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

N827663361

FACILITY: TUSCOLA ENERGY INC. - MOWERY & BERNIA #1		**SRN / ID:** N8276
LOCATION: SW NE SW SEC 32 T14N R8E, AKRON		**DISTRICT:** Bay City
CITY: AKRON		**COUNTY:** TUSCOLA
CONTACT: Jeff Adler , President		**ACTIVITY DATE:** 06/02/2022
STAFF: Adam Shaffer	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: On-site inspection.		
RESOLVED COMPLAINTS:		

An onsite inspection and records review was conducted by Air Quality Division (AQD) staff Adam Shaffer (AS) of the Tuscola Energy, Inc. (TE) site specifically the Mowery & Berna et al 1-32 Akron Township, Michigan location. Applicable records were requested and later received on June 3, 2022, to verify compliance with permit to install (PTI) No. 188-10. A joint in-person inspection consisting of AQD staff AS and Oil, Gas, and Minerals Division (OGMD) staff Kasey Todd (KD), to verify onsite compliance was completed on June 2, 2022.

Facility Description

TE is an oil production company with various oil well sites located in Michigan. This site is in operation with PTI No. 188-10. The facility is a true minor source for all criteria pollutants. The facility is also under Consent Order AQD Number 37-2015.

Compliance Evaluation

A request was sent to Mr. Jeff Adler, President, for various records required by PTI No. 188 -10. The records were received on June 3, 2022 and will be discussed further in this report. An onsite inspection of the site was completed on June 2, 2022. AQD staff AS and OGMD staff KD arrived in the area at approximately 10:44am. Weather conditions were partly cloudy skies with easterly winds. Several company staff that included Mr. Adler were onsite during the inspection to provide a tour of the site and answer site specific questions. Requested records were provided by Mr. Adler.

As mentioned above, TE is an oil production company. The various stages of onsite processes were reviewed during the inspection and will be discussed further below. The status of the one well associated with this site is also described below.

Mowery & Bernia et al 1-32 – This well was observed in operation at the time of the inspection. This wellhead is a sour gas well.

PTI No. 188-10

FGFACILITY

This flexible group is for the oil production facility referred to as the Mowery & Bernia et al 1-32 site and is for process equipment source-wide including equipment covered by other permits, grand-fathered equipment, exempt equipment and control equipment. Emission units for this flexible group are EUTANK and EUSEPARATOR.

Per Special Condition (SC) II.1, this flexible group is subject to a hydrogen sulfide material limit of 68.6 lbs per day. Records were requested and reviewed for select time periods. Based on the records reviewed, TE appears to be meeting this material limit.

Per SC III.1, the permittee shall not use FGFACILITY to process any well other than the Mowery & Bernia et al 1-32 well without prior notification to and approval by the AQD. At the time of the inspection, the Mowery & Bernia et al 1-32 well was the only well associated with this site.

Per SC III.2, the permittee shall not pump the Mowery & Bernia et al 1-32 well for more than 8 hours per calendar day. Speaking with staff on this condition it appears that the gasoline tank for the wellhead motor can only hold a couple of gallons of gasoline. When in operation, the company will run the well until the motor runs out of gas. Based on the size of the motor gasoline tank, the well would not operate over the 8-hour time frame. Additionally, it appeared that the company was able to estimate how long it would run each day based on how much gas was added. This appears acceptable.

Per SC IV.1-2, on and after January 30, 2011, the permittee shall properly operate a continuously burning pilot flame at the flare and pilot fuel shall be only sweet gas. Additionally, the permittee shall properly operate a mechanism that will automatically shut off fluid flow into FGFACILITY in the event that the pilot flame is extinguished. Furthermore, the Mowery & Bernia et al 1-32 well shall shut down before the pressure reaches a company-determined safety set-point. The permittee shall not resume fluid flow into FGFACILITY unless the flare pilot flame is re-ignited and maintained. TE staff verified that propane is used to fuel the pilot flame. The facility is equipped with a profire system that monitors the pilot flame temperature which is used to light the flare that controls hydrogen sulfide emissions. The setpoint temperature for the pilot flame is 200°F. If the temperature of the pilot flame falls below this, the profire system will shut down flow from the wells into the facility. The well will continue to attempt to pump oil into the facility until the high pressure setpoint on the murphy switch is exceeded at which point the well will turn off and the site is shutdown. The well was verified to have a murphy switch attached and the low pressure setpoint is 0 lbs and the high pressure setpoint is 50 lbs.

A shutdown of the site was completed to verify that the appropriate safety switches in place would operate properly. The flare was turned off and after observing the temperature of the pilot flame for several minutes the setpoint was briefly raised so the pilot flame temperature would fall below it. Once this happened the profire attempted to relite the pilot flame. Following this the murphy high pressure switch was briefly lowered to verify in the event that when the high pressure setpoint would be exceeded the wellhead would turn off. After further review, based on the observations made, the applicable safety switches in place appeared to be operating properly.

Per SC IV.3, the flare shall be properly engineered. At the time of the inspection, the flare was noted to be in operation and the pilot flame was at 1,329°F. A shroud was observed for the pilot flame that appears acceptable at this time though it should be considered moving forward on replacing the shroud with a better fitting unit.

Per SC IV.4, the permittee shall not operate FGFACILITY unless all emergency relief valves, all storage tanks, and all dehydrators are vented to a flare, an incinerator or a vapor recovery system. At the time of the inspection all applicable units were verified to be vented to the flare.

Per SC IV.5, the permittee shall not load out EUTANK unless a vapor return system is installed, maintained and operated in a satisfactory manner. A vapor return line was noted to be installed for the oil storage tank. This appears acceptable.

Per SC VI.1, the permittee shall monitor and record the following items: a) gauge the oil collected in EUTANK – at the end of each calendar day after the Mowery & Bernia et al 1-32 well has stopped pumping, b) gas to oil ratio (GOR) on a quarterly basis, c) concentration of hydrogen sulfide in the sour gas going to the flare with the well pumping on a quarterly basis, d-e) the start and stop times that the Mowery & Bernia et al 1-32 well was pumping each calendar day. Records were requested and provided for select time periods. Minor errors were noted for the daily oil gauge readings, however, overall, the records appeared acceptable. The last GOR test was on April 13, 2018, and the ratio results were 0.571737. No GOR testing has been completed since then and this is a violation of PTI No. 188-10, FGFACILITY, SC VI.1b, and Consent Order AQD No. 37-2015, Section 15.E.1.

Regarding the quarterly hydrogen sulfide concentrations, historically, testing had appeared to have been completed several times a year. A letter dated November 13, 2018, had been submitted to the AQD that had listed test results since 2015 and the hydrogen sulfide concentration percentages to be used for the rest of 2018 and through the summer of 2019 in applicable calculations. In a subsequent letter dated August 6, 2021, to the AQD Bay City District Supervisor, TE had proposed annual testing and to take the median value result of the last four tests to be used when determining hydrogen sulfide concentrations that are used in applicable calculations. The proposed conditions were later approved on September 24, 2021. Also, historically the company had submitted to the AQD concentration values that it planned to use in calculations. It was noted that testing had not been completed in 2020. This was determined to have been related to the Covid-19 pandemic. After further review, this appears acceptable at this time. It was concluded that the hydrogen sulfide emission concentrations provided appear acceptable.

Reviewing the daily gas flow rate calculations with the start and stop times required for the Mowery & Bernia et al 1-32 well, one error was noted in March 2022. After further review, the records appear acceptable.

Per SC VI.3 the permittee shall perform calculations for GOR and mass flow rate of H2S going to the flare in the listed frequency of PTI No. 188-10. Records were requested and reviewed for select time periods. Based on the records reviewed, TE is not keeping track of the quarterly GOR's since April 2018 as required and is keeping track of the daily mass flow rate of H2S going to the flare. This is a violation of PTI No. 188-10, FGFACILITY, SC VI.3a, and Consent Order AQD No. 37-2015, Section 15.E.1.

One stack is listed in association with this flexible group and was observed during the course of the inspection. Though the dimensions were not measured they appeared to be consistent with what is listed in PTI No. 188-10.

Additional Observations

At the time of the inspection, the propane tank used to provide fuel to the pilot flame for the flare was low and needed to be refilled. This was noted by TE staff and a propane fuel delivery truck arrived during the inspection to refill the tank.

A hydrogen sulfide monitor was worn by AQD staff throughout the course of the inspection. No issues were noted.

Conclusion

Based on the facility walkthrough, observations made, and records received, TE appears to not be in compliance with PTI No. 188-10. A violation notice (VN) will be issued for the following violations.

The last quarterly required gas to oil ratio testing completed for this well was in April 2018. This is a violation of PTI No. 188-10, FGFACILITY, SC VI.1b, and Consent Order AQD No. 37-2015, Section 15.E.1.

TE is not keeping applicable records of the gas to oil ratios as required. This is a violation of PTI No. 161-10, FGFACILITY, SC VI.3a, and Consent Order AQD No. 37-2015, Section 15.E.1.

NAME Adam J. Shaffer DATE 06/28/18 SUPERVISOR C. Hare