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

N815147911

FACILITY: VECTOR PIPELINE L.P., Athens Compressor Station		**SRN / ID:** N8151
LOCATION: 4981 2 Mile Rd, ATHENS		**DISTRICT:** Kalamazoo
CITY: ATHENS		**COUNTY:** CALHOUN
CONTACT: Joe Hubbard , Instrument and Operations Technician		**ACTIVITY DATE:** 02/20/2019
STAFF: Amanda Chapel	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On February 20, 2019, AQD's Amanda Chapel (staff) conducted an unannounced air quality inspection at Vector Pipeline located in Athens, Calhoun County Michigan. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) MI-ROP-N8151-2016 for a solar turbine incorporated Mars 100s natural gas fired turbine with a rating of 15,000 hp and maximum heat input of 120 MMBtu/hr which is equipped with a SoLONOx emission control (EUTURBINE1) as well as a natural gas fired spark ignition internal combustion generator with 6.0 MMBtu/hr rating (EUSPU) and all applicable state and federal air regulations. The facility is considered to be a major source for carbon monoxide and an area source for HAPs. The following will summarize facility operations and compliance status.

The facility is a natural gas compressor station which is a joint venture between Enbridge, Inc. and DTE Energy which operates a 350 mile, 42-inch pipeline that transports approximately 1.3 billion ft3/day of unodorized natural gas from Joliet, Illinois to Ontario, Canada. Vector Pipeline has five natural gas compressor stations along the pipeline to supply and transport natural gas to various parties. Recently, the 800-mile long Rover Pipeline was completed through West Virginia, Pennsylvania, Ohio, and Michigan. The pipeline transports natural gas produced in the Marcellus and Utica Shale formations in the first three listed states. The Rover Pipeline is connected to Vector somewhere in Livingston county and was completed in May or June, 2018.

The Athens location of Vector Pipeline has four staff that work one shift per day from 7 to 3:30 pm Monday to Friday. As of the last inspection on May 17, 2017, the facility was in compliance with the permit. Staff was greeted by Joe Hubbard, Instrument and Operations Technician. I watched a brief Vector Pipeline video on possible hazards, emergency evacuation plans, and required PPE at their gas compressor stations. Required PPE is fire resistant (FR) clothing which was provided to staff by ACS, safety glasses, hard hat, and hearing protection in the turbine building when running. Staff was provided with a contractor safety orientation sticker following the video which is valid for one year.

There have been no changes to the facility since the last inspection. The last stack test on April 10, 2018, showed a NOx concentration value of 19.5 ppmv at 15% O2 running at 97% load. Because the testing showed the NOx value was higher than 75% of the NSPS 40 CFR Part 60, Subpart KKKK value, the re-test must happen within 14 months of the previous testing date., The current test is scheduled for May 21, 2019 which is within the required 14-month period.

During the inspection discussion, staff was told that the turbine runs only occasionally now. It has only run one time in 2019, during the most recent polar vortex, and has only run about 1,000-1,500 hours since 2018. At the time of the inspection, neither the SPU nor the turbine were in operation. The turbine is only run on natural gas. The facility is exempt from monitoring the total sulfur content of the natural gas per 40 CFR 60.4365(a) based on a FERC gas transportation tariff which specifies the maximum total sulfur content must not exceed 20 grains/CCF. The sulfur and H2S content were monitored at both Belle River and the Alliance stations. At the time of the inspection, a screen shot of the current sulfur and H2S content was obtained during the inspection. The H2S content was 0.0401 GR/CCF on the main line and 0.0257 GR/CCF at the meter. The sulfur content was 0.0030 GR/CCF on the main line and 0.0033 GR/CCF at the meter which is well below the 0.06 lb SO2/MMBtu heat input (equivalent to 20 grains/100 ft3 (CCF)).

Staff also obtained a copy of the monthly operating hours, monthly fuel usage (MCF), 12-month rolling total operating hours, and 12-month rolling total fuel usage (MCF) for the EUSPU. Maintenance checks and readiness testing are done on a pre-determined schedule of 1 time per week for 30 minutes. This maintenance is not being tracked individually but the testing is only equal to two hours per month or approximately 26 hours per 12-month rolling time period. Since the permit limits the EUSPU to not more

than 100 hours per 12-month rolling time period, this maintenance schedule meets the permit limit. The current total operating hours on the SPU is 525 hours. From January 2018 to January 2019, the month with the most run hours was May 2018 with 7.1 hours run using 5.97 MCF of fuel. The 12-month rolling hourly total as of January 2019 is 45.8 hours.

Since the turbine was not in operation at the time of the inspection, the following numbers were obtained for the turbine:

Operating speed: 0%
Natural gas producer speed: 0%
SoLONOx: Off, not running
Natural gas flow rate: 0 MMscf/day
Natural gas high heating value: 1071.77 Btu/scft
Turbine HP: 0 HP
Pipeline gas pressure: Inlet – 703.6 psig Outlet – 703.6 psig
Total operating hours: 24,571 (reset following March 2014 replacement)

Finally, Mr. Hubbard walked staff around the facility. The overall process in the facility is the gas comes into the station using the main line, it is then sent through a scrubber to knock out any moisture, and then it is sent through the inlet to the compressor after which, the compressed gas is discharged back to the main line. The facility has no storage capacity.

We walked into the maintenance area. The SPU was not running but appears to be in working order. We then walked into the turbine building. The facility has eleven catalytic natural gas fired heaters in the turbine building, each having a heating capacity of less than 60,000 Btu/hr. Seven of the heaters are around the inside of the building to maintain a specific temperature for the turbine. The other four are located in a box for the in-line heater to pre-heat gas that is routed to the turbine that has a total heat input capacity of 100,000 Btu/hr. These heaters are exempt from air permitted requirements per Rule 282 (2)(b)(i). There are no cold cleaners or boilers at the facility. The turbine undergoes a slow-roll testing which lasts 15-20 minutes every 1-2 weeks. This is done to check that the turbine is in working order in case they are needed to start up. During the testing the turbine is not actually started.

Once back in the main building, I thanked the staff for answering my questions and showing me around the facility. I left the facility about 10:20 am. The facility appears to be in compliance with all requirements in MI-ROP-N8151-2016 and all other state and federal requirements.

NAME Anna Clark DATE 2/21/19 SUPERVISOR RIL 2/25/19