

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

H587731463

FACILITY: EASTERN MI UNIVERSITY		SRN / ID: H5877
LOCATION: 812 OAKWOOD, YPSILANTI		DISTRICT: Jackson
CITY: YPSILANTI		COUNTY: WASHTENAW
CONTACT: Mark Monarch , HVAC/ R Foreman, Physical Plant		ACTIVITY DATE: 09/25/2015
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Conducted a scheduled inspection of a Title V ROP source.		
RESOLVED COMPLAINTS:		

### Purpose

Diane Kavanaugh Vetort and I arrived at Eastern Michigan University's Physical Plant at around 9:00am on September 25<sup>th</sup>, 2015. This was a scheduled, announced inspection of facilities and equipment listed in ROP No. MI-ROP-H5877-2012 issued to EMU. The purpose of the inspection was to determine EMU's compliance with the federal and state applicable requirements, including Act 451, Part 55, Air Pollution Control regulations and conditions of their Renewable Operating Permit (ROP). We met with Mark Monarch and Bilal Sarsour of EMU, who accompanied us throughout our visit. The site inspection occurred in several areas across campus including boilers at the Heating Plant, an emergency generator at the Mark Jefferson building, and a small paint shop at the Physical Plant.

### Background

Eastern Michigan University has many different buildings on campus that serve different functions in order to provide quality facilities for student's education. The primary focus of AQDs involvement with EMU is to regulate facilities onsite that combust fuel and emit criteria and hazardous air pollutants. Because EMU has the potential to emit at or above the threshold of a major source of criteria pollutants, they have been issued a Renewable Operating Permit.

EMU is a major source of NO<sub>x</sub>, SO<sub>x</sub>, and CO as well as a minor source of Pb, PM and VOC. They are subject to State and Federal rules regarding the operation of boilers and emergency generators. Their main operations occur in the Heating Plant (#10 in the campus map; see attached) where four boilers are located. Three of these boilers (BLR1, BLR2, and BLR3) were grandfathered into the ROP since they were installed and operating before August of 1967 and are subject to 40 CFR Part 63 Subpart 6J. The fourth boiler (BLR4) was installed in 1987, modified in 1992, and is equipped with a gas turbine for electrical cogeneration. This boiler was also reviewed prior to installation for Prevention of Significant Deterioration (PSD) because the facility is located in an area designated as attainment with the National Ambient Air Quality Standards (NAAQS).

They also have four diesel and one natural gas emergency generators situated around campus to power individual buildings in the event that the Heating Plant and power purchased from DTE are lost. These generators are subject to 40 CFR 60Subpart IIII and JJJJ, respectively, for the New Source Performance Standard (NSPS). The emergency generators diesel generators are subject to 40 CFR 63 Subpart ZZZZ for the Maximum Achievable Control Technology (MACT) standards for an area source of Hazardous Air Pollutants (HAPs) as described under part 63.6590(2)(iii) for new stationary RICE construction.

### Compliance Evaluation

#### Emission Unit

#### EU-BLR4-PT005

This was the only boiler unit operating today. The control screen indicated it was producing 4000 kW of electricity and 33.21 kpph of steam generation. I received a copy of the daily summary from the heating plant for 9/24/2015 as well as the last 12 monthly reports (see attached). Review of the MAERS submission shows that this unit is well below the 169.5 tons/yr of NO<sub>x</sub> emissions stated in the permit; emitting 43.77 tons. I also received a copy of fuel flow data that reflects 59.81 MMBtu/hr and is maintained by the kW control limit switch, which is set to 4,445 kW (see attached). Additionally, a gas analysis report was provided by the supplier (DTE).

These documents appear to satisfy the monitoring and record keeping requirements for this emission unit. The unit appeared in good working order.

#### Flexible Group

##### FG-001

This group contains BLR1, BLR2 and BLR3. None of these units were operating, though it was mentioned that BLR1 and BLR2 were on hot standby. BLR3 has not been used in the past year, and is indicated by the records provided. Fuel analysis by Paragon Laboratories for their backup fuel oil show 6 ppm sulfur, which is well below the 0.1% sulfur content they agreed to in the permit. Based on fuel use records, these boilers, I have determined that they meet the definition of gas fired boilers and currently have no applicable requirements under Subpart 6J. The conditions for Subpart 6J would apply should they no longer meet the gas fired boiler definition listed in 40 CFR 63.11237 (i.e. solid fuel is burned and liquid fuel testing exceeds 48hrs/year).

##### FG-GENG/JJJJ

This unit contains the emergency natural gas generator rated at 80 kW and 126 HP. This engine is subject to 40 CFR 60 Subpart JJJJ for an engine with horsepower rating between 25 and 130 HP. This requires a non-resettable hour meter to be installed. Additionally, Table 1 of the subpart outlines the emission requirements for NOx and CO for units fitting this category. I did not observe this unit today.

##### FG-DENG/IIII

This flexible group consists of the four emergency diesel generators subject to 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ. Table 2(d) of Subpart ZZZZ discusses how to comply with this standard, which includes oil changes every 500 hours, air cleaner inspection every 1000 hours, and belt and hose inspections every 500 hours or annually. Subsequent testing is not required for emergency RICE located at area sources of HAPs. I observed the largest generator (EU-DENG-MJ) installed at the Mark Jefferson building in 2010 rated at 1000 kW and 1502 HP. The non-resettable hour meter read 154.3 hours, which is well below the limit of 100 hours per 12-month rolling time period. Mark informed me that it fires for 0.5 hours every Tuesday. Attached to this report are the MSDS for ultralow sulfur diesel, engine maintenance records from Cummins Bridgeway and engine certificates from the USEPA for the Mark Jefferson and Pray Harrold units as were required when they were purchased.

##### FG-COLD CLEANERS

Cold cleaners exempt from Rule 201 are covered under this flexible group. Attached is a memo from Mark and the MSDS for the solvent used in the cold cleaner. The solvent appears to be compliant with the material limit for halogenated compounds.

##### FG-RULE 287(c)

The emission unit covered in this flexible group is EU-WOODCOVERS. The area observed is used for minor painting operations. Most items are coated by brush or roller for touch up or maintenance. Paint purchases indicate they are below the 200 gallon per month limit, and are currently stored electronically.

##### FG-RULE 290

There aren't currently any emissions units covered under this exemption.

#### Summary

Upon arriving at the Physical Plant, Diane and I sat down with Mark and Bilal to state our purpose for conducting an inspection and what to expect from our visit. We gave them copies of the Environmental Inspection brochure and began to discuss the facilities and equipment outlined in the ROP that we wanted to see. After our initial meeting all four of us headed to the Heating Plant for tour of the boilers and cogen system. There we met with Michael Douglass and I was given a copy of the previous days log for fuel use, electrical production and steam generation dated 9/24/2015. I also observed the control rooms operations and current output of EU-BLR4-

PT005, which read as 4000 kW and 33.21 kpph. No other boilers were operating at the time. BLR3 hasn't been used in the past year. Mark indicated that they are preparing to upgrade their current setup by removing BLR3 and possibly replacing it with a newer unit, which will be handled during their ROP renewal period.

We left the Heating Plant and continued to the Mark Jefferson building to inspect the emergency diesel generator identified in the ROP as EU-DENG-MJ. Neither Mark nor Bilal had the keys to access the locked, skid-mounted unit. After maintenance was called and the unit unlocked I observed the Caterpillar engine and the non-resettable hour meter. The unit was installed in December 2010 and only has a reading of 154.3 hours of operation logged.

Next, we returned to the Physical Plant where the painting area was located. The room that stores the paint and solvents also serves as the area where paint is applied with a brush or roller. No spray guns were observed. The room is vented to two stacks and supplied with fresh air from overhead ventilation. We also toured a small pattern shop across the hallway from the painting room. The shop had several pieces of permit exempt equipment connected to a dust particulate collector to mitigate in-house conditions. The collection system is exhausted to a separate room and collected in several cloth bags. The bags are emptied on an as-needed basis.

From there we returned to the conference room. At this point I requested several documents to demonstrate compliance with their ROP. These included boiler fuel use records, emergency generator certifications, diesel fuel specifications, generator maintenance records, cold cleaner MSDS, and paint shop purchase records. I offered Mark the option to send me an electronic copy of the requested documents, which were received in an agreed upon time frame and have been attached to this report.

#### Compliance Status and Recommendations

After reviewing the requested documents and observing on site conditions, I determined EMU to be in substantial compliance with the permit requirements stated in their ROP.

I recommend that the paint shop track use more accurately from use-to-use going into the future for ease of record keeping and demonstrating compliance. As of now, even while assuming all purchased gallons were used that month, they are under the 200 gallon per month limit. I will send a sample document for tracking the volume of surface coatings used to meet Rule 287(c) permit to install exemption. Additionally, I will forward information concerning ROP renewal procedures.

I consider the MSDS received for the ultra-low sulfur diesel as supplied by the vendor, U.S. Oil & Refining Co., acceptable to demonstrate compliance with the fuel monitoring requirement. Fuel analysis including the percent sulfur content will be expected going forward and this was communicated to EMU.

NAME Zeck Durban

DATE 11/6/15

SUPERVISOR 