

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

B426037890

FACILITY: L'ANSE WARDEN ELECTRIC COMPANY LLC		SRN / ID: B4260
LOCATION: 157 S MAIN STREET, LANSE		DISTRICT: Upper Peninsula
CITY: LANSE		COUNTY: BARAGA
CONTACT: JAMES R RICHARDSON , TECHNICAL MANAGER		ACTIVITY DATE: 12/07/2016
STAFF: Ed Lancaster	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection and Consent Order required 3rd quarter HCl emission stack test observation.		
RESOLVED COMPLAINTS:		

Directions: L'Anse Warden Electric Company, LLC (LWEC) is located at 157 South Main Street, in the Village of L'Anse, Baraga County, adjacent to the mouth of the Falls River as it empties into the southern end of the Keweenaw Bay.

Facility: LWEC was recently purchased by Convergen Energy. LWEC originally operated as a coal, oil, and gas-fired steam generating station and was converted in 2007 to burn biomass. In addition, to the production of electrical energy the facility provides thermal energy to the adjacent CertainTeed Corporation Facility.

The boiler is currently designed to burn a variety of fuels including wood chips, tire derived fuel (TDF), wood fines and barks, creosote treated railroad ties, and natural gas. Wood chips and railroad ties are processed at the adjacent fuel aggregation facility (FAF), operated by M.A. Energy Resources, LLC (MAER), and delivered by truck or pneumatic conveyor/blower to an enclosed, on-site fuel storage building. TDF is delivered to an outdoor area adjacent to the fuel building.

Permits: LWEC is currently operating under Renewable Operating Permit (ROP) No. MI-ROP-B4260-2011. A timely ROP renewal application was submitted on February 11, 2015. During the 30-day public comment period, LWEC notified the AQD they exceeded the boiler's hydrogen chloride (HCl) emission limit during a scheduled stack test. The ROP renewal was postponed until the violation could be resolved.

On October 31, 2016, Permit to Install No. 67-16 was issued to remove pentachlorophenol treated railroad ties as a source of fuel, and LWEC entered into a Consent Order (No. 35-2016) with the AQD. The Consent Order (CO) alleged that LWEC exceeded emission limitations for hydrochloric acid (HCl) from EUBOILER#1 and allowed fugitive dust fallout in violation of Rule 901.

AQD staff is currently updating the draft ROP to include the conditions from PTI No. 67-16 and CO No. 35-2016.

Inspection: LWEC had contracted with Weston Solutions to conduct the second quarterly HCl emission stack test on the day of the inspection.

Upon arrival at the facility I noted Weston employees had already begun the stack test. I then met Convergen Energy's Ted Hansen, CEO and we walked into the office together and met with JR Richardson, John Polkky, Chris Anderson, Al Clishe, and Convergen's Dennis Conn, Senior VP. Tom Gasloli, AQD-TPU, arrived shortly after.

Mr. Richardson informed us the stack test began at 0810 hours; the boiler fuel feed was approximately 2:1 (railroad ties (15 tons) to wood chip) and 1.5 tons of TDF. He then

asked if it was necessary to conduct “soot blowing” during the stack test. Mr. Gaslioli and I agreed that soot blowing would not be required as it would not affect the outcome of the HCl test and explained it was required during past particulate matter emission tests.

Mr. Gaslioli then went to Weston’s trailer and I proceeded to the boiler operator’s room with Mr. Richardson.

At 10:00 AM, I noted the following operating conditions for the boiler:

- Main fuel belt totalizer: 283.41 tons (all fuels combined), the daily TDF total was at 11.21 tons;
- The three fuel reclaimer’s (located in the Fuel Storage building) output speed were operating at 12%;
- The TDF output speed was 17%;
- ESP outlet pressure: -12 inches water column; all three sections were energized;
- Boiler steam output was 187,000 pounds per hour, drum pressure was 866 psi, and generator load was 15.79 MW.

CEMS readings:

- CO lbs/MMBtu: 0.095 (24-hour ave.); 0.079 (1-hour ave.); and 0.064 (instantaneous);
- CO ppm: 60.6;
- Oxygen: 8.3%;
- Opacity: 1.3% (6-minute average) and 1.2% (instantaneous)

Permit Conditions:

MI-ROP-B4260-2011 (EU-FUEL):

During the inspection all wood chips and railroad ties were being delivered to the plant from the fuel yard by self-unloading semi-trailers. The pneumatic system has been disabled until permitting issues with the system have been fully evaluated. There were no visible emission issues at the plant or the fuel yard during the inspection. At the fuel yard, I observed a drag being pulled on the roadways for fugitive dust control, in compliance with the Fugitive Dust Plan.

PTI No. 67-16 and MI-ROP-B4260-2011:

EUBOILER#1:

Section I. Emission Limits:

Based on my observations of the CEMS output for CO and LWEC’s recent stack test on July 6 and 7, 2016; per a U.S. EPA 114 request (Special Condition (SC) Nos V.1 and 2), the emission limits in SC Nos. I.1-13 were in compliance.

The CO emission limits is 0.3 lbs/MMBtu, based on a 24-hour rolling average.

Pollutant	Average Test Result	Emission Limit
Particulate Matter (PM)	0.004 lb/MMBtu	0.06 lb/MMBtu
PM	1.3 lb/hr	19.2 lb/hr

PM-10	7.2 lb/hr	15.4 lb/hr
VOC	<0.12 ppmvd @ 7% O ₂	50 ppmvd @ 7% O ₂
VOC	<0.02 lb/hr	9.1 lb/hr
Lead	1.10x10 ⁻³ lb/hr	0.02 lb/hr
Hydrogen chloride (HCl)	1.75 lb/hr	2.17 lb/hr
SO ₂	121 lb/hr*	290 lb/hr
NO _x	65.1 lb/hr*	145 lb/hr

*Test results from September 2015 stack test.

Section II. Material Limits:

In LWEC's 2016 MAERS, the Company reported, the boiler operated for 8,016 hours and consumed the following fuels at the specified rate, as applicable (SC Nos. II.1-7, and III.2):

- 3.7 MMCF natural gas;
- 13,565 tons of tire derived fuel (TDF)/1.69 tons per hour (tph);
- 70,692 tons of railroad ties (creosote and pentachlorophenol treated)/8.82 tph;
- 1 ton Fines & Bark; and
- 95,087 tons wood chips

Section III. Process/Operational Restrictions:

Based on Btu values for each fuel, supplied by the company, the total heat input for 2015 was 2,582,670 MMBtu, below the limit of 2,656,800 in SC No. III.1.

The Company's Fugitive Dust and Fuel Procurement and Monitoring Plans were updated and approved in July 2016 (SC Nos. III. 3, 4, 5 and 7).

The remaining pentachlorophenol treated railroad ties were all tested for chlorine content by July 28, 2016, and removed from the fuel aggregation yard by September 9, 2016, according to Ms. Mindy Raymond, M.A. Energy Resources' Office Manager (SC No. III.6).

Section IV. Design/Equipment Parameters:

At the time of the inspection, the boiler, multicyclone, and ESP appeared to be operating properly, as required by SC IV.1.

Section V. Testing/Sampling:

As stated above, the company was conducting the second, quarterly stack test for HCl emission rate (SC No. V.2). SC No. V.3 and 4 requires sampling and analysis of each solid fuel to demonstrate compliance with SO₂ and HCl emission limits. Monthly and weekly sampling results for the wood chips, creosote-treated railroad ties, and TDF were provided by Ms. Raymond (see file).

Section VI. Monitoring/Recordkeeping:

The company has completed all required calculations and made them available upon

request (SC Nos. VI.1-4 and 9). LWEC uses hazardous air pollutant (HAP) emission factors derived from the compliance demonstration to calculate HAP emissions (No.4). The company's Fuel Procurement and Management Plan was last updated in July 2016 (SC Nos. 5 and 6).

The CO continuous emission monitoring system (CEMS) and continuous opacity monitoring system (COMS) are calibrated, maintained and operated on a regular basis in compliance with SC Nos. 7 and 8.

Section VII. Reporting:

On February 1, 2016, the AQD received the records of the annual emissions of criteria pollutants as required in SC Nos. 1 and 2, to compare with the Baseline Actual Emissions (BAE) established when the boiler went through PSD evaluation.

Section VIII. Stack/Vent Restrictions:

Did not confirm stack dimensions during the inspection (SC No.1). The stack is showing signs of corrosion near the top, which are addressed in the next section.

Section ~~VIII~~^{IX}. Other Requirements:

LWEC has until September 30, 2017, to repair the corrosion on the boiler stack (SC No. IX.1).

FGBOILERMACT-6J:

No special conditions associated with emission limits; material limits; design/equipment parameters; testing/sampling; nor reporting (Sections I and II) are required for this emission unit.

On November 26, 2014, LWEC submitted to EPA's Compliance and Emissions Data Reporting Interface (CEDRI) a report notifying of their compliance status with the National Emission Standard for Hazardous Air Pollutants for Area Source Boilers, Subpart JJJJJJ, in compliance with Special Conditions in Sections III, VI, and IX.

MI-ROP-B4260-2011 (EU-ASH):

The description of the Ash Handling and Storage Equipment is not up to date and will be corrected in the ROP Renewal. Currently the ash silo and bucket elevator have been decommissioned. The ash now falls from the boiler shaker grate into a water trap and once saturated is pulled out using a drag chain and transferred to the wet ash storage shed. The dust from the ESP is handled in a similar manner. The material is then trucked to a local landfill for disposal.

As mentioned above the company's Preventative Maintenance and Malfunction and Fugitive Dust Plans were updated in July 2016.

Based on review of company records and observations made during the inspection, LWEC appears to be in compliance with applicable air quality rules and regulations.

NAME Ed Lancaster

DATE 12/21/16

SUPERVISOR 