

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

N535447315

FACILITY: Lee8 Storage Facility		SRN / ID: N5354
LOCATION: 19110 V Drive N, PARTELLO		DISTRICT: Kalamazoo
CITY: PARTELLO		COUNTY: CALHOUN
CONTACT: Kristin Bollerman , Senior Environmental Specialist		ACTIVITY DATE: 12/11/2018
STAFF: Rex Lane	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On December 11, 2018, Air Quality Division (AQD) staff (Rex Lane) arrived at Lee 8 Storage Partnership, (hereafter "facility") located at 19110 V Drive North, Olivet, Michigan at 10 am to conduct an announced inspection. The facility is owned and operated by Panhandle Eastern Pipe Line, an Energy Transfer Company. This was a scheduled inspection since Lee 8 facility personnel, Mr. Mac Wylie, Field Man, has other area job responsibilities and may not be at the facility during normal business hours. Staff introduced themselves to Mr. Mike Combs, EHS Coordinator for their facilities located in Ohio and Michigan. Staff provided Mr. Combs with their inspector badge and business card which was copied for the facility records.

The previous air quality inspection was done on 12/2/14 and the facility was determined to be compliant. The facility is permitted under Permit to Install (PTI) No. 258-94D and is a synthetic minor source for nitrogen oxides, carbon monoxide and hazardous air pollutants (HAPs). Required PPE is a hard hat, steel-toed boots, safety glasses, hearing protection (in engine building) and FR clothing (optional for visitors). Staff asked several questions prior to the site inspection related to facility operations.

The facility was constructed in 1995 and is an existing natural gas compressor station and storage facility. Non-odorized natural gas is received at the facility through a 12-inch pipeline with a maximum operating pressure (MAOP) of 773 psig. The storage reservoir consists of three on-site producing wells (# 1, # 2 and # 4). The producing wells are depleted oil and natural gas wells that are drilled into the Niagaran formation and have a total storage capacity of approximately 3.5 billion cubic feet at a maximum pressure of 1783 psig. There is one observation well (# 3) on-site and four observation wells off-site that are used to monitor reservoir pressure. If the storage reservoir pressure is less than pipeline pressure, the natural gas can free flow into the reservoir through the producing wells. If the storage reservoir pressure is higher than the pipeline pressure, the facility compresses the gas further using one of two White Superior Model 2406G four-stroke lean-burn natural gas fired engines rated at 1200 Hp fitted with compression heads prior to injection through the producing wells.

Historically, their typical natural gas injection season was April through November and the typical withdrawal season was December through April. More recently, the operating schedule has changed primarily to gas withdrawals during the week with gas compression and re-injection into the reservoir on weekends. Natural gas withdrawn from the reservoir is processed through a triethylene glycol (TEG) dehydration unit on-site to remove moisture before the dried gas is injected back into the pipeline.

Information provided below is based on observations and discussions during the inspection and records requested and provided during or following the inspection:

Permit to Install Exempt Equipment:

The facility has small natural gas fired space heaters in the engine building and maintenance shop and a small natural gas fired furnace and water heater in the office building. This equipment is exempt from PTI requirements pursuant to Rule 282(2)(b)(i). The facility injects an odorant (methyl mercaptan) using a wick can only into the natural gas that is utilized on-site. The odorant wick can (one gallon) is exempt from PTI requirements pursuant to Rule 288(2)(a). The facility has a 12,600-gallon brine/natural gas liquids storage tank that is exempt per Rule 284(2)(e) and stored material is periodically hauled away for disposal in an exempt ENP injection disposal well. The facility has a 1,260-gallon used oil storage tank and a 300-gallon lube oil tank that are exempt per Rule 284(2)(c). The brine/natural gas liquids tank and used oil tank have secondary containment structures. An inventory of facility storage tanks is attached to this report.

The facility has a 134 HP natural gas fired emergency generator that was installed in 1995 and is exempt from permitting pursuant to Rule 285(g). The emergency generator is equipped with a non-resettable hour meter (current reading – 2,509.9 hours) and automatically runs for ½ hour each week for readiness testing. Mr. Wylie stated that the emergency generator is maintained by an outside vendor. The emergency generator is subject to 40 CFR Part 63, Subpart ZZZZ (i.e. RICE MACT) based on its installation date. The AQD has not taken

delegation authority from USEPA for this federal regulation at area sources of HAPs, therefore, staff did not evaluate the emergency generator's compliance with 40 CFR Part 63, Subpart ZZZZ.

PTI No. 258-94D:

**EU-DEHY (not operating during the inspection):**

Special Condition (SC) I.1 through I.2 – Facility provided emission records (attached) requested by staff for the past twelve months which demonstrates compliance with VOC and benzene 12-month rolling time period limits. Highest rolling time period value (May 2017) during the period of records review was 41% of the allowable VOC limit and 15% of the allowable benzene limit.

SC II.1 – Messrs. Combs and Wylie stated that the facility does not use stripping gas in the TEG dehydration unit.

SC II.2 – A review of recent on-site daily gas flow rate records through EU-DEHY ranged between 14 – 17 MMCF/day or about 34% of the daily maximum 50 MMCF limit. Mr. Wylie stated that the TEG dehydration unit software is set to prevent daily gas flows from exceeded 48 MMCF to ensure compliance with this permit condition. The total compressor engine suction capacity is approximately 15 MMCF/engine/day or 30 MMCF/day for the facility. Higher natural gas throughputs to EU-DEHY are possible without utilizing the compressor engines based on the allowed reservoir storage pressure.

SC IV.1 – Flash tank is installed on EU-DEHY and the flash tank exhaust gas is routed back to the re-boiler burner for control purposes.

SC IV.2 – EU-DEHY is equipped with condensers and exhaust gas is routed through a BTEX buster and then to the re-boiler burner for control purposes.

SC V.1 – Facility provided a copy of the annual wet gas stream analysis results for a sample collected on 2/01/18 that includes concentration values for all required constituents.

SC VI.1 and VI.3 – Facility is completing all required calculations and maintaining wet gas composition results, daily natural gas flow rates, and VOC and Benzene emission rates on a calendar month and 12-month rolling time period as required by the air use permit.

SC VI.2 – Gas flow rate meters are installed at various locations at the facility and gas flow rate to the EU-DEHY is monitored on a continuous basis.

**FG-ENGINES:**

FG-ENGINES consist of two 1200 HP White Superior Model 2406G 4-stroke lean-burn engines, EU-ENGINE1 (Engine 1801 –North Bay of engine compressor building) and EU-ENGINE2 (Engine 1802 – South Bay). Engine 1801 was running during the inspection and no visible emissions were observed from the exhaust stack. Engine 1802 was not operating during the inspection. Routine engine maintenance is performed by facility staff and major overhauls are contracted to an outside vendor. The engines are equipped with electronic hour meters, however, maintenance records, actual operational hours and engine overhaul schedules (~ 20,000 hours) are maintained at the MI corporate location in Howell, Michigan. The instrument control panels were replaced in 2008 and the hour meter reading reset to zero at that time with total run hours written on the panel for continuity. Corporate official hour meter readings were as follows: Engine 1801 (39,111 hours; top end overhaul September 2018 @ 38,463 hours; 648 operating hours since last overhaul) and Engine 1802 (35,954 hours; top end overhaul September 2017 @ 34,792 hours; 1,162 operating hours since last overhaul).

SC III.1 – Facility provided hours of operations for FG-ENGINES for previous three years which shows compliance with the combined total hours limit of not more than 9,600 hours per 12-month rolling time period. Highest value observed during the period of record was about 43% of the allowable limit.

SC VI.1 and VI.2 – Facility is maintaining required operating hours for each compressor engine.

SC IX.1 - The AQD received an initial notification for FG-ENGINES under 40 CFR Part 63, Subpart ZZZZ on 2/22/11. In January 2013, the RICE MACT was amended to allow owners and operators of existing stationary 4-stroke spark ignition engines above 500 HP that are area sources of HAP emissions and where the engines are "remote" from human activity to use established management practices for these sources rather than having to meet numeric emission limits and conduct associated testing and monitoring. Under the RICE MACT, a remote area is defined as either a DOT Class 1 pipeline location, or, if the engine is not on a pipeline, if within a 0.25 mile radius of the facility there are 5 or fewer buildings intended for human occupancy. Prior to the 2013 amendments, the facility had intended to install oxidation catalysts on these engines prior to October 19, 2013 to

meet numeric emission standards. The facility updates their "remote area" determination on an annual basis and the most recent evaluation (February 2018) is attached to this inspection report. The AQD has not taken delegation authority from USEPA for this federal regulation at area sources of HAPs, therefore, staff did not evaluate the emergency generator's compliance with 40 CFR Part 63, Subpart ZZZZ.

**FG-FACILITY:**

SC I.1 through I.3 -- Facility provided emission records requested by staff for the past twelve months which demonstrate compliance with the 12-month rolling time period limit for NOx, CO and HAPs. Highest rolling time period value (October 2017) during the period of records review was 41% of the allowable NOX limit, 31% of the allowable CO limit, and 13% of the aggregate HAPs limit.

SC VI.1 through VI.2 – Facility is maintaining monthly and 12-month rolling time period emission records for NOx, CO and HAPs as required by the permit.

At the time of the inspection, it appears that Lee 8 was in compliance with PTI No. 258-94D and all applicable state air quality rules and regulations. -RIL

NAME RILDATE 12/17/18SUPERVISOR MD 12/18/2018

