

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

B719644738

FACILITY: ANR Storage Company - Excelsior Compressor Station		SRN / ID: B7196
LOCATION: 4936 State Rd. NE, KALKASKA		DISTRICT: Cadillac
CITY: KALKASKA		COUNTY: KALKASKA
CONTACT:		ACTIVITY DATE: 06/05/2018
STAFF: Chance Collins	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection for FCE		
RESOLVED COMPLAINTS:		

On June 5, 2018 AQD staff traveled to Kalkaska County to perform an inspection of the ANR Storage Company – Excelsior Compressor Station. The purpose of the inspection was to determine the facility's compliance with MI-ROP-B7196-2017 and applicable state and federal air pollution control regulations 40 CFR Part 63 Subpart HHH and 40 CFR Part 63 Subpart DDDDD. The Facility is also subject to 40 CFR Part 63 Subpart ZZZZ which the DEQ is not delegated to enforce. AQD staff noted that the facility consists of two Ingersoll Rand 3750 hp compressor engines, a glycol dehydration unit, a Cleaver Brooks natural gas boiler, an emergency generator, two withdrawal heaters, and numerous gas separating equipment devices (PTI exempt).

ANR Storage Company – Excelsior Compressor Station is a natural gas storage facility. There are two distinct operating seasons for the facility. Injection (usually April through October) and Withdrawal (usually November through March). Different equipment is in operation at the facility depending on season. While this full compliance evaluation is being conducted during the injection season, the records for each season are being reviewed to determine compliance.

AQD staff arrived on site at 1:00 p.m. to cloudy conditions with a temperature of 75°F, and an E wind at 5 mph. There were no noticeable odors upon arrival.

AQD staff met with Mr. Brian Miller who answered all questions and escorted staff around the site. At the time of the inspection the Glycol Dehydration system was offline due to the facility being in the injection season. The Glycol Dehydration system is only online during the withdrawal season. The Thermal Oxidizer BTEX are also offline during the injection season. At time of inspection EUEXCOMP-A was offline for repairs and EUEXCOMP-B was online at 324 rpm.

The following discusses the review of records supplied by ANR Storage Company – Excelsior Compressor Station.

FGEXCOMP

I. Emission Limits

1. NO_x 99.2 lbs/hr per engine: Compliance has been demonstrated by stack testing. EUEXCOMPA stack test (08/19/2014) measured at 66.84 lb/hr (passed). EUEXCOMPB stack test (06/18/2014) measured at 85.81 lb/hr (passed).

II. Material Use Limits

- Compressor engine fuel gas total sulfur content is less 20 grains per 100 cubic feet based on 3/17/2014 certificate of analysis indicating H₂S as non-detectable, 0.1 ppm detection limit.

III. Process/Operations Restriction

- Permittee shall maintain an AQD approved Preventative Maintenance Plan for FGEXCOMP.

IV. Design/Equipment Parameter

- Each compressor engine is demonstrated to have been designed not to emit more than 12 grams of NO_x per brake horsepower hour at 100% speed and 100% torque by compliance with the 99.2

lb./hr. emission limit which has been demonstrated. The 99.2 lb/hr limit is based on the original PTI limit of 12 grams/hp-hr x 3750 hp per engine.

V. Testing/Sampling

1. NO_x emissions from each engine shall be tested once every five years. This condition is being met. Latest stack test dates listed in Special Condition I.1.
2. Permittee shall determine the composition, including total sulfur, of the natural gas burned in the compressor engines at least once every five calendar years. This condition is being met. The composition of compressor engine fuel gas total sulfur content is listed in Special Condition II.1

VI. Monitoring/Recordkeeping

1. Preventative maintenance records are recorded and logged. Maintenance records were reviewed on site and were acceptable. No significant preventative maintenance occurred.

VII. Reporting

- 1., 2., 3., ROP deviation, semiannual and annual reporting. All reports have been submitted in a timely manner and with proper certification. Reports were reviewed as they were received.
- 4., 5., 6. The stack test protocol reporting. Test results were provided in a timely manner and were complete. The reports were reviewed at the time they were received.

VIII. Stacks

- 1., 2. There have been no changes to the compressor engine stacks and they appeared to meet the minimum height and maximum diameter requirements.

Boiler

The ANR Excelsior facility has one natural gas fired boiler that is used to heat the generator and compressor buildings as well as heating the compressor engine fuel. The following is the nameplate data from the boiler:

Boiler Mfg.	Cleaver-Brooks
Serial Number	L68920
Model	CB 00-60
Date	4-18-80
Heat Input Rating	2,511,000 Btu

The boiler is PTI exempt but is subject to 40 CFR 63 Subpart DDDDD. The compliance date for this boiler was January 31, 2016. 40 CFR Part 63 / Subpart DDDDD compliance certification reports were received on time. The most recent tune-up was 2/15/2017 (no emissions or operating parameter limitations).

EU EXGLYDEH

I. Emission Limits

1. VOC limit 108 lbs/day: Monthly emissions during operation were below the daily limit. December 2017 (45.634 lbs.), January 2018 (33.027 lbs.), February 2018 (36.451 lbs.), March 2018 (33.119 lbs.), April 2018 (12.274 lbs.). See attached "Dehydration System Rolling Total Monitoring Report".
2. VOC limit 18.3 TPY: 12 month rolling time period VOC emissions were 0.081 tons.

3. Benzene Less than 0.90 Mg (0.992 TPY): Benzene emissions were 8.315 lbs.

Also, must comply with the 40 CFR 63, Subpart HHH BTEX emission limits as demonstrated through required stack testing. 40 CFR Part 63 Subpart HHH compliance certification reports were received on time, testing has been completed and operating parameters are specified. No equipment leaks, or operating parameter exceedances occurred.

II. Material Limits

1. There are no material use limits.

III. Process/Operational Restrictions

2. A glycol separator is installed and operating properly.
3. Glycol dehydration unit shall not be operated during thermal oxidizer malfunction for more than 4,500 hours per 12 month rolling time period. Condition is being met. No deviations reported.
4. Stripping gas is not used in the glycol dehydration unit.
5. Permittee shall not operate the glycol dehydration system unless the thermal oxidizer is operating at a temperature of at least 760°C (1400°F), and the VOC destruction efficiency is at least 95% by weight, except during a thermal oxidizer malfunction event. Condition is being met. No deviations reported.
6. The permittee shall not operate the glycol dehydration system during a thermal oxidizer malfunction event. Condition is being met. No deviations reported.
7. Glycol dehydration unit utilized a closed vent system. All gases are directed to the thermal oxidizer.
8. The glycol dehydrator is equipped with both a condenser and Thermal Oxidizer.

IV Design/Equipment

2. The thermal oxidizer is equipped with a temperature monitor and alarm system.
3. The condenser is equipped with a temperature monitor and alarm system.

V. Testing/Sampling

2. Annual natural gas flowrate to EUEXGLYDEH: 5,958.9 mmscf.

VI. Monitoring/Recordkeeping

1. Condenser and Thermal Oxidizer alarm event log. Alarm log includes incidents where the alarm was triggered but the temperatures were in compliance. One thermal oxidizer average hourly temperature reported low. The unit was cycling to keep warm and was not processing any gas.
3. Dehy hours of operation, monthly and 12-mos rolling. Glycol dehydrator hours of operation are tracked in the Thermal Oxidizer Operating Hours column of the "Dehydration System Rolling Total Monitoring Report" attached.

VII. Reporting

- 1., 2., 3., ROP deviation, semiannual and annual reporting. All reports have been submitted in a timely manner and with proper certification. Reports were reviewed as they were received.

EUEXGEN-B**I. Emission Limit**

1. No applicable emission limit.

II. Material Limit

1. No applicable material limit.

III. Process/Operational Restriction

1. EUEXGEN-B may operate during emergencies.
2. EUEXGEN-B is operated once monthly maintenance checks.
3. EUEXGEN-B is not operated in non-emergency situations other than maintenance checks.
4. EUEXGEN-B is operated and maintained per manufacturer's emission related written instructions and site-specific maintenance plan. Maintenance records were reviewed on site and were acceptable.
5. Oil filter, spark plugs, hoses and belts have been inspected and replaced as required.
6. Oil changes have been performed as specified in Special Condition III.5
7. Engine idle time is minimized per normal operational procedures.
8. There are no applicable emission limits for EUEXGEN-B.
9. Maintenance records reviewed on site indicate EUEXGEN-B has been properly operated and maintained.

IV. Design/Equipment Parameters

1. EUEXGEN-B is equipped with a non-resettable hour meter.

V. Testing/Sampling

1. Not applicable.

VI. Monitoring/Recordkeeping

A. ZZZZ notifications were reviewed as received.

B., C., D., E., F. Maintenance records were reviewed on site and were acceptable.

2. Oil analysis records are maintained. Records were reviewed on site and were acceptable.

VII. Reporting.

1.,2.,3., ROP reporting was received timely and with proper certification. Reports were reviewed as they were received.

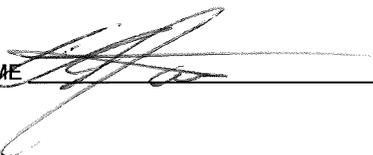
VIII. Stack/Vent Restrictions

Not applicable

Conclusion

As a result of this inspection and records review AQD staff finds the ANR Storage Company – Excelsior Compressor Station facility in compliance with MI-ROP-B7196-2017.

NAME



DATE 07/19/2018

SUPERVISOR

