

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

P063736305

FACILITY: MDOC Women's Huron Valley Correctional Facility		SRN / ID: P0637
LOCATION: 3201 Bemis Road, YPSILANTI		DISTRICT: Jackson
CITY: YPSILANTI		COUNTY: WASHTENAW
CONTACT: Richard Bullard , Physical Plant Superintendent		ACTIVITY DATE: 07/18/2016
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: This was a scheduled, announced inspection of PTI 154-15. This was the first inspection of the permit since issuance. This facility has an active consent order; AQD No. 14-2016.		
RESOLVED COMPLAINTS:		

Contact

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Women's Huron Valley Correctional Facility
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Purpose

This was a scheduled, announced inspection of the facilities and equipment identified in Permit to Install (PTI) 154-15 issued to the Michigan Department of Corrections (MDOC) Women's Huron Valley Correctional Facility (WHVCF). I arrived at the facility at about 9:15am on Monday, July 18, 2016. I parked in the visitor lot, checked in at the front desk, and told the guard on duty the reason for my visit. I informed her that I had an appointment with Richard Bullard and shortly after that I was greeted by Mark Sallows, a maintenance mechanic at the facility. Mark and I completed the inspection together, which required me to view equipment inside and outside of the prison facility.

Background

The WHVCF received PTI 154-15 after the MDOC entered into a Consent Agreement with the DEQ. It was identified that a number of prison facilities state-wide were operating equipment that had the potential to emit (PTE) air pollutants over major source thresholds. The WHVCF received a synthetic minor opt-out permit for Nitrogen oxides (NOx) and Carbon monoxide (CO) as a result.

The equipment located on-site includes three large steam heating boilers and several emergency natural gas-fired generators. This is the first inspection of the facility since the issuance of the permit.

The boilers are subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63, Subpart JJJJJ (6J) for area sources of HAP.

Two new engines being installed are subject to the New Source Performance Standard (NSPS) in 40 CFR Part 60, Subpart IIII for Rotating Internal Combustion Engines (RICE).

Review of the MAERS for 2015 indicated that the facility was in compliance with emission limits and material throughputs.

Compliance Evaluation**FG-BOILERS**

This is the flexible group (FG) for the three steam boilers. Each unit is natural gas-fired with fuel oil backup capability, though the facility has not used fuel oil in the boilers during the last 12 months. Should the facility use fuel oil, the fuel shall not exceed 500ppm of sulfur content. Attached is the current Safety Data Sheet (SDS) for

Ultra Low Sulfur Diesel (ULSD) with a maximum sulfur content of 15ppm as purchased from Marathon.

In order to comply with NESHAP 6J, the facility only uses fuel oil during periods of gas curtailment and does not exceed 48 hours per year of liquid fuel testing.

The facility has a Mercury Mini-max gas meter installed to track natural gas use (Note: this is the main gas meter for the entire facility). During my inspection the meter read 1,0879,450 ccf.

FG-EMGGENS

This is the FG for the diesel fueled emergency RICE. There are five engines identified in this section of the permit, however, EU-EMGRICE1 and EU-EMGRICE2 have been removed and replaced with EU-EMGRICE4 and EU-EMGRICE5, which are located inside the power plant in a room adjacent to the boilers. These new engines are not operational yet.

EU-EMGRICE3 is located in the MSI building within the prison area. It is a CAT 3406 engine rated at 300kW. The log they keep showed total hours of operation at 1268 hours at the time of inspection.

The limit on sulfur of 500 ppm is being met by their use of ULSD with a maximum sulfur content of 15 ppm (see attached SDS). Also attached is a spreadsheet for generator operating hours.

FG-NSPSIII

This is the FG for the two new 1500kW emergency engines (EU-EMGRICE4&5) that are subject to NSPS III. These engines are physically on site, though are not operational yet. These are certified EPA Tier II engines from the manufacturer, Cummins, and thus do not require testing (see attached New Generator Engine Information under "Attachment 2"). When they are put into full operational capacity the facility will be required to monitor hours of operation and fuel specifications (i.e. ULSD as attached). Because the engines are not yet operational, they have not exceeded the limit of 100 hours per year for maintenance and readiness testing.

FG-FACILITY

This is the FG that identifies emission limits on NO_x, SO₂, and CO source-wide. The facility has a main gas meter as discussed above under FG-BOILERS, which tracks all natural gas usage. The attached 12-month rolling emissions summary accounts for all fuels used on-site, including natural gas, propane, and diesel. All emissions are significantly below their permitted amount, which are as follows:

- NO_x limit = 85.2 tpy vs. 12-month rolling total = 5.78 tons NO_x
- SO₂ limit = 27.1 tpy vs. 12-month rolling total = 0.05 tons SO₂
- CO limit = 51.7 tpy vs. 12-month rolling total = 4.84 tons CO

After reviewing the data I spoke with their consultant, Lillian Woolley, to confirm fuel use for May and June 2016. These two months show values for natural gas consumption far below other months. Attached is an email from Ms. Woolley that explains that the boilers are not required for heating or cooling purposes during these months, thus resulting in reduced natural gas use.

Summary

After arriving at the property and checking in, I was escorted by Mark Sallows to the maintenance building and power plant. I presented my identification as was approved for access. To prevent contraband items from entering the prison facility, I left most items in the car. I brought with me my identification, a note pad, and the permit. A pen with a clear (see-through) housing was provided to me, as all others are prohibited. Mark and I entered the main gate in his maintenance vehicle and we met with the guard on duty. The vehicle and our persons were inspected. I signed into the log book and then we were allowed to enter through the second gate, into the prison facility.

Mark and I proceeded through the various buildings, including the Food Service Building, MSI building, Dickinson Hall, and Calhoun Hall. The food service building includes a natural gas emergency generator rated at 300 kW that is not included in the PTI and appears to meet the exemption under 285(g) for internal combustion engines that have less than 10 MMBTU/hr maximum heat input capacity. Attached to this report is the manufacturer's data for the Generac SG300.

Next we toured the MSI building which houses the CAT 3406 diesel generator identified as EU-EMGRICE3 in the PTI. The building also has a small natural gas boiler (Weil-McLain) to provide building heat. The boiler has a nameplate capacity of 780,000 BTU/hr max heat input, and is also exempt from requiring a PTI under Rule 285 (g). It was last inspected on 5/28/15 by Hartford Steam Boiler and is due for inspection next on 5/28/17.

We then looked at equipment in both Dickinson and Calhoun Halls, including several Cleaver Brooks flexible watertube boilers that provide building heat and hot water (Dickinson Hall had 2 @ 2500 MBTU/hr and Calhoun had 2 @ 2000 MBTU/hr rated capacity). Calhoun Hall also had a PVI water heater rated at 270,000 BTU/hr.

We left the prison area after signing out with the guard and headed to the power plant to inspect the boilers and emergency RICE. Boiler 2 was currently operating, with Boiler 3 on standby and Boiler 1 down for inspection. I observed the 1500 kW Cummins diesel emergency RICE, which were not operational at the time. Attached are the engine specifications from Cummins, which identify the units as EPA Tier II certified.

Having seen the facility, we went back to the office within the power plant to hold a closing meeting. Richard Bullard joined us at this time. I provided Richard with a copy of the Environmental Inspections brochure and discussed my walk-through of the facility. I then began to request the necessary record keeping documents, which I said I could accept electronically. I left the facility shortly after.

During email correspondence, I was put in touch with Trever Lebarre since he is tasked with preparing the annual MAERS report for MDOC. Trever then put me in touch with Lillian Woolley, whom ultimately provided me with the engine certifications, emission/operational data, and fuel specifications.

Compliance Determination and Recommendations

After the site inspection and review of the provided records, I have determined that this facility is in compliance with PTI 154-15.

However, I recommend that the records being kept for fuel use be tracked more thoroughly. There are some minor deficiencies between records provided to me and figures as reported during their first MAERS cycle. It is important to make sure diesel fuel and natural gas use are monitored as stated in the PTI to avoid future violations and subsequent penalties as identified in the consent order.

I recommend continued regular inspections of this facility.

NAME *Fack Durham*

DATE 9/14/16

SUPERVISOR *[Signature]*