

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N676466709

FACILITY: DCP West Branch Compressor Stn		SRN / ID: N6764
LOCATION: M-55 West of Simmons Rd, WEST BRANCH		DISTRICT: Bay City
CITY: WEST BRANCH		COUNTY: OGEMAW
CONTACT: Bob Hipsher , Field Operator		ACTIVITY DATE: 03/16/2023
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Onsite Inspection for FY23		
RESOLVED COMPLAINTS:		

On March 16, 2023, AQD staff conducted a scheduled onsite inspection at the DCP West Branch Compressor Station, SRN N6764. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) and to determine compliance with the facilities Permit to Install (PTI), PTI No. 16-00. AQD staff were assisted onsite by Mr. Bob Hipsher. Requested records were provided by Mr. Chad Winn. At the time of inspection, the facility was found to be in compliance.

Facility Description and History

The DCP West Branch Compressor Station is located on the north side of M-55 between Dam Rd and Simmons Rd in West Branch, MI. Google Maps lists the service road the facility is located on as Lou Ann Ln. Coordinates for the facility are 44.283337, -84.191568.

The DCP West Branch Compressor Station is used to compress pipeline natural gas during periods of increased demand for transport down the pipeline where the gas will be used for energy production. Staff report the facility's peak operating season typically occurs during the warm summer months. Gas enters the facility and is first passed through a liquid knock out. The separated liquids are sent to a 60 bl onsite storage tank where they are stored until they are trucked out from the facility for disposal. The gas is compressed using the four onsite compressor engines and sent down the pipeline.

The DCP West Branch Compressor Station is a synthetic minor source of nitrogen oxides (NOx) and carbon monoxide (CO). The facility is a minor source of hazardous air pollutants (HAPs). One Permit to Install is associated with the facility, PTI No. 16-00. Issued on March 10, 2000, PTI No. 16-00 encompasses all four compressor engines and establishes operating restrictions to ensure the facility remains below Title V thresholds.

No recent complaints are on file for the facility. The facility was last inspected in February 2019. At the time of the 2019 inspection, the facility was found to be operating in compliance. As a synthetic minor source, the facility is required to submit annual emission reports to the Michigan Air Emissions Reporting System (MAERS). Emission reports for the facility have historically been submitted on time and complete.

As part of the onsite inspection, AQD staff utilized a Nikon Forestry Pro II Laser Rangefinder to measure the stack heights of permitted emission unit stacks at the DCP West Branch Compressor

Station. Measurements were taken in two-point measurement mode from locations in which both the top and bottom of the stacks were visible.

Compliance Evaluation

The DCP West Branch Compressor Station consists of four compressor engines, EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4. The four engines comprise the flexible group, FGENG1-4. All four engines are identical 1305 bhp, natural gas fired, reciprocating compressor engines.

The engines were not operating at the time of inspection. As part of the onsite inspection, AQD staff verified all four units were CAT 3516 engines. Each unit is equipped with a large cooler at the end of the compressor. As gas is compressed its temperature increases. The coolers act like a radiator and are used to cool the gas stream prior to it entering the main line.

Each engine in FGENG1-4 was visually verified to be equipped with a catalytic oxidation system, Special Condition (S.C.)5. The catalyst system for each engine is located on the outside of the building in which the engines are housed. The exhaust gases from FGENG1-4 shall be discharged unobstructed vertically upwards to the ambient air from four stacks (SV00001 through SV00004), each with a maximum diameter of 12 inches at an exit point not less than 30 feet above ground level, S.C.4. AQD staff measured the heights of each stack using a Nikon Forestry Pro II Laser Rangefinder. The following measurements were observed. The stack height of EUENGINE1 was measured to be 29.4ft above ground level. The stack height of EUENGINE2 was measured to be 28.7ft above ground level. The stack height of EUENGINE3 was measured to be 28.7ft above ground level. The stack height of EUENGINE4 was measured to be 30.6 ft above ground level. Limitations in the measuring technique are believed to account for the variability of measurements. Based on the measured values, the stack heights appear to be in compliance with the minimum height requirements.

Each engine is equipped with an hour meter to track the operating hours. AQD staff observed the following hours on each engine. EUENGINE1 was observed to be at 13105 hrs. EUENGINE2 was observed to be at 13008 hrs. EUENGINE3 was observed to be at 12778 hrs. EUENGINE4 was observed to be at 13068 hrs. FGENG1-4 shall not operate more than 24,800 hours per 12-month rolling time period as determined at the end of each calendar month. Records of 12-month rolling hours of operation were provided and reviewed for the period of January 2020 to December 2022. During the period of records reviewed, the highest 12-month rolling hours of operation occurred at the end of December 2022 with 3,904.0 hours. This is well below the permitted limit of 24,800 hours per 12-month rolling time period.

The nitrogen oxides (NOx) emission rate from FGENG1-4 shall not exceed 28.8 pounds per hour nor 89.4 tons per year, S.C.2. Records of NOx emissions were provided and reviewed for the period of January 2020 to December 2022. NOx emissions are calculated individually for each engine based on run time and emission factors derived from testing completed on 9/3/2003. Hourly NOx emission rates for each engine include 3.9 pph for EUENGINE1, 4.7 pph for EUENGINE2, 4.6 pph for EUENGINE3, and 6.4 pph for EUENGINE4. If all four engines are operating simultaneously, the hourly NOx emission rate would be 19.6 pph. This is below the permitted limit of 28.8 pph. Records of the monthly NOx emissions from each emission unit are maintained. The monthly NOx emissions for each unit are summed to calculate monthly NOx totals for FGENG1-4. During the period of records reviewed, the month with the highest NOx emissions was

at the end of July 2022 with 0.874 tons/month. Records of 12-month rolling NOx emissions are maintained. During the period of records reviewed, the highest 12-month rolling NOx emissions occurred at the end of December 2022 with 9.47 tpy. This is well below the permitted limit of 89.4 tpy.

The carbon monoxide (CO) emission rate from FGENG1-4 shall not exceed 7.2 pounds per hour nor 22.3 tons per year, S.C.3. Records of CO emissions were provided and reviewed for the period of January 2020 to December 2022. CO emissions are calculated individually for each engine based on run time and emission factors derived from testing completed on 9/3/2003. Hourly CO emission rates for each engine include 0.05 pph for EUENGINE1, 0.35 pph for EUENGINE2, 0.08 pph for EUENGINE3, and 0.22 pph for EUENGINE4. If all four engines are operating simultaneously, the hourly CO emission rate would be 0.7 pph. This is below the permitted limit of 7.2 pph. Records of the monthly CO emissions from each emission unit are maintained. The monthly CO emissions for each unit are summed to calculate monthly CO totals for FGENG1-4. During the period of records reviewed, the month with the highest CO emissions was at the end of July 2022 with 0.030 tons/month. Records of 12-month rolling CO emissions are maintained. During the period of records reviewed, the highest 12-month rolling CO emissions occurred at the end of December 2022 with 0.33 tpy. This is well below the permitted limit of 22.3 tpy.

The four emission units in FGENG1-4 are potentially subject to federal regulations. Federal air quality regulations the units are potentially subject to include 40 CFR Part 60, Subpart JJJ, and 40 CFR Part 60, Subpart ZZZZ. Because the emission units were installed prior to 2006, they do not appear to be subject to 40 CFR Part 60, Subpart JJJ. As an area source of HAPs, the emission units are subject to the applicable requirements of 40 CFR Part 60, Subpart ZZZZ. Currently, the AQD is not delegated authority of 40 CFR Part 60, Subpart ZZZZ for area sources. AQD staff did not evaluate compliance with this regulation.

Summary

On March 16, 2023, AQD staff conducted a scheduled onsite inspection at the DCP West Branch Compressor Station, SRN N6764. The DCP West Branch Compressor Station is used to compress pipeline natural gas during periods of increased demand for transport down the pipeline where the gas will be used for energy production. The facility is a synthetic minor source of nitrogen oxides (NOx) and carbon monoxide (CO), and a minor source of hazardous air pollutants (HAPs). One Permit to Install is associated with the facility, PTI No. 16-00. At the time of inspection, the facility was found to be in compliance.


NAME _____

DATE 3/27/2023

SUPERVISOR 
