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

N392026659

FACILITY: FREEDOM COMPRESSOR STATION		SRN / ID: N3920
LOCATION: 12201 PLEASANT LAKE RD, MANCHESTER		DISTRICT: Jackson
CITY: MANCHESTER		COUNTY: WASHTENAW
CONTACT: Thomas Wolfgang , Gas T & S Field Leader		ACTIVITY DATE: 07/23/2014
STAFF: Sersena White	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced targeted inspection.		
RESOLVED COMPLAINTS:		

SRN: N3920

Facility Name: Consumers Energy Freedom Compressor Station
Facility Address: 12201 Pleasant Lake Road, Manchester, MI 48158
Facility Contact: Thomas A. Wolfgang – Gas Field Leader
Facility Contact e-mail: Thomas.Wolfgang@cmsenergy.com

Introduction: Freedom Compressor Station is owned by Consumers Energy. The primary function of the station is to transport natural gas primarily from the Panhandle Eastern Pipeline Company's supply lines to Consumers Energy's pipeline system. The Freedom Compressor Station uses natural gas fired reciprocating engines to power their natural gas compressors. The compressors are used to raise the pressure of the gas along the distribution pipeline system. There are two plants at this facility. Plant No. 1 is located on the north side of the property and shelters four natural gas compressor engines (EUENGINE13, EUENGINE14, EUENGINE28 and EUENGINE29). Plant No. 2 shelters five natural gas compressor engines (EUEGINE57, EUENGINE58, EUENGINE59, EUENGINE60 and EUENGINE01) and is located on south side of the property. There are also two diesel fired reciprocating generators used for emergency back-up power. The facility is responsible for maintaining quality and reliable delivery of natural gas to the system.

PPE: The personal protection equipment required is hard hat, steel toed boots/shoes, safety glasses with side shields and hearing protection.

Purpose: Determine compliance with Federal and State regulations, namely the recently renewed Title V permit issued on July 31, 2014.

Inspection: I arrived at the plant at approximately 9:45 a.m. I had to use the intercom at the gate to identify myself and my reason for being there before the gate was opened. I was directed to the office building which was locked and I waited from someone to let me in. I was met by Eric Pankowski who is the plant operator. He led us back to the office area where I waited for Mr. Wolfgang. While waiting we discussed the methods of monitoring the natural gas usage for the engines and how records were generated. He printed off the month of April 2014 so that I could see how the data is captured. He said that it is displayed on the computer screen and he enters it on the hard copy form. The usage is the difference between readings. The readings are the result of natural gas information collected from the fuel houses for each plant. The instrumentation that monitors the parameters for determining the amount of natural gas used is maintained by M & R Pipeline. SCADA is the name of the group that performs maintenance on the electronic /computer portion of the monitoring and record generation system. When Mr. Wolfgang became available we went to his office and I introduced myself and my purpose for being there. He did not have a copy of the current ROP and SAR in the file and the secretary was on vacation. I directed him to the AQD Permit website where he printed them off.

Source-wide Conditions: The facility is subject to Rule 285(mm)(ii)(A) & (B) and (iv) for the venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet. The permittee at minimum shall implement measures to

assure safety of employees and the public and minimize impacts to the environment. The facility is required to notify the AQD District Supervisor prior to a scheduled venting.

According to Mr. Wolfgang, there has not been any natural gas venting events that were greater than 1,000,000 cubic feet. Documentation of the date and quantity of natural gas released for each event is maintained.

FGENGINES: Nine existing compression ignition (CI) natural gas fired two stroke lean burn (2SLB) reciprocating internal combustion compressor engines used to manage the flow of natural gas through the natural gas pipeline distribution system. The engines are compression ignition engines meaning that they are started by using compressed air. Compressed air is used to "roll the crankshaft", which means to move the pistons inside the cylinders to create a starting torque for the engines. The engines employ spark ignition using natural gas as the fuel source. Each engine's natural gas usage is monitored using a flow meter and reported digitally to the plant secretary's computer. At the beginning of each month the difference between the previous month and the current month is recorded. There are also natural gas meters for Plant 1 and Plant 2. In Plant 1, Engine #13 and #28 were operating at the time of the inspection. In Plant 2, Engines #1 (TLA-10 in the records) and #59 were operating at the time of the inspection.

The natural gas temperature is monitored twice per day to ensure flow quality. If the temperature gets too low the orifices will freeze up.

The flow and pressure of the natural gas in the lines dictates how much horsepower to run. They have cathodic protection on the underground pipelines and rust protection to maintain safety and integrity of the transport lines.

FGAUXGENS: Two existing (EUAUXGEN1 and EUAUXGEN2) diesel fueled auxiliary compression ignition stationary reciprocating internal combustion engines (RICE) that have a maximum site rating of 500 brake horsepower (HP). The hour meters on these engines are non-resettable. These are operated for four hours weekly to ensure proper operation. These engines use a starter like a car engine with the exception being the GenSet's Starter uses air power instead of battery power.

FGBLRSHTRS: Industrial boilers and process heaters fired by natural gas. Equipment includes: one 0.09 mmBtu/hr process heater (EULINEHEATER1), one 0.18 mmBtu/hr process heater (EUFUELHEATER1), three 0.50 mmBtu/hr comfort heaters (EUBOILER1, EUBOILER2 and EUBOILER3), one 0.18 mmBtu/hr comfort heater (EUBOILER5) and four 0.528 mmBtu/hr comfort heaters (EUBOILER6, EUBOILER7, EUBOILER8 and EUBOILER9).

There is a master meter and two individual meters for building heat. The volume in million cubic feet is reset monthly to get a new reading.

FGCOLDCLEANERS: Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

They have one small water based solution cold cleaner which had the lid closed and procedures posted at the time of the inspection. The MSDS was also posted.

General Engine Information: All of the RICE engines have monthly work orders for generators check-ups. The oil is changed annually instead of every 500 hours. They use low sulfur fuel and they try to minimize engine idling. The air cleaner, belts and hoses are inspected monthly. In January of 2015 they will begin the process to purchase new engines.

Records: Records of natural gas usage for 2013 and from January until July 2014 were received showing usage for each engine. There is no material usage limit for natural gas for any individual or group of engines because the large engines are grandfathered and did not require a permit to install, the other emission units are exempt from requiring a permit to install.

During the inspection we went over the ROP Certification Table for the facility to ensure that all areas were included. Mr. Wolfgang completed it for the first six months of 2014.

Conclusion: Based upon my observations and the records received, Freedom Compressor Station is complying with the requirements of the Title V permit.

Attachments: A copy of the ROP Certification Table, and Monthly Records of Natural Gas usage from January 2013 through July 2014.

NAME Steven M White DATE 8-28-2014 SUPERVISOR