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

B709347114

FACILITY: Aztec Producing Company, Inc.		SRN / ID: B7093
LOCATION: 335 Washington St., MANISTEE		DISTRICT: Cadillac
CITY: MANISTEE		COUNTY: MANISTEE
CONTACT: John Ward , Plant Superintendent		ACTIVITY DATE: 11/29/2018
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: 2018 FCE.		
RESOLVED COMPLAINTS:		

Introduction

On November 20, 2018, I conducted an unannounced FCE scheduled onsite inspection of the Aztec Producing Company (Aztec) located at 335 North Washington Street in Manistee, Michigan (SRN No. B7093). The purpose of the inspection was to determine the source's compliance with Renewable Operating Permit (ROP) MI-ROP-B7093-2014 and the Air Pollution Control Rules, as well as to familiarize myself with the source for processing of the ROP renewal application which was received on 10/03/2018. I met with Mr. Larry Austin, the plant operator. Mr. John Ward, the Plant Superintendent, was not on site but I spoke with him on the phone to inform him of the purpose of the inspection and arranged to meet him at the plant on November 29, 2018 to further evaluate compliance of the source and to discuss the ROP application. He agreed that Mr. Austin could show me the plant but was not authorized to discuss compliance issues. Mr. Austin accompanied me on a tour of the plant and described the process and identified each piece of process equipment. I did meet with Mr. Ward at the Aztec plant on November 29, 2018 where we discussed the ROP application, plant operations and reviewed records.

Off-Site Observations

At the time of the inspection the weather was overcast, temperature 31 degrees F, and strong winds from the southwest. The plant is entirely enclosed by fencing that is marked at regular intervals with plant identification and warning signs. There are two entrances. There are two larger buildings and several outbuildings as well as a tank battery.

Aztec is an area source pursuant to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ (RICE MACT)) (FGRICEMACTZZZZ) and the NESHAP from Oil and Natural Gas Production facilities (40 CFR Part 63, Subpart HH) (EUDEHY). The DEQ does not have delegated authority from USEPA for either of these NESHAPs. Therefore, compliance with the NESHAPs has not been addressed in this report. Additionally, Aztec would be subject to 40 CFR, Part 60, Subpart KKK, Subpart Kb, and Subpart LLL, but the source commenced construction prior to the effective dates of the regulations and has not been modified. The above ground storage tanks at the source are not subject to 40 CFR Part 60 Subpart Kb because they were used prior to ownership of the Property.

The emergency flares and SVSO2STACK were visible from off site. SVFLARESTACK had a visible pilot flame burning with slight opacity (approx. 5%). There were no visible emissions from SVSO2STACK. The EUDEHY flare stack had a visible flame and attached black smoke plume which was being blown over by the wind. I conducted a 15-minute visible emissions observation that resulted in a highest 6-minute average opacity of 20.8%.

On-Site Inspection

Natural gas, brine, condensate and oil flow to Aztec either from on-site wells or wells located at one of two off-site locations. The Manistee Producing facility is located approximately 1 half mile away and includes a Caterpillar 3306 compressor engine to move gas from 4 wells to Aztec. The Bullis(sp?) well site has one Caterpillar 3304 compressor engine. Both engines are well below10 MMBtu heat input.

The main building in the central portion of the site contains separation equipment, a two-part heater treater (one for heating, one for separation) that has replaced EUHEATERTREATER and amine (Sulfinol per Mr. Austin) gas sweetening process equipment (EUSWEETENING). Most of this equipment was in operation at the time of the inspection. There are a couple of production units with burners - low black stacks - that are no longer in operation. EUSWEETENING includes an amine reboiler used to reclaim the Sulfinol solution. The reboiler burns natural gas and sour gas from the sweetening process. Exhaust gasses are sent to SVSO2STACK which is a 150' tall stack.

Brine and crude oil separated from the gas stream are stored in three 400bbl above ground storage tanks (EUTANK01, EUTANK02, EUTANK03) equipped with a vapor recovery system.

The other main building on the southwest portion of the site contains ~~of~~ a 3-stage compressor and engine (EUNATGASENG01), a compressor and engine EUNATGASENG02) used for the refrigeration process (EUENGLPLANT), and a glycol dehydrator (EUDEHY).

EUNATGASENG01 was operating at the time of the inspection running at 1264 rpm with no visible emissions from the exhaust. The compressor skid has the identification number NGCS8 and includes EUNATGASENG01 which is identified as a Caterpillar G3406 in-line 6-cylinder engine. This is consistent with the description in the ROP which also indicates it is a rich burn engine. There were no control devices on the engine exhaust.

The compressor engine and refrigeration process were not in use at the time of the inspection and have not been for approximately 3 years according to Mr. Austin. Two NGL storage tanks (EUBULLET01 and EUBULLET02) and an iron sponge were located outside the compression and refrigeration building. Mr. Austin stated that these were not currently being used.

EUDEHY was operating at the time of the inspection and as mentioned earlier was emitting a flame and smoke from it's emergency flare. During our phone call, I informed Mr. Ward of the opacity from the flare. He stated that the flare is not required for emissions control but for odors due to the high level of mercaptans in their gas stream. However, the flare is still subject to Rule 301 which limits opacity from any process or process equipment to a 6-minute average of 20% except for one 6-minute average of not more than 27%. As indicated above, observed opacity was 20%. The AQD recommends that operation of EUDEHY be reviewed to improve combustion at the flare and reduce opacity.

All of the process equipment on site, as well as the crude oil and brine tanks are connected to SVFLARESTACK for emergency venting. As indicated above, SVFLARESTACK was being maintained with a pilot flame.

Compliance Evaluation

EUDEHY:
EUDEHY underlying applicable requirements are from 40 CFR, Part 63, Subpart HH. Aztec is an area source and the State of Michigan has not been given delegated authority of 40 CFR, Part 63, Subpart HH for area sources from USEPA. Therefore, a compliance evaluation with regard to Subpart HH has not been conducted.

FGSOURGASPLANT:
FGSOURGASPLANT includes the natural gas sweeting process (amine process), refrigeration process of the NGLs, glycol dehydrator, and above ground storage tanks. The emission units include EUSWEETENING, EUTANK01, EUTANK02, EUTANK03, EUBULLET01, EUBULLET02, EUDEHY, and EUNGLPLANT, and uses a vapor recovery unit, reboiler fire tube (SVSO2STACK), emergency bypass flare (SVFLARESTACK), and glycol dehydrator flare for pollution control measures.

Emission Limits:

I.1: Sulfur dioxide (SO_2) is permitted to 1,350 pounds (lbs) per day based on a 24-hour average. According to the monthly records, maximum SO_2 emissions each month were reported between 89 to 150 lbs per day based on a 24-hr average. The SO_2 emissions were within the permitted limits.

Material Limits:

I Not applicable for FGSOURGASPLANT.

Process/Operational Restrictions:

III.1: The acid gas stream is sent to the amine reboiler to be combusted, and in case of an emergency, the acid gas is sent to the emergency bypass flare.

I.2: Alarms are located at each flare in case the pilot light is extinguished. The plant would be shut down if the bypass flare could not be restarted within one hour of operation.

II.3: As stated above, FGSOURGASPLANT is connected to a vapor recovery unit, a reboiler fire tube (SVSO2STACK), and/or the emergency bypass flare (SVFLARESTACK).

II.4: As stated previously, a vapor recovery unit is connected to the above ground storage tanks containing brine water and sour crude oil. If the vapor recovery unit is down, the recovery unit vents to the emergency bypass flare.

II.5 & 6: All inflowing streams to FGSOURGASPLANT shall be shut off if the concentration of hydrogen sulfide (H_2S) in the building is greater than 20 parts per million (ppm). A warning goes off it the concentration is at 10 ppm of H_2S, and then if the concentration of H_2S goes above 20 ppm, the facility will shut-in. Operation of FGSOURGASPLANT may be resumed only after successful corrective measures have been applied. This is more stringent than the ROP limits that state that all the inflowing streams to FGSOURGASPLANT shall be shut off if the concentration of H_2S in the building is greater than 100ppm, and a visual alarm to indicate when the H_2S concentration is greater than 50 ppm.

Design/Equipment Parameters:

V.1: A device is located inside the main processing building, located in the central portion of the site, which monitors the amount of gas produced on a daily basis.

V.2: An H_2S system is installed inside the buildings to monitor the concentration of H_2S inside the buildings. As mentioned above, a visual alarm (each of the buildings is equipped with a warning light system near the entrance) will go off is the concentration inside the building is greater than 10ppm of H_2S.

Testing Sampling:

/.1: Daily non-certified visible emissions (VE) observations from the flares and reboiler stack. Daily plant inspections are conducted and recorded on a daily log sheet. The sheet includes VE observations for SVSO2STACK and SVFLARESTACK. Based on the language in the ROP the EUDEHY flare should also be included in daily VE observations but has not been in the past. I discussed this issue along with my concerns about opacity from the EUDEHY flare with Mr. Ward. He agreed to look into ways to improve combustion of the flare to reduce visible emissions. Daily VE observations of the EUDEHY flare should be initiated in accordance with the ROP.

Monitoring/ Recordkeeping:

VI.1: The mass flow rate of H_2S going into the sweetening process is monitored and reported monthly. Records from the past 12 months indicate the highest daily avg. H2S mass flow rate each month ranged from 89 lbs/day to 150 lbs/day. The H_2S concentration is measured each month using colormetric tubes and is between 1,000 and 2,000 parts per million. Photocopies of each tube are maintained on file.

VI.2: Aztec calculates and records SO_2 emissions on a pound per day, based on a 24-hour average, in an acceptable manner.

VI.3: The Company monitors and records the amount of gas produced on a daily basis both digitally and with paper circle charts.

VI.4: The facility continuously monitors the concentration of H_2S in the amine process building and compressor engines building.

VI.5: The facility has a "Desk Journal" log book that records abnormal conditions. Most days "routine operations" are cited. Abnormal conditions are noted and are taken care of in a timely manner. DEQ received no complaints about the facility within this past year.

Reporting:

VII.1-4: Monthly, Semi-annual, and annual reporting for ROP certification were submitted to the DEQ in a timely manner. No deviations were reported.

Stack/Vent Restrictions

VIII.1 & 2: The emergency bypass flare (SVFLARESTACK) is required to be 75 feet tall and the SO_2 reboiler fire tube stack (SVSO2STACK) is supposed to be 150 feet tall and no more than 12 inches in diameter. There have been no changes to SVFLARESTACK and SVSO2STACK which appear to be of the appropriate dimensions.

Other Requirements

IX.1: The facility has the appropriate fencing and signage as required by the ROP.

FGRICEMACTZZZZ:

FGRICEMACTZZZZ underlying applicable requirements are from 40 CFR, Part 63, Subpart ZZZZ. Aztec is an area source and the State of Michigan has not been given delegated authority of 40 CFR, Part 63, Subpart ZZZZ for area sources from USEPA. Therefore, a compliance evaluation with regard to Subpart ZZZZ has not been conducted.

Summary

Aztec needs to initiate daily non-certified visible emissions observations for the EUDEHY flare in accordance with ROP Special Condition V.1 of FGSOURGASPLANT and take actions as necessary, to maintain the smoke plume below 20% opacity. Other aspects of Aztec's source operations and recordkeeping indicate Aztec was in compliance with the remainder of MI-ROP-B7093-2014 and the Air Pollution Control Rules at the time of the inspection.

NAME _____ DATE 12-3-18 SUPERVISOR _____