

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

N290170153

<b>FACILITY:</b> Consumers Energy - Muskegon River Compressor Stat		<b>SRN / ID:</b> N2901
<b>LOCATION:</b> 8613 Pine Rd., CHURCH BRIDGE		<b>DISTRICT:</b> Bay City
<b>CITY:</b> CHURCH BRIDGE		<b>COUNTY:</b> CLARE
<b>CONTACT:</b> Amy Kapuga , Sr. Environmental Engineer		<b>ACTIVITY DATE:</b> 12/12/2023
<b>STAFF:</b> Nathanael Gentle	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Scheduled Onsite Inspection FY24		
<b>RESOLVED COMPLAINTS:</b>		

On December 12, 2023, AQD staff conducted a scheduled onsite inspection at Consumers Energy – Muskegon River Compressor Station, SRN N2901. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules; and to evaluate compliance with the facilities Renewable Operating Permit (ROP), MI-ROP-N2901-2020. EGLE staff were assisted onsite by Dawn Bierling, Compression Supervisor, Janet Zondlak, Environmental Compliance Manager and Janet Simon, Compression Manager. Records were provided by onsite staff and Amy Kapuga, Principal Environmental Engineer. At the time of inspection, the facility was found to be in compliance.

### Facility Description and History

The Consumers Energy – Muskegon River Compressor Station is a manned compressor station located at 8613 Pine Road, Marion, Clare County, MI 49665. The facility is primarily used to compress natural gas into storage reservoirs during injection, typically during warmer months, and to pull gas out of storage reservoirs during withdrawal, typically during the colder months. Compression of gas is accomplished utilizing natural gas-fired reciprocating internal combustion engines (RICE) and two natural gas-fired turbines. Gas that is removed from the storage formations using the compression engines and turbines is passed through aerial coolers to cool down the temperature of the gas stream. The gas then travels to a lube oil extractor (LOE) where lube oil is filtered out of the gas stream. After the LOE, the gas is sent through dehydration towers as part of a glycol dehydration process unit to remove water. Once water is removed, the gas is sent to distribution pipelines.

The Consumers Energy – Muskegon River Compressor Station is a major source for nitrogen oxides (NOx), carbon monoxide (CO), and hazardous air pollutants (HAPs). The primary HAP is formaldehyde. As a major source with a ROP, the facility is required to submit annual and semi-annual compliance reports. The facility has historically submitted these reports on time and complete to the AQD. Emission reporting by the facility has also historically been submitted on time and complete. No recent complaints are on file for the facility. The Consumers Energy – Muskegon River Compressor Station was last inspected on January 13, 2022. At the time of the 2022 inspection the facility was found to be in compliance.

### Compliance Evaluation

## **EUTURBINE2-2**

EUTURBINE2-2 is a natural gas-fired Solar Taurus 70 turbine rated at 11,419 hp with a maximum design heat input capacity of 96.5 MMBtu/Hr, equipped with dry-low-NOx combustion control, referred to as SoLoNOx. The unit is used to boost gas pressure during periods of increased demand in the withdrawal season. EUTURBINE2-2 is permitted under Permit to Install (PTI) No. 16-21A. The emission unit and applicable conditions will be incorporated into the facility's ROP during the upcoming ROP renewal.

Special Condition III.1. stipulates that the permittee shall submit, implement, and maintain a malfunction abatement plan (MAP) as described in Rule 911(2) for EUTURBINE2-2. The most recent copy of the MAP was submitted to the AQD on August 8, 2022. In addition to the MAP, a plan describing how emissions will be minimized during startup and shutdown was also submitted on August 8, 2022, S.C.III.2.

EUTURBINE2-2 is fueled with pipeline quality natural gas, Special Condition (S.C.) II.2. A device is in place to monitor and record the natural gas usage, S.C.IV.3. Records of monthly natural gas usage for EUTURBINE2-2 were requested and provided for the period of December 2022 through November 2023. During the period of records reviewed, the turbine was operated during the months of December, February, March, May, August, and October. The month with the highest natural gas usage was February 2023 with 23737 MCF of natural gas used. The months with the lowest natural gas usage was both May and August 2023, each with 188 MCF of natural gas used.

The total events for startup and shutdown for EUTURBINE2-2 shall not exceed 100 startup and 100 shutdown events per 12-month rolling time period, S.C.III.3. Staff report the number of startups each month is tracked. Currently EUTURBINE2-2 is only operated during the winter months as part of withdrawal activities. Records detailing the startup and shutdown events for the last 12 months were requested, S.C.VI.4. Records were provided for the period of January 2023 through December 2023. Monthly startups and shutdowns are recorded. Throughout calendar year 2023 a total of 13 startup and 13 shutdown events occurred. The month with the most startups and shutdowns was February 2023 with 7 startup and 6 shutdown events.

EUTURBINE2-2 is equipped with dry-low-NOx control, referred to as SoLoNOx control, S.C.IV.2. The permittee shall not operate EUTURBINE2-2 unless the SoLoNOx control is operating at all times, not including startups, and shutdowns, S.C.III.4. A device is in place to monitor and record the operation status of the SoLoNOx control, S.C.IV.4. The operator readout screen for EUTURBINE2-2 includes a readout for the SoLoNOx status. Staff explained the system looks at multiple operating parameters to determine the SoLoNOx status. The system will alarm if parameters are approaching conditions in which the SoLoNOx status is non-operational. If alarms were to occur, staff will then make operating parameter adjustments as needed to ensure the SoLoNOx status remains operational. Special Condition VI.3. requires the permittee to monitor and record the status of the SoLoNOx operation on EUTURBINE2-2 for all operating hours on an hourly basis. Records of SoLoNOx operation for EUTURBINE2-2 were requested and provided for the months of January 2023 and February 2023. The status of SoLoNOx is recorded every 15 minutes as on or off during operation of EUTURBINE2-2. During the period of records reviewed, the SoLoNOx status appeared to be on during operation of EUTURBINE2-2.

Emission limits for NO<sub>x</sub> are in place for EUTURBINE2-2. Testing to verify compliance with NO<sub>x</sub> emission limits is required to be conducted annually (at least every 14 calendar months). If the stack test result is less than or equal to 75 percent of the NO<sub>x</sub> emission limits in S.C.I.1., testing can be changed to once every two years (at least every 26 calendar months). If the results of subsequent testing results yield NO<sub>x</sub> emissions greater than 75 percent of the NO<sub>x</sub> limit in S.C.I.1., annual testing must be resumed, S.C.V.1. As an alternative to reoccurring stack tests, S.C.IV.5. details the permittee may elect to install and maintain a continuous emission monitoring system (CEMS) to monitor and record the NO<sub>x</sub> emission and O<sub>2</sub> and CO<sub>2</sub> content of the exhaust gas to demonstrate compliance with NO<sub>x</sub> emission limits. Currently, EUTURBINE2-2 is not equipped with a CEMS. Compliance with S.C.I.1. is demonstrated through testing. The most recent NO<sub>x</sub> emission testing was completed on March 10, 2022. Results at 100% gas producer speed showed emission rates of 5.4 ppmvd @ 15% O<sub>2</sub>, 1.8 lb/hr, and 7.8 ton/yr. Because results were less than or equal to 75% of the 25 ppmvd NO<sub>x</sub> limit in SC I.1, subsequent testing is required every 2 years (26 calendar months). The next test is required to be completed by March 10, 2024.

Records of monthly and 12-month rolling NO<sub>x</sub> mass emissions for EUTURBINE2-2 were requested and provided for the last 12 months, S.C.VI.6. Records were provided for period of January – December 2023. NO<sub>x</sub> emissions are calculated based on run time hours. During the 12-month period reviewed, total NO<sub>x</sub> emissions were 939.67 lbs, well below the permitted limit of 23.5 tpy. The highest monthly NO<sub>x</sub> emissions occurred at the end of February 2023 with 482.40lbs.

### FGMACTYYYY

Flexible group FGMACTYYYY details the requirements of 40 CFR Part 63 Subpart YYYY for a stationary combustion turbine located at major sources of HAP emissions, not using an oxidation catalyst. The flexible group is comprised of EUTURBINE2-2. Special condition I.1. stipulates a formaldehyde emission limit of 91 ppbv at 15% O<sub>2</sub>, except during startup. Testing to verify formaldehyde emission rates is required on an annual basis. The most recent stack test was completed on February 14, 2023. Results showed a formaldehyde emission rate of 79 ppmvd @15% O<sub>2</sub>.

EUTURBINE2-2 is not equipped with an oxidation catalyst. Because the turbine is not equipped with an oxidation catalyst, the permittee was required to petition the USEPA for operating limitations that the permittee must monitor to demonstrate compliance with the formaldehyde emission limit in S.C.I.1., S.C.III.3. The permittee submitted an initial petition to the EPA on June 10, 2022. A revised petition was submitted on June 23, 2023, following the issuance of the modified PTI, PTI No. 16-21A. The petition requested continuous monitoring of lean pre-mix (LPM) combustion mode operation, known as SoLoNO<sub>x</sub> mode. The petition detailed LPM is designed to limit NO<sub>x</sub> emissions by reducing the conversion of atmospheric nitrogen to NO<sub>x</sub> by reducing the combustor flame temperature and premixing fuel and combustor airflow upstream of the combustor primary zone. The petition stated this also helps with ensuring more complete combustion and minimizing emissions of CO and unburned hydrocarbons, including formaldehyde. Associated parameters monitored would include gas producer speed (%NGP), and inlet ambient temperature (T1). In their response to the petition, EPA approved operating between an ambient temperature of 35.8°F to 87.8°F when the turbine is operating between 97.9 -100% gas producer turbine speed. EPA denied all other ranges. EPA determined the ranges utilizing the values in which the emission unit was tested and demonstrated to meet compliance

with the emission limit. Additional details on how the ranges were calculated can be found in the EPA response letter. A statement was included that EPA would consider updating the ranges if the facility provides information showing that the formaldehyde standard is met at wider ranges of operating conditions.

Being EUTURBINE2-2 is utilized primarily during the winter months, the permittee hopes to establish a temperature operating range with a minimum temperature lower than 35.8°F. The facility plans to complete subsequent formaldehyde emission testing at lower ambient temperatures to demonstrate the emission unit can meet the emission limit requirements at ambient temperatures lower than 35.8°F. EUTURBINE2-2 must be operated within the parameter ranges specified by the EPA, until this subsequent testing is completed, and an updated operating range is provided by the EPA.

### **EUGLYCDEHY**

EUGLYCDEHY is a natural gas triethylene glycol (TEG) dehydrator used to remove water from natural gas. Onsite compressor engines pull the gas out of storage formations. The gas is then passed through after coolers to lower the temperature. From the after coolers the gas is passed through the TEG dehydrator system before it is then sent to the pipeline. Records of annual facility natural gas throughput are maintained, S.C.VI.4. Records were requested and provided for calendar years 2022 and 2023. During calendar year 2022, the total facility gas throughput was 23419.261 MMSCF. In 2023, the total facility gas throughput was 17984.376 MMSCF.

The glycol dehydrator is equipped with a thermal oxidizer to control VOC emissions, S.C. III. 2. The thermal oxidizer shall be operated at the site-specific minimum operating temperature established during the most recent compliance demonstration, S.C. III. 5. A minimum temperature of 1,115°F was established on December 3, 2019. The temperature setpoint for the thermal oxidizer was observed to be 1,500°F. The unit is equipped with an alarm and callout system to ensure the thermal oxidizer is operated above the minimum temperature. Additionally, staff report proper thermal oxidizer operation is monitored periodically during onsite staff rounds each day.

The thermal oxidizer is equipped with a device to continuously monitor and record the combustion chamber temperature, S.C. IV. 1. The combustion chamber temperature is recorded continuously on a circular chart recorder. Additionally, the unit is equipped with a digital system to track the combustion chamber temperature, S.C.IV.3. Records of the thermal oxidizer daily average temperature were requested and provided for the months of January 2023 and February 2023, S.C.VI.6. Temperature records were verified to be maintained. Temperature recordings are logged every 15 minutes. Using these values an hour average and daily average are calculated. Records reviewed show the unit is operated well above the minimum required temperature. During the month of January 2023, the highest 24-hour daily average temperature was 1513°F. The lowest 24-hour daily average temperature was 1481°F. During the month of February 2023, the highest 24-hour daily average temperature was 1511°F. The lowest 24-hour daily average temperature was 1461°F

Testing to demonstrate compliance with the BTEX (benzene, toluene, ethylbenzene, xylene) emission limit and to establish a minimum operating temperature is required within 60 months (5

years) of the last performance test. The most recent test was conducted on December 3, 2019. The next performance test is scheduled to be completed in January 2024, S.C.V.5.

Determination of actual average BTEX emissions from the glycol dehydration unit are made using GRI-GLYCalc. Records and calculations of annual BTEX emissions for calendar year 2023 were requested and received, S.C. VI. 28. BTEX emissions are calculated based on hours of operation. The 12-month rolling BTEX emissions during calendar year 2023 ranged from 0.0362tpy to 0.0416tpy, well below the calculated limit of 3.527tpy. Emissions are also calculated in Mg/yr. In 2023, the 12-month rolling emissions ranged from 0.03 to 0.04 Mg/yr, below the calculated limit of 3.2 Mg/yr. BTEX emission limits are determined using the equation in Appendix 7 of the ROP, S.C.I.2.

Records of benzene emissions were requested and provided for calendar year 2023, S.C.VI.1. Emissions of benzene are calculated using hours of operation and GRI-GLYCalc. During calendar year 2023, the 12-month rolling benzene emissions ranged from 0.0063 to 0.0072 tpy. Well below the permitted limit of 0.8 tpy, S.C.I.1.

Sampling of gas processed in EUGLYCDEHY to determine its composition is required at least once each calendar year, S.C.V.1. Records of the most recent analysis were provided. An analysis was completed on February 6, 2023 by SPL. The analysis report records were reviewed. The gas sample was verified to be analyzed for nitrogen, carbon dioxide, C1 through C6 series, benzene, toluene, xylene, ethylbenzene, and hexane, as required by the ROP.

EUGLYCDEHY is equipped with a flash tank. The flash tank exhaust gas is vented to the thermal oxidizer for control, S.C.III.1. The system is a closed-vent system with no bypass devices that could divert emissions from the thermal oxidizer. No portions of the closed vent system are designated as unsafe to inspect, S.C. VI. 10. Additionally, no portions of the closed vent system are designated as difficult to inspect, S.C. VI. 11. The closed vent system is inspected annually to ensure there are no detectable emissions in the system, S.C. V. 4. Staff report if a leak were to be detected, steps would be taken to fix the leak as quickly as possible. Records of the most recent inspection were requested and provided, S.C.VI.25. The most recent inspection was conducted on 9/14/2023. Records provided indicate no leaks were detected.

If malfunctions of EUGLYCDEHY or its associated air pollution control equipment were to occur, staff report efforts would be taken to correct the malfunction as quickly as possible. Routine maintenance is conducted on EUGLYCDEHY to help ensure proper operation. Maintenance records were provided for calendar year 2023. Examples of maintenance completed includes calibrating thermocouples and chart recorders, verifying alarms, and examining pumps and seals.

### **EUTURBINERT248**

EUTURBINERT248 is a natural gas-fired turbine used to boost gas pressure at the facility. Originally installed in January 1963, the unit operates as a grandfathered unit. Records of monthly natural gas consumption for EUTURBINERT248 for the last 12 months were requested and provided, S.C.VI.1. Records were provided for the period of December 2022 through November 2023. During the period of records reviewed the unit was only used during November 2023. A total of 0.435 MCF of natural gas was used during November 2023. Staff stated that due to the current ambient temperature range restrictions from the EPA for which EUTURBINE2-2 can be

operated, they anticipate EUTURBINERT248 will be operated more often than the previous year when pressure boosts are needed during the winter withdrawal. Routine maintenance is reported to be conducted on the unit, including annual inspections of the equipment.

### **EUAUXGEN3**

EUAUXGEN3 is a natural gas fired, spark ignition, emergency, reciprocating internal combustion engine (RICE). In the event of a power outage, EUAUXGEN3 is used to power onsite air compressors and the PLC associated with the onsite tank farm. The unit is rated at 4.8 MMBtu/hr (greater than 500hp) and is subject to 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

As an emergency stationary RICE, EUAUXGEN3 is limited in the number of hours the unit may be operated outside of emergency operation. To be considered an emergency stationary RICE, EUAUXGEN3 may be operated no more than 100 hours per calendar year for maintenance checks and readiness testing, S.C. III. 3. In addition, the unit may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and readiness testing, 40 CFR 63.6640(f).

EUAUXGEN3 is operated once a week for readiness testing. The unit is equipped with a non-resettable hour meter, S.C. IV. 1. Hours in which the unit is operated and the purpose for which the unit is operated, including whether for emergency purposes or maintenance, are tracked by facility personnel, S.C. VI. 1. Spreadsheets are maintained by the unit for operators to document the hours of operation. The sheets document the date the unit was operated and contain separate columns to document the hours operated for maintenance purposes versus hours operated for emergency use. There is also a column for operators to write comments about each operation period. Records of hours of operation for the past 12 months were requested and provided. Records were provided for the period of 1/23/2023 to 11/20/23. Hours at the beginning of the period were 1418.3. Hours at the end were 1426.0. The engine primarily ran for maintenance and readiness testing purposes. One instance of emergency use occurred on 4/6/2023 in which the unit operated for 3 hours and 36 minutes for a power outage.

Routine maintenance is conducted on EUAUXGEN3. The unit is inspected annually. Maintenance is tracked using the facilities work order system.

### **EURULE285(2)(mm)**

EURULE285(2)(mm) applies to any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, 278a, and Rule 285(2)(mm). In the event natural gas in excess of 1,000,000 standard cubic feet is vented, site procedures are followed. Proper documentation and notification of events is provided to the AQD. The volume of gas vented is determined based on the pipeline capacity and the duration of the venting event.

### **EUDEGREASER1**

EUDEGREASER1 is a cold cleaner located within the maintenance building onsite. The air/vapor interface of the unit is less than 10 square feet, S.C. IV. 1. Written operating procedures are

posted on the wall behind the cold cleaner, S.C. VI. 3. Zep Dyna 143 is the solvent used in the cold cleaner. The facility maintains a copy of the solvent sds posted by the unit. The solvent used in the cold cleaner is not heated, S.C. VI. 1. The cold cleaner is equipped with a cover and remains closed whenever parts are not being handled in the unit, S.C. IV. 3. The cold cleaner is equipped with a device for draining cleaned parts, S.C. IV. 2.

## **FGCOMPRESSORS**

FGCOMPRESSORS is comprised of grandfathered natural gas fired reciprocating internal combustion engines. Actively used engines within the flexible group include: EUENGINEH9, EUENGINEH10, EUENGINEH11, EUENGINEH12, EUENGINET11, and EUENGINET12. The engines and their associated compressors are used to compress natural gas in and out of storage formations.

At the time of inspection EUENGINEH9, EUENGINEH10, EUENGINEH11, and EUENGINEH12 were operating. No visible emissions were observed from the stacks of the operating engines. Which engines are operated when is determined by facility staff to meet the rate specified by gas central.

The units are fueled with natural gas, S.C.III.1. Daily natural gas usage for each engine is tracked by onsite staff. Daily records are used to tabulate and track monthly natural gas consumption for each engine in FGCOMPRESSORS. Records of monthly natural gas consumption for each engine in FGCOMPRESSORS for the last 12 months were requested and provided, S.C. VI. 1. Records were provided for the period of December 2022 through November 2023.

EUENGINEH9 operated during 8 months of the 12-month period reviewed. EUENGINEH9 was not operated during December 2022, January 2023, September 2023, and October 2023. During the period of records reviewed the highest monthly fuel consumption occurred in May 2023 with 6139 MCF of natural gas used. Of the months EUENGINEH9 was operated, the lowest fuel consumption occurred in June 2023 with 18 MCF of natural gas consumed.

EUENGINEH10 operated during 6 months of the 12-month period reviewed. EUENGINEH10 operated during May 2023, June 2023, July 2023, August 2023, September 2023, and November 2023. During the period of records reviewed the highest monthly fuel consumption occurred in September 2023 with 3355 MCF of natural gas used. Of the months EUENGINEH10 was operated, the lowest fuel consumption occurred in November 2023 with 24 MCF of natural gas consumed.

EUENGINEH11 operated all 12 months of the 12-month period reviewed. During the period of records reviewed the highest monthly fuel consumption occurred in March 2023 with 6631 MCF of natural gas used. The month with the lowest fuel consumption occurred in January 2023 with 1129 MCF of natural gas consumed.

EUENGINEH12 operated during 10 months of the 12-month period reviewed. EUENGINEH12 was not operated during April 2023 and May 2023. During the period of records reviewed the highest monthly fuel consumption occurred in December 2022 with 7138 MCF of natural gas used. Of the months EUENGINEH12 was operated, the lowest fuel consumption occurred in July 2023 with 27 MCF of natural gas consumed.

EUENGINET11 operated during 10 months of the 12-month period reviewed. EUENGINET11 was not operated during March 2023 and April 2023. During the period of records reviewed the

highest monthly fuel consumption occurred in November 2023 with 8651 MCF of natural gas used. Of the months EUENGINET11 was operated, the lowest fuel consumption occurred in June 2023 with 1173 MCF of natural gas consumed.

EUENGINET12 operated during 10 months of the 12-month period reviewed. EUENGINET12 was not operated during March 2023 and June 2023. During the period of records reviewed the highest monthly fuel consumption occurred in November 2023 with 8810 MCF of natural gas used. Of the months EUENGINET12 was operated, the lowest fuel consumption occurred in August 2023 with 193 MCF of natural gas consumed.

## **FGAUXGENS**

FGAUXGENS is comprised of two spark ignition emergency reciprocating internal combustion engines (RICE), EUAUXGEN1A and EUAUXGEN2A. Both engines are rated at 3.8 MMBtu/hr (less than 500 HP) and were installed in 1999. The engines are subject to the requirements of 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

As emergency stationary RICEs, EUAUXGEN1A and EUAUXGEN2A are limited in the number of hours the units may be operated outside of emergency operation. To be considered an emergency stationary RICE, EUAUXGEN1A and EUAUXGEN2A may each be operated no more than 100 hours per calendar year for maintenance checks and readiness testing, S.C. III. 6. In addition, the units may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and readiness testing, S.C.III.7. There is no limit to hours of operation for emergency use.

EUAUXGEN1A and EUAUXGEN2A are both equipped with a non-resettable hour meter, S.IV.1. At the time of inspection, the hour meter on EUAUXGEN1A read 4637.4 hours. The hour meter on EUAUXGEN2A read 00356.1 hours. Both units in FGAUXGENS are used for emergency purposes when the local grid is down. The engines are fired up weekly for maintenance purposes, to ensure they are running properly. Hours in which in the units are operated and the purpose for which the units are operated, including whether for emergency purposes or maintenance, is tracked by facility personnel, S.C. VI. 6. Spreadsheets are maintained by the units for operators to document the hours of operation. The sheets document the date each unit was operated and contain separate columns to document the hours operated for maintenance purposes versus hours operated for emergency use. There is also a column for operators to write comments about each operation period. Records of hours of operation for calendar year 2023 were requested and provided. Records were provided for the period of 1/23/2023 to 11/23/2023.

EUAUXGEN1A hours at the beginning of the records were 4627.5. Hours at the end of the period provided were 4637.4 hours. The unit was primarily operated for maintenance and readiness testing. Three instances of power bumps occurred which include 3/10/2023 for 2.1 hours, 3/25/2023 for 0.3 hours, and 4/6/2023 for 4.2 hours.

EUAUXGEN2A hours at the beginning of the records were 347.9. Hours at the end of the period provided were 356.1 hours. The unit was primarily operated for maintenance and readiness



testing. Three instances of power bumps occurred which include 3/10/2023 for 2.1 hours, 3/25/2023 for 0.3 hours, and 4/6/2023 for 3.2 hours.

Routine maintenance is conducted on units in FGAUXGENS, including annual inspections, S.C. III. 1. Annual inspections are tracked using the facilities work order system. Maintenance records were requested and provided. Maintenance records were reviewed for calendar year 2021. Routine maintenance was demonstrated to be completed. Examples of maintenance activities completed include sampling and changing oil if needed, inspecting air filter, inspecting spark plugs and inspecting belts and hoses.

The facility utilizes an oil analysis program in order to extend the specified oil change requirement, S.C. III. 2. Oil samples are collected annually and analyzed by a 3<sup>rd</sup> party company. Oil samples are analyzed for the three parameters required by S.C. V. 1. Including, total base number, viscosity, and percent water content. Oil changes are completed based on the results of the sampling analysis.

### FGPROCESSHTRS

FGPROCESSHTRS is comprised of four units including EUFUELHTR (0.25 MMBTU/hr), EUFUELHTR1 (0.45 MMBTU/hr), EUBLR9 (3.35 MMBTU/hr), and EUREBOILER (1.00 MMBTU/hr). The units are subject to the requirements of 40 CFR Part 63, Subpart DDDDD for existing small (<10 MMBTU) industrial process heaters fired by natural gas at a major source of Hazardous Air Pollutants. Onsite staff report EUBLR9 was decommissioned in July of 2023. The unit was used as a boiler for plant 3.

Tune-ups of units in FGPROCESSHTRS are completed by Consumers Energy personnel. The facility ensures tune-ups are completed on time using the facilities work order system. Records of the most recent tune-up for each unit in FGPROCESSHTRS were requested and provided, S.C. VI. 1. The most recent tune-up on EUBLR9 was completed on 12/19/2020. Tune-ups of units EUFUELHTR and EUFUELHTR1 were completed on 1/19/2021. The tune-up for EUREBOILER was completed on 3/1/2021. For the tune ups, burners, flame patterns, and air-to-fuel ratio control systems were inspected. CO emissions were optimized and both CO and O2 levels were measured in the units' exhaust before and after the tune-ups.

### Summary

The Consumers Energy – Muskegon River Compressor Station, SRN N2901, is a manned compressor station located in Marion, MI. The facility is primarily used to compress natural gas into storage reservoirs during injection and to pull gas out of storage reservoirs during withdrawal. The facility is a major source for nitrogen oxides (NOx), carbon monoxide (CO), and hazardous air pollutants (HAPs). At the time of inspection, the facility was found to be in compliance.

NAME  DATE 2/20/2024 SUPERVISOR 