

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

N357030405

FACILITY: GENESEE POWER STATION LIMITED PARTNERSHIP		SRN / ID: N3570
LOCATION: G 5310 NORTH DORT HIGHWAY, FLINT		DISTRICT: Lansing
CITY: FLINT		COUNTY: GENESEE
CONTACT: Mitch Hefner , EHS Coordinator		ACTIVITY DATE: 07/24/2015
STAFF: Brad Myott	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Perform scheduled inspection to determine compliance with MI-ROP-N3570-2012.		
RESOLVED COMPLAINTS:		

This was an unannounced inspection of Genesee Power Station (GPS). GPS is a major Title 5 source. The following emission units are covered under ROP No. MI-ROP-N3570-2012:

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date
EU-BOILER	The 35 MW electric generation group consists of the wood waste boiler, a selective non-catalytic reduction (SNCR) system, a mechanical multi-cyclone separator (MMS), and an electrostatic precipitator (ESP). The boiler has a spreader-stoker design and is rated at 523 mmBtu/hr., and able to produce 345,000 pounds steam/hr.	12/2/92
EUPARTSWASHER	Parts washer with an air/vapor interface of not more than 10 square feet.	12/2/1992
EUFIREPUMP	Emergency diesel engine for backup power to fire pump (265 hp)	1/1/1996
EUEMERGGEN	500kW Emergency backup generator (750 bHP).	1/1/1996

I met with Mitch Hefner the Environmental Health and Safety Coordinator. I provided him with a copy of the DEQ Environmental Inspections brochure and the new Boiler MACT brochure. The plant manager and responsible official is Ken DesJardins.

GPS ROP renewal was issued 8/24/2012 which incorporated the PTI for Tire Derived Fuel (TDF) issued on 9/14/2011. The ROP expires on 8/24/17 and an adm. complete application is due between 2/24/16 and 2/24/17.

I wrote down the following information from the CEMS at approximately 10:45 a.m.

Parameter	ppm & lb/MMbtu	PPH (24-hr rolling avg) / ROP limit
SO2	19.5 ppm	20.8 / 35.4
CO	158 ppm, 0.102 lb/MMbtu (limit=0.35)	43.1 / 183.1
Nox	92.7 ppm , 0.157 lb/MMbtu (limit =0.20)	22.7 / 104.6
O2	6.8%	

Opacity	0.1%	
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On this day GPS was running at full load of 35 MW and burning wood at an avg rate of 49 tons/hr and TDF at 0.14 tons/hr as indicated by the digital panel in the control room. As of 11:30 a.m. they had loaded approx. 4.2 tons of TDF for the day (see 3rd sheet of attachment 1). The SO2 ppm was around 19 ppm. When they burn only wood the SO2 ppm is about 5 ppm or less.

TDF is loaded into a 5 ton hopper that feeds a permanent conveyor. The new system has allowed GPS to monitor and control the amount of TDF – closer at times to the permit limit of 20 tons/day if needed. According to GPS personnel and recent records they typically don't exceed 10-11 tons/day of TDF. The TDF is stored in a segregated area, bound by concrete blocks. The scale for the loading area of TDF is checked weekly and calibrated annually to ensure accurate measurements. When the plant is running at full load then TDF is fed at a lower rate.

The fly ash building was rebuilt several years ago with a newer trailer to improve the collection of dry fly ash from the precipitator. They no longer collect the fly ash in a dump truck. I did not see any signs of fly ash escaping the new trailer or building enclosure. Moist bottom ash and the dry precipitator fly ash is stored in a large bldg nearby. The area is swept as needed with a sweeper on site and also by a contracted street sweeper quarterly.

The Fuel Procurement and Maintenance Plan was updated and approved in October of 2012. It now includes TDF and source separated wood (SSW) from demolition. The plan still requires the use of a WWRF for demo material that is not source separated but the facility hasn't received any demo wood in many years.

Mitch and I walked near the fuel yard and discussed the wood inventory. They maintain 2 large piles at any given time. One is a feed pile to the boiler and the other is for recently received wood. According to the wood report the total wood inventory in the yard was approx. 40,000 BDT which is less than the allowed level of 45,000 in the fuel plan. The amount of TDF on site appeared to be much less than the 1,000 tons allowed in the plan. I did not detect any odors from the piles during this inspection. See attachment 3 for wood reports indicating the amount of tons currently in the wood piles also note the wood inventory pile for Dec/14 and Jan /15 which indicates the amount of wood received and burnt to be less than 28,000 tons.

A few days following my inspection AQD did receive an odor complaint that staff tracked back to the wood storage piles at GPS. Due to a lengthy recent shutdown at the plant the wood chip piles sat for longer than usual and began to decompose. The plant agreed to use up the odorous wood chips as quickly as possible and be aware of wind direction when moving the wood piles to address the complaint. This is not a typical occurrence at the wood piles and was most likely due to the maintenance shutdown. Prior to this AQD had not received any odor complaints in several years.

 Mitch emailed me and explained that the following activities occurred at the plant during the 2015 Spring shutdown:

. We repaired all the Stack test ports and Cems ports during our last Spring outage April 12th of 2015. We replaced the old opacity unit (lighthawk 560) with a new opacity unit (Durag D-R290). We replaced our old flow monitor (ultra flow) with a new flow monitor (Cemflow flow monitor). We completed our RATA Testing for 2015, with that we tested our flow unit at three levels High, medium, and low all passed no problems so that should verify our flow analyzer when I get these results back from Network Environmental co. Our old opacity was cleared stack tested prior to removal, and the new Opacity unit was clear stack tested prior to installation. The Opacity unit also passed a Seven Day calibration test (after we get approval back from MDEQ Tom G. We will send out a report once Monitoring Solution

completes their findings and sends them to us.

Animal bedding has not been burned since February 2014 as indicated by GPS in a previous inspection. This in part is due to the 2016 CISWI regulations and the definition of solid waste in Part 241.

On the day of the inspection the plant was running at 35 megawatts. Attachment 1 shows a portion of the print screen of the control room emission monitors from the day of the inspection. All emissions were below the permit limits. The second sheet of attachment 1 is posted in the control room. It is the current air permit limits in the ROP.

The ROP requires the company to calculate the annual capacity factor for each type of fuel burned (wood fuel or natural gas). This condition is required by NSPS, subpart D for fossil fuel fired steam generators. The ROP limits natural gas to 10% of annual capacity. Attachment 2 shows the 12-month rolling average capacity factor for each fuel type. Natural gas was 0.12%, well below the limit of 10%. Mitch explained how he updates the capacity factor calculation spreadsheet from the fuel usage rates. GPS maintains fuel usage logs for the various fuels they combust. They primarily fire wood and TDF. The second sheet of attachment 2 shows the 12-month rolling MW capacity of GPS through June 2015.

Attachment 3 shows the Wood Flash Fuel Report for July 2015 and Scalehouse Daily Report for July 2015. This report shows the amount of each type of fuel burned each day. Records indicate that the amount of TDF burned has never exceeded the allowed 20 tons per day. On 7/14/2015 it reached 10.3 tons for the day which was the highest value for the month. Mitch indicated that the TDF feed would automatically shutdown for the day if it ever reached the 20 ton permit limit. As mentioned above animal bedding is no longer burned at the facility. The ROP currently limits the amount of animal bedding burned to 30% by weight of total fuel fired on a daily basis.

Attachment 4 shows the rolling 24 hour emissions for each hour of 7/17/15 and 7/24/15. All emissions were below permitted levels.

Attachment 5 is a report of monthly SO2 emissions through June 2015 as required by special condition VI.4.

Attachment 6 shows the daily opacity report for 7/11/2015. All values were in compliance. Mitch explained that if at anytime the opacity is above 10% an alarm goes off to alert the control room operator to have the precipitator checked. Records that I review indicated that the opacity was never higher than 1%. Mitch showed me around the CEMs room which also houses the control panel for the precipitators. A log book is maintained for any maintenance activity performed. The control panel for the precipitators indicated that all 3 fields were operating. Mitch explained previously that each field collects approx. 85% of particulate. I have recorded sparks/min, amps and KV in the past but these parameters are not required by their permit. Mitch indicated that the precipitator is inspected every 6 months. We also discussed soot blowing which occurs approximately once per shift. Soot blowing removes collected material from the boiler tubes and introduces it into the precipitator. This helps maintain the efficiency of the boiler.

A new flow analyzer and opacity monitor were installed recently. Mitch was working on completing the certification of the new opacity monitor. In addition, RATAs were being this performed this week as well as stack testing to meet the requirements of the ROP. The ROP requires stack testing of TGNMO, PM, metals, HCl and acrolein once every five years. The HCl

and acrolein testing was being performed during my inspection and the 3rd run of the day started at 11:22. The testing was being done at full load under normal type operating conditions. According to Mitch the earlier performed RATAs had passed. A full report of the stack tests and RATAs will be submitted to the AQD and reviewed at a later time. Attachment 7 shows the daily calibration report and associated emission report for 7/11/2015 and the test protocol approval letter.

Genesee Power Station appears to be in compliance with MI-ROP-N3570-2012.

NAME Bruce Myatt DATE 8/4/15 SUPERVISOR T. N. V.