

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

N702243867

FACILITY: RIVERSIDE - THRIVE WEST/WARNER 2 CPF		SRN / ID: N7022
LOCATION: Elmira Thrive West, ELMIRA TWP		DISTRICT: Gaylord
CITY: ELMIRA TWP		COUNTY: OTSEGO
CONTACT: Natalie Schrader		ACTIVITY DATE: 03/16/2018
STAFF: Bill Rogers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Compliance inspection. FCE. Permit voided on company request after one engine was removed.		
RESOLVED COMPLAINTS:		

On March 16, 2018, I inspected the Riverside Thrive West/Warner 2 CPF.

This facility was, until recently, an opt out facility. This is a scheduled inspection and FCE for an opt-out source. However, Riverside has changed equipment at the facility and now claims it is minor. They have voided the permit. According to Potential to Emit calculations, the source is minor.

During my inspection I found a third engine, in a third compressor shed. It was operating. According to Natalie Schrader of Riverside (email attached) this is not Riverside's, and does not count toward the facility's actual emissions. It would count toward site potential emissions if the entire collection of natural gas production equipment at all adjacent facilities were major under Title V. As the different companies' equipment is in the same industrial classification and is adjacent, all of it combined is considered a single facility for Title V Potential to Emit purposes. However, the engines are all small enough that total potential to emit would be under Title V major amounts, so this is not an issue.

The latitude and longitude of the facility in our database was incorrect. I have attempted to fix this in MAERS, while doing the audit of the facility's 2017 MAERS Report. I will also send a note to Lansing staff to make sure the correct latitude and longitude did in fact update in our database.

For reference, correct latitude and longitude are 45.1035, -84.8350.

PERMIT VOID

On February 14, 2018, Natalie Schrader, Compliance Coordinator for Riverside Energy Michigan, sent an email requesting termination of PI 65-09 for the Thrive West/Warner 2 CPF, "following facility consolidation and permanent shutdown of one of the compressors."

On February 28, in a follow-up email, Ms. Schrader reported that as a worst case estimate, with the one remaining compressor, "max PTI for NOx is 15.22 TPY, CO and VOC are 9.83 and 2.89 TPY respectively."

Assuming the calculations are correct, the facility would be a minor source. Accordingly, we voided the permit.

During my inspection I found that although our permit and our past inspections of this facility reported two engines in two buildings, there were actually three compressors in three buildings. According to Ms. Schrader, the third compressor belongs to Breitburn; our databases list it as the Breitburn Peggy Fleming CPF, N6120.

For Title V Potential to Emit purposes all three compressors should be considered one site, as the facilities are in the same industrial classification and are adjacent. The combined potential of all three is of concern if it could be enough to bring the total up to Title V major levels of 100 TPY for any criteria pollutants. For a natural gas CPF this means considering NOx and CO emissions, as a practical matter, since these are far larger than any other emissions.

According to the 2017 MACES emission reports, Riverside's site emissions (with two engines operating, one of which is now shut down) were 15 tons CO and 12 tons NOx, for 2017. Emissions from N6120, the Breitburn Peggy Fleming, were 7 tons CO and 8.8 tons NOx. Reports for source total emissions for both facilities are attached. As these amounts are so far below 100 tons, it appears the combined facilities could not qualify as a Title V Major Source. Therefore we don't have to consider them as one combined facility for emissions purposes.

Permit Conditions

Permit 65-09 covered this facility until February of 2018.

Permit 65-09, section FGDEHY, covers two glycol dehydrators for Antrim natural gas. The table requires compliance with the Area Source MACT for glycol dehydrators, 40 CFR 63 Subpart HH. AQD has not accepted delegation for enforcing this Subpart. Therefore I did not check the dehyhs for compliance.

Based on experience with dehydrators and Antrim natural gas, however, it seems very likely that both dehydrators are exempt from the more stringent emission control requirements of Subpart HH. Antrim natural gas has very low content of Hazardous Air Pollutants, including benzene. Benzene emissions from Antrim Formation dehydrators are generally negligible. Benzene emissions would have to be about a ton or more in order for the more stringent emission control measures of Subpart HH to apply.

Section FGENGINES covers two natural gas fired reciprocating internal combustion engines, identified as EUENGINE1 and EUENGINE2. According to data Riverside supplied, EUENGINE1 is a CAT 399TA, 830 HP, Unit #792. During the onsite inspection, I found an engine labeled as Unit 792 inside the building labeled as the Thrive West. EUENGINE2 is a CAT 3412, 637 HP, listed on the emission calculation form as Unit 186. I did not find an engine with this unit number on site. The engine I found, in the building labeled Warner 2, was marked as Unit 163. The emissions data for EUENGINE2 claims no catalytic oxidizer, and the engine I found had no catalytic oxidizer.

FGENGINES table sets emissions limits of 11 TPY NOx and 17 TPY CO for EUENGINE1, 15 TPY NOx and 12 TPY CO for EUENGINE2. According to emission calculations, attached, EUENGINE1 emitted 4.45 tpy NOx and 14.97 tons CO, EUENGINE2 emitted 9.02 tons NOx and 7.21 tons CO, in the 12 months ending October 2017. These emission rates comply with the permit conditions.

Condition III.1 requires an approved Malfunction Abatement Plan. AQD approved Riverside's MAP for this facility September 15, 2009. This complies with the permit condition.

Condition III.2 prohibits operating an engine which has an add on control device more than 200 hours per year without that control device. Condition VI.4 requires keeping track of the hours an engine operated without its control device. This information is not in the data Riverside provided us. The absence of this data is moot, as EUENGINE2 does not have an add-on control device and EUENGINE1, which does, is supposedly permanently shut down. The third engine on site does have a catalytic oxidizer, therefore keeping track of hours operated without the add-on control device will be an issue assuming the facility turns out not to be a true minor source. I will discuss this with Riverside to determine whether they are keeping this data, and to encourage them to do so if they are not.

Condition IV.2 requires a device to monitor and record fuel to the engines. Condition VI.5 requires keeping records of this information. This was included in the information Riverside provided us. It complies with the permit conditions.

Condition VI.3 requires maintenance logs for EUENGINE1 and EUENGINE2. These are included in the attached information and comply with the permit condition.

Conditions VI.6 and 7 require monthly and 12 month NOx and CO calculations. These are included in the data Riverside provided us. This complies with the permit conditions.

Condition VIII.1 and VIII.2 set stack conditions of 12 inch maximum diameter and 37 feet minimum height for the exhaust stacks of EUENGINE1 and EUENGINE2. The stacks on site appeared to meet these conditions.

Table FGFACILITY:

FGFACILITY, Conditions I.1 and I.2, set facility wide NOx and CO emission limits of 31 and 35 tons per year, respectively. The emissions calculations and MAERS reporting data provided by Riverside indicate compliance with these permit conditions.

Condition II.1 prohibits burning sour natural gas at the facility. There are iron sponges on site which indicate that there is some hydrogen sulfide to be removed from the gas, but I didn't see or smell anything to make me suspect the fuel gas to the facility was sour.

INSPECTION:

The facility is off Webster Road about a mile north of its intersection with Theisen Road. It is a large facility and not difficult to spot.

The facility includes three compressor sheds. There are two smaller sheds along the west side of the facility. The southern of these is labeled Thrive West, and was included in PI 65-09. The northern is

labeled Peggy Fleming CPF and was not included in that permit. I am not able to find this facility under a separate State Registration Number, and it has not been included in SRN N7022 previously. I will ask Riverside for clarification on this issue.

The larger shed on the east side of the facility is labeled as Thrive West. According to signs on the outside of the buildings, Riverside Energy currently operates all three.

SOUTHWEST BUILDING, THRIVE WEST:

The southwest building contains a glycol dehydrator with a Wenco flame arrested burner. According to its builder's plate it is rated at 125,000 BTU per hour. The burner stack is about 20 feet high and 6 inches diameter, exhausting unobstructed vertically upward. The still vent is about two inches diameter and 14 feet above ground level, terminating in a T-shaped pipe fitting. The glycol dehydrator did not seem to be operating at the time of my inspection.

Inside the building I found one medium sized Caterpillar compressor engine with a catalytic oxidizer. It was labeled as GCS 792 in metal characters welded to the engine mount. This corresponds with the "Unit 792" identification in Riverside's records from the Thrive West. Estimating stack dimensions by eye, I thought it might be eight inches diameter and 35 or 40 feet high. This would comply with the permit limits of 12 inches maximum diameter and 37 feet high.

The engine was not operating at the time of my inspection. According to Riverside this engine has been permanently shut down.

A digital display on the outside of the building was not operating. Labels stuck to this box indicated one saying which value was "fuel." This indicates that there is likely a fuel measuring meter at the facility, as required by permit.

Minor items on site included two 300 gallon drum on stilt tanks over a wooden berm structure outside the compressor shed near the dehydrator. These were wrapped in a tarp to protect them from snow and weather, so I couldn't see whether they were labeled. It would be typical to have such tanks for triethylene glycol and methanol near a glycol dehydrator. Inside the shed I found two more 300 gallon drum on stilt tanks over another wooden berm. The tanks here were labeled Chevron HDAX Low Ash Gas Engine Oil and Chevron Regal R&O ISO 100 oil. There was also a larger orange drum-style tank labeled as waste oil and three 55 gallon drums, sealed, labeled as waste- used oil filters.

There was no opacity, and no odor. I didn't see stained soils or any other evidence of leaks.

EAST BUILDING, WARNER 2

The east building is labeled as Building No. 1 and also as the Riverside Warner 2 CPF. It has an H2S safety light which was green at the time of my inspection.

The building has an iron sponge outside. Iron sponges are used to remove modest amounts of hydrogen sulfide from natural gas, so the presence of an iron sponge suggests some of the gas supplied to the facility contains H2S. However, I didn't see or smell anything that made me suspect there might be sour gas being used to fuel equipment on site.

There is a glycol dehydrator in the compressor shed. It has a Hanover Flame Arrested Burner. According to its builder's plate, the burner is rated at 200,000 BTU per hour. The burner stack was about 10 inches diameter and 20 feet high, exhausting unobstructed vertically upward. The still vent was about 2 inches diameter at about 12 feet high, ending in a T-cap. I didn't notice any "steam" from it but there were mild glycol odors nearby, so it appeared to be operating.

The shed contains one medium sized Caterpillar natural gas fired compressor engine with no catalytic oxidizer. It was labeled as GCS 163 in metal letters welded to its engine mount. This does not match the unit number Riverside gave us in their documentation.

The engine was running at 1799 RPM. The engine stack was about 12 inches diameter and 30 to 40 feet high, which would comply with permit limits. There was no opacity from the engine stack.

Minor items noted on site included two 300 gallon drum on stilt tanks inside the compressor shed. One was labeled Chevron HDAX Gas Engine Oil and one as Chevron Regal ISO 100 oil. These tanks were above lined, wooden berm structures.

There were 3 sealed drums labeled waste-used oil filters.

I didn't see any stained soils or other evidence of spills or leaks. Maintenance appeared good.

OTHER:

The facility includes two 400 barrel tanks inside a berm between the east building and the two west buildings, probably a brine tank and a slop oil tank. There is a SWD (Salt Water Disposal) well on site, labeled St Elmira 13-5 SWD, Permit 45945.

NORTHWEST BUILDING, PEGGY FLEMING CPF:

As this compressor facility was adjacent and I thought it might need to be considered as part of the same site, I inspected it also. Results for that inspection are in a separate inspection report under Breitburn Peggy Fleming, SRN N6120.

NAME William J Rogers Jr.

DATE 4/13/2018

SUPERVISOR SN