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

N601528097

FACILITY: PARTELLO COMPRESSOR STATION		**SRN / ID:** N6015
LOCATION: 21663 24 MILE RD, PARTELLO		**DISTRICT:** Kalamazoo
CITY: PARTELLO		**COUNTY:** CALHOUN
CONTACT: John Britton ,		**ACTIVITY DATE:** 12/11/2014
STAFF: Rex Lane	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On December 11, 2014, Air Quality Division (AQD) staff (Rex Lane) arrived at Michigan Gas Utilities – Partello Compressor Station (hereafter "Partello Station) located at 21663 24 Mile Road, Olivet, Michigan, at 10 am to conduct an announced inspection. Future AQD inspections may be unannounced since Partello Station is usually manned during normal business hours. Staff introduced themselves to Mr. John Britton, Storage Supervisor; Mr. Jim Schaum, Operations Manager (Coldwater, MI) and Mr. Randal Oswald, Manager Environmental Programs, Integrys Business Support, LLC. Staff provided facility personnel with their inspector credentials and a copy of MDEQ's Environmental Inspections brochure. The last AQD inspection was on 2/24/11 and the facility was determined to be compliant at that time. The facility is permitted under Permit to Install (PTI) No. 527-95E and is considered to be a synthetic minor source for nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). Required PPE is a hard hat, safety glasses and vest, steel toed boots and hearing protection. Staff asked multiple questions prior to the site inspection related to facility operations.

According to plant personnel, the facility was constructed in 1974 and is an existing natural gas compressor station and storage facility. Three gas providers, Panhandle Energy (un-odorized), Consumers Energy and ANR Pipeline (odorized) feed gas through an 8-inch pipeline to Partello Station where it is compressed further by one of two engines prior to injection into one of thirteen on-site producing wells (i.e. depleted oil and gas wells) serving two storage field reservoirs, Cortright-Lee and Partello-Anderson. Since October 2014, Partello Station has been odorizing all gas injected and leaving the facility. The Cortright-Lee and the Partello-Anderson storage fields have a total capacity of 2.1 billion cubic feet and 1.7 billion cubic feet, respectively. Typical natural gas injection season is April to October and the typical withdrawal season is October/November through March/April. Natural gas withdrawn from the Cortright-Lee storage field and the Partellow-Anderson storage field is routed through a dedicated glycol dehydrator, EU-DEHY02 and EU-DEHY03, respectively prior to being re-injected back into the pipeline. Staff inquired whether there was any maintenance or emergency blowdown equipment on-site other than for the compressor engines. Mr. Britton indicated that the facility had an 850 MCF blowdown event in August 2014 for scheduled maintenance. Staff made Mr. Britton aware of PTI exemption rule 285(mm) regarding notification to MDEQ for any routine or emergency venting of natural or field gas in amounts greater than 1 MMCF. Mr. Britton made a copy of Rule 285(mm) from staff's PTI exemption handbook prior to the start of the inspection.

Mr. Britton then gave staff a tour of the facility. Information provided below is based on observations and discussions during the inspection and records requested and provided following the inspection:

<u>PTI Exempt Equipment</u>:

A 500-gallon methyl mercaptan horizontal above ground storage tank (AST) is located just inside the security gate for the facility. The process equipment is used to odorize natural gas and is exempt from PTI requirements pursuant to Rule 288(a). The facility has a 300 barrel (12,600 gallon) methanol AST and a 400 barrel (16,800 gallon) natural gas condensate AST that were installed in August 2008 inside a secondary containment area. The methanol AST is exempt from PTI requirements pursuant to Rule 284 (n) and the condensate tank is exempt per Rule 284(e). The facility has a re-heater for gas withdrawn from wells in the Cortright portion of the Cortright-Lee storage field which is exempt per Rule 282(b)(i). The facility has a natural gas fired emergency generator that was installed in 1992 and undergoes readiness testing once weekly for ½ hour. The engine and generator are maintained by facility personnel and it is equipped with a non-resettable hour meter (current reading 280.5 hours). The

emergency generator is exempt from PTI requirements per Rule 285(g) and is subject to 40 CFR Part 63, Subpart ZZZZ (i.e. RICE MACT) based on its manufacture date. The AQD has not taken delegation authority from USEPA for this federal regulation at area source of HAPs, therefore staff did not evaluate the emergency generator's compliance with the RICE MACT. At this time, the facility does not have any solvent based parts washers.

PTI No. 527-97E:

EU-DEHY03 and EU-DEHY02:

Special Condition (SC) 1.1a and 1.1c – A review of operation records for August 2013 through November 2014 show compliance with the VOC and benzene emission limits for EU-DEHY03. The highest 12-month rolling time period occurred in April 2014 at approximately 14% of the allowable VOC emission limit and 4% of the allowable benzene emission limit.

SC 1.1b and 1.1d - A review of operation records for August 2013 through November 2014 show compliance with the VOC and benzene emission limits for EU-DEHY02. The highest 12-month rolling time period occurred in December 2013 at approximately 27% of the allowable VOC emission limit and 6% of the allowable benzene emission limit.

SC 1.2 – An orifice flow meter from the seven injection wells for the Cortright-Lee storage field is monitored for flow and flow is tracked to determined operating hours for EU-DEHY02. The highest operating hour value per 12-month rolling time period occurred in December 2013 and was approximately 42% of the allowable operating hour limitation.

SC 1.3 – Still vent exhaust temperature for EU-DEHY03 andEU-DEHY02 is required to be maintained at or below 90 degrees F in order to process natural gas through the glycol dehydrators. The temperature thermocouple is mounted a few inches below the top of each still vent exit point and temperature readout is monitored and tracked inside the building using a DEMAXX program. EU-DEHY02 was in operation during the inspection and had a still vent exhaust temperature of 35.3 degrees F. EU-DEHY03 was not in operation at the time of the inspection. The DEMAXX software is programmed to alarm and notify plant personnel if the still vent exhaust temperature exceeds 85 degrees F during gas dehydration operations. The thermocouple is calibrated annually and the last calibration date was 10/21/14 for both units.

SC 1.4 – The flash tank is installed and operating properly on both glycol dehydration units and exhaust routed to the reboiler burner.

SC 1.5 – At least once each calendar year, the permittee is required to collect and analyze a sample of the wet gas stream for each dehydrator for nitrogen, carbon dioxide, hydrogen sulfide (H2S), C1 through C6 series hydrocarbons, benzene, toluene, xylene, ethylbenzene and heptanes plus. Mr. Britton indicated that the facility uses dragger tubes for H2S analysis and submits a results tag along with the wet gas sample sent to SPL laboratories for analysis. The H2S results are then included in the remarks section of laboratory results for the other required parameters. A copy of the 11/13/13 wet gas analysis results for EU-DEHY02 is attached to this activity report. The facility recently started gas withdrawal from the Cortright-Lee storage field and the wet gas sample was to be collected for analysis the week following the AQD inspection. A copy of the 2/3/12 wet gas analysis results which include H2S results for EU-DEHY03 is attached to this activity report. The facility did not withdraw gas from the Partello-Anderson storage field in 2013, hence, no wet gas analysis was done. A copy of the 1/30/14 wet gas analysis results for EU-DEHY03 is also attached to this activity report. The 2014 analytical report does not contain results for H2S and the facility was unable to produce evidence that the H2S sampling was completed. Because the storage fields are not known to contain sour gas (by definition) and the facility has updated their standard operating procedures per a 12/19/14 email (attached) to make future copies of the dragger analysis tags for H2S before sending the sample to SPL laboratories, staff will use discretion for this isolated sampling incident related to EU-DEHY03.

SC 1.6 – See comments under SC 1.3. The permittee has installed and maintained in a satisfactory manner a device to monitor and record the still vent exhaust temperature of each glycol dehydrator.

SC 1.7 through 1.11 – The permittee is maintaining the required records.

SC 1.12 – The still vents for both glycol dehydrators appear to meet the stack diameter and height

restrictions.

Note: EU-DEHY02 and EU-DEHY03 are not subject to 40 CFR Part 63, Subpart HHH because this regulation only applies at storage facilities that are a major source of HAPs. Partello Station is a synthetic minor source of HAPs per PTI No. 527-97E.

FG-ENGINES:

SC 2.1a – EU-Engine03 did not operate in 2014 and was retired in September 2014. The facility has budgeted for removal in 2015 so special condition is considered to be obsolete.

SC 2.1b – A review of operation records for August 2013 through November 2014 shows compliance with the NOx emission limit for EU-Engine05. The highest 12-month rolling time period occurred in June 2014 at approximately 27% of the allowable NOx emission limit.

SC 2.1c - A review of operation records for August 2013 through November 2014 shows compliance with the NOx emission limit for EU-Engine06. The highest 12-month rolling time period occurred in October 2013 at approximately 26% of the allowable NOx emission limit.

SC 2.2 – Based on a review of operation records, the permittee is maintaining monthly and 12-month rolling NOx emission calculations in a satisfactory manner for each engine included in FG-ENGINES.

SC 2.3 - Based on a review of operation records, the permittee is maintaining monthly and 12-month rolling hours of operation and fuel consumption records in a satisfactory manner for each engine included in FG-ENGINES.

SC 2.4a through 2.4c – The stack vents for each engine appear to meet the stack diameter and height restrictions.

Note: EU-ENGINE05 is a Waukesha 750 horsepower rich-burn natural gas fired reciprocating engine that was installed in 1982. EU-ENGINE06 is a Caterpillar 1,085 horsepower lean-burn natural gas fired reciprocating engine that was installed in 2005. In January 2013, 40 CFR Part 63, Subpart ZZZZ (i.e. 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. The facility provided a copy of their 2013 "remote area" map which 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 compressor engine's compliance with 40 CFR Part 63, Subpart ZZZZ. Staff recommended to facility personnel that they continue to evaluate and update their remote area determination status for the facility on an annual basis.

The engines are equipped with electronic non-resettable hour meters and the engines are maintained by in-house personnel. The current hour meter readings for EU-ENGINE05 and EU-ENGINE06 are 42,289 hours and 24,973 hours, respectively. The compressor engines were not in operation at the time of the inspection.

FG-FACILITY:

SC 3.1a - A review of operation records for August 2013 through November 2014 shows compliance with the CO emission limit for FG-FACILITY. The highest 12-month rolling time period occurred in July 2014 at approximately 27% of the allowable CO emission limit.

SC 3.1b - A review of operation records for August 2013 through November 2014 shows compliance with the VOC emission limit for FG-FACILITY. The highest 12-month rolling time period occurred in April 2014 at approximately 7% of the allowable VOC emission limit.

SC 3.1c - A review of operation records for August 2013 through November 2014 shows compliance with the NOx emission limit for FG-FACILITY. The highest 12-month rolling time period occurred in July 2014 at approximately 21% of the allowable NOx emission limit.

SC 3.1d - A review of operation records for August 2013 through November 2014 shows compliance with the individual HAPs emission limit for FG-FACILITY. The highest 12-month rolling time period occurred in April 2014 at approximately 6% (i.e. formaldehyde) of the allowable individual HAPs emission limit.

SC 3.1e - A review of operation records for August 2013 through November 2014 shows compliance with the total HAPs emission limit for FG-FACILITY. The highest 12-month rolling time period occurred in April 2014 at approximately 3% of the allowable total HAPs emission limit.

SC 3.2 - Based on a review of operation records, the permittee is maintaining monthly and 12-month rolling CO, VOC and NOx emission calculations in a satisfactory manner for FG-FACILITY.

SC 3.3 - Based on a review of operation records, the permittee is maintaining monthly and 12-month rolling individual HAP and total HAPs emission calculations in a satisfactory manner for FG-FACILITY.

At the time of the inspection, it appears that Michigan Gas Utilities' Partello Station is in compliance with PTI No. 527-97E (see notes and specific comments under SC 1.5 and SC 2.1a) and all applicable state air quality rules and regulations. -RIL

NAME RIL DATE 12/23/14 SUPERVISOR MD 12/23/2014