualifies as a Gas-Fired Boiler if it burns Fuel Oil < 48 hours per year, which appears to be the case currently. Mr. Cox had provided a FTC&H memo reaching this same conclusion and recommending that GVSU document the number of hours oil is burned. GVSU is doing this, as documented during this inspection. The facility is aware that burning oil for non-testing/non-emergency purpose for >48 hours per year would subject the boiler to Boiler MACT regulation per JJJJJJ (which would basically entail an energy assessment and a tune-up every other year.)

RICE MACT Discussion; Previous inspections have focused on developing an inventory of equipment, including emergency generators. Mr. Cox provided an updated list, (see attached). As an area source of HAPs, the facility is potentially subject to provisions of the RICE MACT, 40 CFR 63, Subpart ZZZZ; and cascadingly, to RICE NSPS, 40 CFR 60, Subparts IIII or JJJJ.

The newest engines appear to be simply subject to NSPS, 40 CFR 60 Subpart JJJJ, and so are only subject to certification requirements.

Exit Interview/SUMMARY; Current records, sulfur-in-fuel documentation and previous laboratory test results indicate compliance with PTI No. 182-84A. The facility is an Area Source for HAPs and a True Minor Source for GHG/CO2e. The Boiler MACT will apply if the facility operates for >48 hours per year on fuel oil.

Attachments:

A Fuel Usage Records (2013 through current)

B FG Facility SO2 Records

C 2014 GHG emissions

D 2014 GVSU Generator List

NAME _____ DATE 7/17/14 SUPERVISOR _____