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

M067524928

FACILITY: UNIVERSITY OF MICHIGAN		SRN / ID: M0675
LOCATION: 1239 KIPKE DR, ANN ARBOR		DISTRICT: Jackson
CITY: ANN ARBOR		COUNTY: WASHTENAW
CONTACT:		ACTIVITY DATE: 02/20/2014
STAFF: Glen Erickson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection and RATA observation.		
RESOLVED COMPLAINTS:		

Scheduled inspection with Brandi Campbell, UM-OSEH.

Went to CPP to check on RATA being performed by BTEC on Boiler No. 4. Everything appeared to be working properly at this time.

Analyzer was showing No. 4 NOx emissions @ NO = 114 ppm; NO2 = 3.7 ppm; NOx total = 117 ppm. No VEs. Firing on natural gas.

Went to CPP control room to observe data recorder dedicated to NOx budget-regulated Boilers 3, 4, and 6. No. 4 boiler data = 0.154 lb.MMBtu NOx; 116 ppm NOx; natural gas flow = 160 Kscfh; steam load = 126.8 Klb./hr.; NOx permit limit = 0.550 lb/MMBtu.

No. 3 boiler data = 178 ppm NOx; NOx rate = 0.24 lb./MMBtu; compared with permit limit = 0.55 lb./MMBtu; NOx mass = 35.65 lb/hr.; steam load = 116 Klb./hr.; natural gas flow = 147 Kscfh; O2 = 4.71%.

Full CPP operations show:

Boiler No.1 = 0.0 (off);

No. 2 = 55 Kpph steam;

No. 3 = 114 Kpph steam;

No. 4 = 125 Kpph steam;

No. 6 = 0.0 (off):

No. 7 = 0.0 (off);

No. 8 = 51.9 Kpph steam.

Generator No. 1 = 7.01 MW;

No. 7 = 3.1 MW;

No. 8 = 7.37 MW;

No. 9 = 0.0 d(off);

No. 10 = 4.21 MW.

All units firing on natural gas. No VEs.

NOx water on gas turbine No. 10 (Boiler 8) operating @ 2.6 gpm water and 56 Kscfm natural gas flow .

Gas Turbine No. 9 is currently down as the generator recently grounded out, in Dec. 2013, and needs to be sent off for re-winding. They had to remove the concrete block wall at the rear of the turbine in order to remove the generator from the building. The generator has never been re-wound in its approximately 24 years of operation. They will be looking at No. 10 generator more closely to assess whether it will need re-winding also,

Next we went to UM Hospital to observe the new EtO sterilizer operations covered under PTI No. 30-13. Met with EtO Supervisor, Eric Anderson and his staff. They recently replaced the previous 3 EtO units with 6 smaller EtO units which utilize 100 % EtO as the sterilant. The 4 larger new units use 170 grams EtO for each load, supplied by 1-time use canisters. All of the sterilant contained within the canisters is emitted into the sterilizer chamber leaving no residual EtO within the discarded metal canister for disposal as a non-hazardous waste. The 2 smaller new units use 100 grams EtO for each load, again supplied by 1-time use canisters. UM no longer uses a mixture of EtO and an HCFC as the sterilant gas.

The 6 sterilizers are ducted to individual catalytic oxidizer abator control systems and then to ductwork exhausting out the top of the building. Scavenger ductwork evacuates several areas; around the charging doors, and within the loading room, to a separate uncontrolled exhaust stack also on the roof of the building.

Went next to the NCRC powerhouse to meet w/Plant Operator, Dave Judge

Boiler No. 1A = 0.0 Klbs./hr. steam; (off)

Boiler No. 1B = 0.0 (off);

Boiler No. 2 = 0.0 (off);

Boiler No. 3 = 0.0 (off);

Boiler No. 4-HRSG boiler connected with gas-fired turbine showed turbinie exhaust plus the duct burner were producing 32.4 Klb/hr of steam.

Boiler No. 5 = 33 Klbs./hr. steam;

Boiler No. 6 = 0.0 (off)

Gas-fired turbine was generating 3.1 MW of electricity.

All units were burning natural gas. No VEs from any stack.

In late Dec. 2013 the MichCon natural gas supply meter leading to the co-generation system failed due to freezing. The natural gas flow was not interrupted, so the turbine kept operating at normal, routine levels. The natural gas flow can reasonably be accounted for with the turbine operational output data. The problem was in MichCon equipment. MichCon responded with replacing the natural gas flow meter several days later, but then they found that water had seeped back to the natural gas control valve, requiring emergency venting of natural gas, and an immediate shutdown of the co-generation system. The emergency gas venting lasted 3-4 hours.

Brandi Campbell previously reported this situation to AQD in a prompt and acceptable manner.

All emission units observed during this inspection appeared to be operating in full compliance with all applicable ROP conditions.

NAME GLEN ERICKSON DATE 4-22-14 SUPERVISOR