

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

P014262873

FACILITY: Tuscola Energy Inc		SRN / ID: P0142
LOCATION: Leon & Aerial Cosens 4-26(off Garner Rd), AKRON		DISTRICT: Bay City
CITY: AKRON		COUNTY: TUSCOLA
CONTACT: Jeff Adler , President		ACTIVITY DATE: 04/21/2022
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 Leon & Aerial Cosens 4-26, Wisner Township, Michigan location. Applicable records were requested and received on April 20, 2022, to verify compliance with permit to install (PTI) No. 161-10. 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 April 21, 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. 161-10. The facility is a true minor source for all criteria pollutants.

Compliance Evaluation

A request was sent to Mr. Jeff Adler, President, for various records required by PTI No. 161-10. The records were received on April 20, 2022 and will be discussed further in this report. An onsite inspection of the site was completed on April 21, 2022. AQD staff AS and OGMD staff KD arrived in the area at approximately 10:40am. Weather conditions were cloudy skies, temperatures in the 50's degrees Fahrenheit, and winds from the west / southwest. Mr. Adler and several other company staff provided a tour of the site and answered 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. At the time of the inspection, the status for each well associated with this site is listed below.

Leon & Aerial Cosens 4-26 – This wellhead was observed when arriving onsite to not be in operation. Speaking with TE staff, the unit had appeared to have been turned on earlier and should have been operating. Company staff explained that the murphy switch pin had been set too low for the inspection and the wellhead had shut down during operation. The response provided by the company appeared acceptable. Additionally, this was stated to be a sour gas well.

Charles Cosens 1-26 – This wellhead was observed and noted to not be in operation at the time of the inspection. This was also determined to be a sweet gas well.

PTI No. 161-10

FGFACILITY

This flexible group is for the oil production facility referred to as the Leon & Aerial Cosens 4-26 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 EULEONTANK, EUCHARLESTANK, and EUSEPARATOR.

Per Special Condition (SC) II.1, this flexible group is subject to a hydrogen sulfide material limit of 70 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 wells other than the following without prior notification to and approval by the AQD: a) Leon and Aerial Cosens 4-26 well and b) Charles Cosens 1-26 well. At the time of the inspection, only the two wells mentioned above were for this site.

Per SC III.2, the permittee shall not pump the Leon and Aerial Cosens 4-26 well for more than 8 hours per calendar day. The company explained during the inspection that for this well they will fill the gas tank up for the motor (it appeared to not hold more than a couple gallons) and would let it operate until it runs out of gas which would never go 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, on and after November 1, 2010, the permittee shall properly operate all of the following: a) a continuously burning pilot flame at the flare. Pilot fuel shall be only sweet gas. b) in the event that the pilot flame is extinguished, a mechanism shall automatically shut off fluid flow into EUSEPARATOR. Furthermore, the Leon and Aerial Cosens 4-26 well shall shut down before the pressure reaches a company-determined safety set-point. The permittee shall not resume fluid flow into EUSEPARATOR 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 the 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 wells 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 wells will turn off and the site is shutdown. Each well is attached with a murphy switch. Each murphy switch has the low pressure setpoint at 0 lbs and the high pressure setpoint at 50 lbs.

A partial shutdown was completed during the inspection to verify the profire system is operating satisfactorily. The pilot flame was shut off at 11:08am and the pilot flame temperature was at 1,114°F. AQD staff AS observed the pilot temperature fall and at 11:19am the temperature fell below the 200°F setpoint, at which point the no flame alarm was observed blinking. At this time this is acceptable, however, TE should consider raising the setpoint temperature in order to reduce the time it takes for the profire system to turn on in the event of a malfunction of the flare to shut down the wells from pumping. The pilot flame was turned back on, and it was noted the flare did not go out during the partial shutdown.

Per SC IV.2, the flare shall be properly engineered. The flare was noted during the inspection and pilot flame was noted to be operating around 1,137°F. The shroud observed around the flare appeared to be better constructed than shrouds observed for other sites. After further review, the flare appeared to be properly engineered.

Per SC IV.3, on or after November 1, 2010, 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. Upon review and discussion with company staff, EUCHARLESTANK for the Charles Cosens 1-26 well, which had been stated to be a sweet well, was not vented to the flare. This is a violation per PTI No. 161-10, FGFACILITY, SC IV.3. The remaining emission units EULEONTANK and EUSEPARATOR are vented to the flare.

Per SC IV.4, the permittee shall not load out the oil, brine and condensate storage tanks unless a vapor return system is installed, maintained and operated in a satisfactory manner. One vapor return line was installed and was observed. It appeared though after speaking with staff that the vapor return line was only used for load out of EULEONTANK. Moving forward, TE shall use a vapor return line for load out of EUCHARLESTANK or submit a PTI application to modify PTI No. 161-10.

Per SV VI.1a-e, the permittee shall monitor and record daily the gauge the oil collected in EULEONTANK after the well had stopped pumping, the gas to oil ratio on a quarterly basis, the concentration of hydrogen sulfide in the sour gas going to the flare with the well pumping on a quarterly basis, and the start and stop times the Leon and Aerial Cosens 4-26 well was pumping daily. Records were requested and provided for select time periods. The daily oil gauge records after further review appear acceptable. During the inspection, Mr. Adler had stated that when they completed the gas to oil ratio testing TE would use a portable meter. Mr. Adler went on to say that they had not completed quarterly testing for the last couple years. Records provided indicated the last gas to oil ratio test completed was in May 2018. The gas to oil ratio for May 2018 was 0.94064. The lack of quarterly testing of the gas to oil ratio is a violation of PTI No. 161-10, FGFACILITY, SC VI.1b.

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 Leon and Aerial Cosens 4-26, several instances were identified where it appeared the well didn't produce but was noted to be running. This was discussed with company staff and a number of potential causes such as human error appeared to be the reasoning. TE staff stated that the totals at the end of the year would be accurate. After further review, the records appear acceptable, however, moving forward TE shall better maintain records in order to accurately reflect the applicable items.

Per SC VI.2, the permittee shall complete applicable calculations each calendar month. Records were requested and reviewed for select time periods. Based on the records reviewed, TE is not keeping track of the quarterly gas to oil ratio's and is keeping track of

the daily mass flow rate of H₂S going to the flare and volume of collected oil. This is a violation per PTI No. 161-10, FGFACILITY, SC VI.2a.

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. 161-10.

Additional Observations

At the time of the inspection, the propane tank used to provide fuel to the pilot flame for the flare was at 60 lbs.

This site is equipped with a flame arrestor which will prevent a blowback from the flare to the oil /gas separator and tanks.

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

What appeared to be a leaking valve was identified on the oil / gas separator. This appeared to be new and company staff were now aware of the leak.

While speaking with staff it was noted that there was an issue with the spark for the pilot flame. It appeared to be a bad coil and if the flare went out the spark wouldn't relite the flame. The necessary repairs shall be made in a timely manner in order to ensure the flare is operating in a satisfactory manner.

Conclusion

Based on the facility walkthrough, observations made, and records received, TE appears to not be in compliance with PTI No. 161-10. A violation notice (VN) will be issued for the following violations.

The tank EUCHARLESTANK for the Charles Cosens 1-26 well was not vented to the flare. This is a violation per PTI No. 161-10, FGFACILITY, SC IV.3.

Testing of the gas to oil ratios has not been completed since May 2018 and this is a violation of PTI No. 161-10, FGFACILITY, SC VI.1b.

TE is not keeping applicable records of the gas to oil ratios as required. This is a violation per PTI No. 161-10, FGFACILITY, SC VI.2a.

NAME

Adam J. Smith

DATE

05/16/22

SUPERVISOR

C. Hale