

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

U69170950042740

FACILITY: Riverside Energy Charlton 16 CPF		SRN / ID: U691709500
LOCATION: East of Crapo Lake Rd- Center Sec 16		DISTRICT: Cadillac
CITY: Johannesburg		COUNTY: OTSEGO
CONTACT:		ACTIVITY DATE: 12/19/2017
STAFF: Bill Rogers	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: Inspection and record / report review		
RESOLVED COMPLAINTS:		

On December 19, 2017, I inspected the Riverside Charlton 16 CPF, located in the center of Section 16, South Charlton Township, T29N R01W. I did this in response to a report from Riverside received December 4, 2017, giving Potential to Emit (PtE) calculations for the facility and claiming that the facility is exempt from the requirements for a Permit to Install. This report contains both the record of my inspection and review of that report.

REPORT REVIEW

The report states the facility contains a Caterpillar G3512 LE engine rated at 810 HP. Riverside calculated potential to emit based on Caterpillar Inc. manufacturer's emission data for this model of engine.

Riverside states heat input of the engine is less than 10,000,000 BTU/hour. Therefore the engine would be exempt from permit requirements under Rule 285g, so long as potential to emit is below significance levels. They further state that uncontrolled PtE is 19.33 tons NOx per year, which is less than the significance level of 40 tons per year. They claim CO PtE is 12.5 tons per year, less than the significance level of 100 tons. They claim VOC PtE is 3.67 tons per year, which is less than the significance level of 100 tons. If heat input is below 10 million BTU per hour and all emissions are below significance levels, Riverside would be correct that the engine qualifies for the permit exemption provided in Rule 285(g).

Riverside further states that while they don't know the engine manufacturing date, they can assume it was before 1990 since the facility was built and operating before that date. The engine would therefore be exempt from NSPS IIII and JJJJ.

Riverside states the glycol reboiler emits less than 1000 pounds per month, and would therefore qualify for a permit exemption under Rule 290(a). Calculations included state emissions are 61 pounds per year, well under 1000 pounds per month. The glycol reboiler burner is rated at 125,000 btu per hour, and therefore qualifies for exemption as a process heater of less than 50 million BTU per hour, under Rule 282(b)(i). The glycol reboiler processes only Antrim Formation gas, and would therefore also be exempt from permitting under Rule 288(b)(ii).

Although exempt from State permits, Riverside would still have to show compliance with the Federal MACT for glycol dehydrators. Glycol dehydrators are exempt from the more stringent pollution control requirements of this MACT if they can be shown to emit less than approximately one ton of benzene per year. If total VOCs from the dehydrator are in the range of 61 pounds per year, and benzene, being a VOC itself, must be part of that 61 pounds (if it is present), the facility must be emitting less than 1 ton of benzene per year.

SITE INSPECTION

I arrived on site at 2:30 PM on December 19.

The facility includes one medium sized compressor shed and two storage tanks. The storage tanks are vented to atmosphere but had no odor. They are piped to a well labeled as "SWD," Salt Water Disposal, specifically the Riverside Energy Michigan, LLC, Charlton 16-1-89 Babas 1-16 SWD, Permit 43234. Therefore these storage tanks appear to be brine tanks.

The brine tanks are both smaller than the usual 400 barrel size. Judging by eye, together they might contain about half as much as one of the 400 barrel tanks.

There was also a drum on stilts style tank of about 300 gallon capacity outside the compressor shed. It is unlabeled but since it is near the radiator of the compressor engine, and since external coolant tanks are common for these engines, it appears likely this tank was for engine coolant.

The dehydrator still exhausts through a pipe of about 1.5 inches diameter, emerging from the side wall of the compressor shed about 10 feet above ground. The pipe terminates in a T shaped fitting. It had wisps of "steam" coming from it. There was a strong glycol odor near the vent.

The burner vent was about 6 inches diameter by 16 feet high, terminating in a flat cap. It had no opacity. I didn't find a builder's plate giving the heat input capacity of the burner, but it is claimed to be 125,000 BTU/hour and it appeared to be the same size as 100,000 and 125,000 BTU/hour burners I have seen at other facilities.

Near the dehy vent, on the outside of the shed, I saw a digital display. Among other things it stated fuel gas was 74.5 MCFD.

The shed contains one medium sized Caterpillar natural gas fired compressor engine with no catalytic oxidizer. The engine is labeled as GCS 852 in metal letters welded to the engine mount, labeling it as Unit 852 of (the former) Gas Compression Services Company. Analog instrument readouts were engine oil pressure 60 PSI, compressor oil pressure 58 PSI, engine coolant temperature 200 degrees f. There was also a digital engine readout reporting 79,315 hours of operation, 1034 RPM, 27 volts, 57 PSI (engine oil pressure, presumably) and 184 degrees f (engine coolant temperature, presumably).

The shed also contained the following tanks:

- Two horizontal drums inside a wooden berm structure, perhaps 300 gallons each, labeled Used Oil Only
- One 300 gallon drum on stilts tank labeled Chevron American Industrial Oil, ISO 100
- One 300 gallon drum on stilts tank labeled Chevron Gas Engine Oil HDAX SAE 30
- One 300 gallon drum on stilts tank labeled Methanol
- One 55 gallon drum, on a rack, labeled Triethylene Glycol

The engine stack exits the shed horizontally to a horizontal muffler, then is directed through a pipe elbow to exhaust unobstructed vertically upward. Height appeared to be about 12 feet, diameter about 12 inches. There was no opacity in the exhaust.

Facility maintenance appeared good. I saw some dampness on concrete beneath one of the pressure vessels inside the shed, but there was no staining and the amount of moisture was small. There was no visible leak. In my opinion condensation is the most likely source of this moisture.

NAME William J Rogers Jr.

DATE 12/20/2017 SUPERVISOR SN