

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

B372167008

FACILITY: ANR Pipeline - Reed City Compressor Station		SRN / ID: B3721
LOCATION: 7677 230th Ave., REED CITY		DISTRICT: Cadillac
CITY: REED CITY		COUNTY: OSCEOLA
CONTACT: Lisa Fishbeck (updated 3/2023) ,		ACTIVITY DATE: 03/14/2023
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On-site Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Tuesday, March 14, 2023, Caryn Owens of the Department of Environment, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted an on-site field inspection of ANR Pipeline (ANR) – Reed City Compressor Station (SRN: B3721) located at 7677 230th Avenue, Reed City, Osceola County, Michigan. Majority of the site is located on the west side of 230th Road, and one of the glycol dehydrators and associated equipment is located on the east side of 230th Avenue. The entrance to the facility is approximately 2.25 miles north of US-10 and 230th Avenue (Norman Road) intersection.

The field inspection and records review were to determine compliance with the Renewable Operating Permit (ROP) MI-ROP-B3721-2014a. The source has submitted a ROP Renewal, which is currently under District Supervisor review. The site is a major source for hazardous air pollutants (HAPs), and is subject to the following National Emissions Standards for Hazardous Air Pollutants (NESHAPs) under 40 CFR Part 63: NESHAP from Natural Gas Transmission and Storage Facilities (40 CFR Part 63, Subpart HHH); NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63 Subpart DDDDD); and NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ).

Summary:

The activities covered during the field inspection and records review for the facility indicates the facility was in compliance with ROP MI-ROP-B3721-2014a. Specific permit conditions that were reviewed are discussed below.

Source Description:

The Reed City Compressor Station is a natural gas transmission and compression station which operates two natural gas storage fields, the Loreed and the Reed City (RC) Stray Storage Fields. The Reed City Compressor Station operates under varying conditions. The pipeline transports natural gas to and from the storage reservoirs and typically operates between 400 and 2000 psig. During injection, natural gas free flows into the reservoir until the field pressure approaches pipeline pressure. At this point one or more internal combustion engines will be used to compress the natural gas into the reservoir. Compression injection usually continues until the field reaches its maximum rated pressure. Two of the engines at the site are equipped with catalytic converters to control NOx emissions. The station utilizes nine natural gas-fired engines in total for transmission and processing. Depending on storage and delivery, gas availability, and demand, the engines may operate simultaneously, independently, or not at all.

Gas withdrawn from the RC Stray storage field, that is conditioned through the RC Stray glycol dehydration system to remove liquids that are transported out of the reservoir with the gas. After conditioning the natural gas, it is fed into a separator to further remove liquids that remain in the gas stream before it is compressed and transported into the pipeline downstream. The emissions from the glycol dehydrator are controlled by a thermal oxidizer and a condenser.

Each well site in the Loreed storage field has a small gas-liquid separator that is used to separate the hydrocarbons from the gas at the well head. Gas is routed to the compressor station, while liquids are routed to one of the three condensate tank battery areas. Prior to entering the pipeline from the Loreed Storage Field, the natural gas is conditioned through the Loreed glycol dehydration system to remove liquids from the gas before it is compressed or transported into the pipeline downstream. The emissions from the glycol dehydrator are controlled by a thermal oxidizer and a condenser.

On-site Inspection:

During the field inspection, there were five compressor engines (EURC011, EURC012, EU002 (listed as engine #1 onsite), EURC005 (listed as #4 onsite), and EURC006 (listed as #5 onsite)) that were operating. The RC Stay glycol dehydrator was operating during the inspection, but the Loreed glycol dehydrator has been shut down for the remainder of the season and **not** operating at the time of the inspection.

The five engines that were operating during the inspection had the following parameters recorded:

EURC011	Readings
Catalyst Inlet Temperature:	987.0°F
Catalyst Outlet Temperature:	910.0°F
Catalyst Differential Pressure:	2.6" water column (wc)
Revolutions per minute:	660 RPM
Engine Temperature:	161.9 °F
Engine pressure:	28.7 psi
Torque:	70.0 %

EURC012	Readings
Catalyst Inlet Temperature:	915.0°F
Catalyst Outlet Temperature:	920.3°F
Catalyst Differential Pressure:	2.0" water column (wc)
Revolutions per minute:	650 RPM
Engine Temperature:	163.0 °F
Engine pressure:	28.5 psi
Torque:	70.0 %

EURC002 (Engine #1)	Readings
Revolutions per minute	661 RPM
Engine Temperature	176 °F
Engine pressure	51 psi

EURC005 (Engine #4)	Readings
Revolutions per minute	292 RPM
Engine Temperature	165 °F
Engine pressure	56 psi

EURC006 (Engine #5)	Readings
Revolutions per minute	292 RPM
Engine Temperature	165 °F
Engine pressure	52 psi

Engines EURC006 and EURC007 are units that are withdrawing the natural gas from the storage field. EURC007 was not operating during the inspection and was having maintenance performed on it during the inspection. Otherwise, it would typically be operating. During the summer months, EURC008 is the only engine operating, filling the storage cavity.

The facility is claiming the following exemptions at the facility:

- A hot water heater less than 120 gallons (0.125 MMBtu/hr) meets exemption Rule 336.1282(2)(b)(i).
- Maintenance oil storage tank (1,760 gallon) meets exemption Rule 336.1284(2)(c).
- Four 10,000 gallon oil storage tanks meets exemption Rule 336.1284(2)(c).
- Seven oil storage tanks less than 500 gallon meets exemption Rule 336.1284(2)(c).
- Ten condensate and hydrocarbon storage tanks ranging between 1,000 to 8,820 gallon meets exemption Rule 336.1284(2)(e).
- A methanol storage (7,500 gallons) meets exemption Rule 336.1284(2)(n).
- Three glycol storage tanks (less than 12,800 gallons) meets exemption Rule 336.1284(2)(i).

- Two fuel storage tanks of 500 gallons (one of diesel fuel and one gasoline) meets exemption Rule 336.1284(2)(g)(i).
- A wastewater storage tank (15,000 gallons) meets exemption Rule 336.1284(2)(i).
- Three Ambientrol storage tanks meets exemption Rule 336.1284(2)(i).
- Replacement of the regenerator/reboiler of EURC024 Glycol dehydrator claiming exemption R336.1282(2)(b)(i), the new regenerator/reboiler is rated at 0.85 MMBtu/hr. (9/23/2019)

RECORDS REVIEW:

EURC015:

Loreed glycol dehydration system. System includes flash vessel, heat exchangers and filters, distillation column and a reboiler surge tank. The system is controlled by a thermal oxidizer and a condenser. At the time of the inspection, the Loreed glycol dehydration system was **not** operating.

I. Emission Limits:

Below is the table showing the emission limits permitted limits versus the highest reported emission limit from March 1, 2022 through February 28, 2023:

Pollutant:	Permitted limit:	Reported limit:
VOC (lb/day):	295 lb/day	10.8 lb/day
VOC (tpy):	19 tons per year (tpy)	0.048 tpy
Benzene (tpy):	Less than 1 ton per year	0.009tpy

The reported emission limits were within the permitted limits.

II. Material Limits:

Material Limits are not applicable for EURC015.

III. Process/Operational Restrictions:

At the time of the inspection EURC015 was equipped with a thermal oxidizer and a condenser. As previously stated, EURC015 was not operating during the inspection. An hour's meter is installed on EURC015, and the hours operated are recorded on the Dehydration System Rolling Total Monitoring Report. Based on the records reviewed from March 1, 2022 through February 28, 2023, the greatest amount of hours the glycol dehydrated operated was 1835.7 hrs, based on a 12-month rolling time period, which is below the permitted 6800 hours per 12-month rolling time period limit.

The glycol dehydrator is installed with a flash tank, which routes the emissions from the flash tank to the reboiler, and the excess emissions are routed through the thermal oxidizer (or condenser for back-up).

Additionally, based on the records reviewed, ANR stated that stripping gas is not used at the facility.

IV. Design/Equipment Parameters:

As previously stated, the Loreed glycol dehydrator is equipped with a thermal oxidizer and a condenser, which is used for back-up if the thermal oxidizer is not operating.

V. Testing/Sampling:

The processed natural gas stream of the Loreed glycol dehydrator system shall be analyzed for VOC and benzene content in the natural gas at least once every five years. The most recent analysis was conducted April 3, 2019, using GRI -GLYCalc Version 4.0. The GRI-GLYCalc analysis for both the condenser and thermal oxidizer are attached.

VI. Monitoring/Recordkeeping:

The facility continuously monitors the temperature of the thermal oxidizer and condenser, and has an alarm installed if the thermal oxidizer falls below 1,400 degrees Fahrenheit when operating, and an alarm on the condenser that activates if the condenser goes above 120 degrees Fahrenheit. The temperatures of the thermal oxidizer and condenser are recorded on an hourly and daily basis.

The facility monitors the natural gas usage processed through the Loreed Glycol Dehydrator on a continuous basis and records the daily fuel use and hours of operation. The facility records monthly and 12-month rolling time period calculations for VOC and benzene. The 12-month rolling time period emissions are discussed above under emission limits.

VII. Reporting:

The semi-annual reports and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. During the reporting period the permittee reported all monitoring and associated recordkeeping requirements.

VIII. Stack/Vent Restrictions:

Stack parameters for the Loreed Glycol Dehydrator have not changed from the previous inspection, I used a range finder on both the thermal oxidizer and condenser stacks, and they meet the specifications in the ROP.

IX. Other Requirements:

No Other Requirements are applicable for EURC015.

EURC024:

Reed City glycol dehydration system removes water from the natural gas. System includes flash vessel, heat exchangers and filters, distillation column and a reboiler surge tank. The system is controlled by either a thermal oxidizer or condenser.

I. Emission Limits:

Below is the table showing the emission limits permitted limits versus the highest reported emission limit from March 1, 2022 through February 28, 2023:

Pollutant:	Permitted limit:	Reported limit:
VOC (lb/day):	90 lb/day	22.3 lb/day
VOC (tpy):	15.4 tons per year (tpy)	0.065 tpy
Benzene (tpy):	Less than 1 ton per year	0.018 tpy

The reported emission limits were within the permitted limits.

II. Material Limits:

Material Limits are not applicable for EURC024.

III. Process/Operational Restrictions:

At the time of the inspection EURC024 was equipped with a thermal oxidizer and a condenser as back-up. An hour's meter is installed on EURC024, and the hours operated are recorded on the Dehydration System Rolling Total Monitoring Report. Based on the records reviewed from March 1, 2022 through February 28, 2023, the greatest amount of hours the glycol dehydrated operated was 1948.0 hours, based on a 12-month rolling time period, which is below the permitted 6800 hours per 12-month rolling time period limit. The glycol dehydration system and the control device were operating during the inspection.

The glycol dehydrator is installed with a flash tank, which routes the emissions from the flash tank to the reboiler, and the excess emissions are routed through the thermal oxidizer (or condenser for back-up).

Additionally, based on the records reviewed, ANR stated that stripping gas is not used at the facility.

IV. Design/Equipment Parameters:

As previously stated, the RC Stray glycol dehydrator is equipped with a thermal oxidizer and a condenser, which is used for back-up.

V. Testing/Sampling:

The processed natural gas stream of the RC Stray glycol dehydrator system shall be analyzed for VOC and benzene content in the natural gas at least once every five years. The most recent analysis was conducted April 3, 2019, using GRI -GLYCalc Version 4.0. The GRI-GLYCalc analysis for the condenser and thermal oxidizer are attached.

VI. Monitoring/Recordkeeping:

The facility continuously monitors the temperature of the thermal oxidizer and condenser, and has an alarm installed if the thermal oxidizer falls below 1,400 degrees Fahrenheit when operating, and an alarm on the condenser that activates if the condenser goes above 90 degrees Fahrenheit. The temperatures of the thermal oxidizer and condenser are recorded on an hourly and daily basis.

The facility monitors the natural gas usage processed through the RC Stray glycol dehydrator on a continuous basis and records the daily fuel use. The facility records monthly and 12-month rolling time period calculations for VOC and benzene and the hours of operation. The 12-month rolling time period emissions are discussed above under emission limits.

VII. Reporting:

The semi-annual reports and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. During the reporting period the permittee reported all monitoring and associated recordkeeping requirements.

VIII. Stack/Vent Restrictions:

Stack parameters for the RC Stray glycol dehydrator have not changed from the previous inspection, I used a range finder on both the thermal oxidizer and condenser stacks, and they meet the specifications in the ROP.

IX. Other Requirements:

No Other Requirements are applicable for the RC Stray glycol dehydrator system.

FGRC001:

Four white Superior 8GT825 1,000 horsepower (HP) natural gas fired 4-stroke lean burn (4SLB) RICE (EURC002, EURC003, EURC004, EURC005), two Ingersoll-Rand KVS 2,000 HP natural gas fired 4SLB RICE (EURC006 and EURC007), one Clark TCVD 16M

8,600 HP natural gas fired 2SLB RICE (EURC008), and two white Superior 8G825 660 HP natural gas fired 4SRB RICE (EURC011 and EURC012). The emission units: EURC002, EURC003, EURC004, EURC005, EURC006, EURC007, EURC011, and EURC012 are considered "grandfathered" since they were installed prior to August 15, 1967.

I. Emission Limits:

Emission Limits are not applicable for FGRC001.

II. Material Limits:

Material Limits are not applicable for FGRC001.

III. Process/Operational Restrictions:

A previous gas analysis indicated the natural gas fuel contained less than 2 grains of total sulfur per 100 cubic feet of natural gas.

IV. Design/Equipment Parameters:

Design/Equipment Parameters are not applicable for FGRC001.

V. Testing/Sampling:

Testing/Sampling are not applicable for FGRC001.

VI. Monitoring/Recordkeeping:

Monitoring/Recordkeeping are not applicable for FGRC001.

VII. Reporting:

The semi-annual reports and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. During the reporting period the permittee reported all monitoring and associated recordkeeping requirements.

VIII. Stack/Vent Restrictions:

Stack/Vent Restrictions are not applicable for FGRC001.

IX. Other Requirements:

Other Requirements are not applicable for FGRC001.

FGMACTZZZZ:

The facility uses two 4-stroke, rich burn, natural gas-fired RICE (EURC011 and EURC012) with a site-rating of 660 HP each to compress natural gas to recycle gas captured from the storage field liquid handling system. These MACT subject engines are used as needed to regulate flow to and from the storage field.

I. Emission Limits:

FGMACTZZZZ has an emission limit of less than or equal to 350 ppbvd of formaldehyde of 76 percent reduction of formaldehyde. Compliance with this limit is demonstrated through testing, which is further discussed below, and the continuous parameter monitoring system (CPMS) described in Monitoring and Recordkeeping below.

II. Material Limits:

Material Limits are not applicable for FGMACTZZZZ.

III. Process/Operational Restrictions:

Based on the design of the engines, EURC011 and EURC012 are online at the time of ignition, there is no bypass for the engines, so there isn't a start-up period, and the engine speed responds to the load.

New catalysts were installed on EURC011 and EURC012. The catalysts were tested October 16, 2019, and the baseline pressure drops are 3.52 for EURC011 and 2.70 for EURC012. Based on the records reviewed for the months of July 2022, November 2022 and January 2023, the pressure drop for EURC011 ranged between 1.92 to 2.25 inches water column and the pressure drop for EURC012 ranged between 2.59 to 2.85 inches water column. Based on the records reviewed, the catalyst inlet temperature was greater than 750°F and less than 1250°F based on a 4-hour rolling average.

Additionally, the results of the October 16, 2019 test indicated formaldehyde reduction is 95.91 percent for EURC011 and 96.36 percent for EURC012, which meets the FGMACTZZZZ operating limits. During the inspection, only EURC011 was operating. The engine was operating within the tested operating parameters in accordance with FGMACTZZZZ.

IV. Design/Equipment Parameters:

Design/Equipment Parameters are not applicable for FGMACTZZZZ.

V. Testing/Sampling:

As previously stated, the catalysts were changed, and testing was conducted on October 16, 2019. The testing is discussed above under Process/Operational Restrictions. The facility chooses to comply with the 76 percent reduction and completes a performance test each time the catalyst is changed.

VI. Monitoring/Recordkeeping:

EURC011 and EURC012 are equipped with CPMS, and the temperature and pressure drop of the catalysts are continuously monitored when in operation, and log data every 15 minutes as required. ANR maintains the necessary records. I reviewed malfunction and maintenance records which were up to date. Monitoring of the catalyst parameters indicates the EURC011 and EURC012 comply with the formaldehyde reduction limits.

VII. Reporting:

The semi-annual reports and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. During the reporting period the permittee reported all monitoring and associated recordkeeping requirements.

The FGMACTZZZZ compliance reports were submitted and reviewed. The most recent CMS Audit was completed August 3, 2023. The report followed the format specified in the regulation and there were no incidents of excess emissions, malfunctions, deviations, or periods during which the CPMS were out of control.

VIII. Stack/Vent Restrictions:

Stack/Vent Restrictions are not applicable for FGMACTZZZZ.

IX. Other Requirements:

All of the requirements of the site-specific monitoring plan have been addressed. Based on the Conditions in the permit, the facility complies with the applicable provisions for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ).

FG-NSPS4J:

One Caterpillar G379 4SRB 355 HP emergency generator (EURC019) and one Waukesha (L1616GSIU) 4SRB 475 HP emergency generator (EURC020). These two engines were removed in June 2020 and replaced with one G3512 4SLB, 1,114 HP emergency generator (EURC064). This new engine was put in service in August 2020. The facility operates the engine for one hour per month, and the engine is equipped with a non-resettable hour meter. At the time of the inspection, EURC064 read at 41.4 hours.

FGMACTHHH:

Two affected small glycol dehydration units (EURC015 and EURC024) as defined in 40 CFR 63.1271 constructed prior to August 23, 2011 which must attain compliance with the requirements in 40 CFR, Part 63, Subpart HHH.

I. Emission Limits:

Equation 1 in Appendix 7 of the ROP was used to calculate a BTEX emission limit from each glycol dehydration system. The following BTEX emission limits, calculated from stack testing conducted February 5 and 6, 2015 and Equation 1 in Appendix 7 of the ROP were 48.96 megagrams per year (Mg/yr) for EURC015 and 6.92 Mg/yr for EURC024, using the daily throughput rates from 2009 through 2013.

The average BTEX emissions from the most recent stack test were <0.0053 Mg/year for EURC015 and <0.0054 Mg/year for EURC024. The facility uses the most recent gas samples collected January 24, 2019 to calculate the BTEX emissions. The BTEX emissions reported for 2022 were calculated to be 0.1903 Mg/year and 0.1569 Mg/year for year 2023 for EURC015. The BTEX emissions reported for 2022 were calculated to be 0.1742 Mg/year and 0.0641 Mg/year for year 2023 for EURC024, showing that EURC015 and EURC024 are below their BTEX emission limit.

II. Material Limits:

Material Limits are not applicable for FGMACTHHH.

III. Process/Operational Restrictions:

The systems appear to be a closed vent system with a bypass line. The process vents (reboiler still) are directed to the thermal oxidizer, and uses a condenser as back-up when needed.

At the time of the inspection both EURC015 and EURC024 were equipped with thermal oxidizers, and condensers that operate when the thermal oxidizers are not operating. Hour meters were installed, and the facility continuously monitors hours of operation and the temperatures of the thermal oxidizers and condensers which are used to show proper operation of the glycol dehydrators.

The facility has a continuous parameter monitoring system (CPMS) installed and maintained in accordance with the site-specific monitoring plan. As previously stated, the facility uses a thermal oxidizer and condenser for control. The facility operates the thermal oxidizer and/or condenser at all times when the glycol dehydrator is operating, which are discussed further below.

IV. Design/Equipment Parameters:

The facility shows compliance with the emission standard by using a properly operating control device, which was already mentioned above in the Process/Operational Restrictions, and by a closed-vent system that has no detectable emissions.

AQD received a 40 CFR Part 63 Subpart HHH compliance notification from ANR that certifies thermocouples are installed and maintained, calibrated and inspected in accordance with manufacturer's specifications. Additionally, as previously stated, facility continuously monitors the temperature of the thermal oxidizers and condensers, and has alarms installed if one of the thermal oxidizers falls below 1,400 degrees Fahrenheit when operating, and an alarm on the condensers that activates if the condenser of EURC024 goes above 90 degrees Fahrenheit, and the condenser of EURC015 goes above 120 degrees Fahrenheit. The temperature of the thermal oxidizers and condensers are recorded on an hourly basis.

V. Testing/Sampling:

Based on the most recent Periodic Report, received by AQD March 13, 2023, the most recent Leak Detection and Repair (LDAR) Assessment completed March 10, 2023, one leak was detected at the LoReed system (EURC015) on December 22, 2022, and was repaired by January 6, 2023. No other detectable emissions were detected in the closed loop systems from EURC015 and EURC024.

ANR conducted stack testing to determine BTEX emissions from each glycol dehydration system's thermal oxidizer on February 5 and 6, 2015, as required by MACT Subpart HHH. Since the temperatures within the combustion chamber were greater than 1,400 degrees Fahrenheit during the stack test, no further stack testing has been completed per MACT Subpart HHH.

VI. Monitoring/Recordkeeping:

ANR has installed a monitor to measure the natural gas flow rate to the thermal oxidizers and condensers.

The facility calculates their actual BTEX emissions using GRI-GLYCalc™, Version 4.0 on a monthly and 12-month rolling time-period. Additionally, the facility maintains the monthly and annual natural gas throughput.

As previously stated, the facility monitors the thermal oxidizers and condensers continuously while operating. AQD received a Notification of Compliance Status Report, dated April 11, 2016 from ANR that certifies thermocouples are installed and maintained, calibrated and inspected in accordance with manufacturer's specifications.

The most recent LDAR testing of the closed-vent system was March 10, 2023 for both the Loreed and Reed City Stray systems. According to the LDAR assessment results, one leak was detected from the Loreed system, and was repaired. No additional leaks or defects were detected; and no periods in which the seal or closure mechanism was broken, the bypass valve position changed, or the key to unlock the bypass line valve was checked out during the reporting period.

ANR established minimum operating parameter values or maximum operating parameter values, as appropriate for the control devices, to define the conditions at which the control devices must be operated to continuously achieve the emission limits in Section I of FGMACTHHH for control devices used to comply with 40 CFR, Part 63 Subpart HHH. The minimum operating parameter of 1,400 degrees Fahrenheit for the thermal oxidizer was established by ANR through stack testing conducted on February 5 and 6, 2015. The maximum condenser operating parameter of 90 degrees Fahrenheit for the RC Stray glycol dehydrator, and 120 degrees Fahrenheit for the Loreed glycol dehydrator, were established by a condenser performance curve using the procedures in "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1) as inputs for the model GRI-GLYCalc, Version 4.0.

VII. Reporting:

The semi-annual reports and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. During the reporting period the permittee reported all monitoring and associated recordkeeping requirements.

A Notification of Compliance was submitted to the AQD April 11, 2016. Additionally, ANR submits Periodic Reports on an annual basis. The most recent Periodic Report was received by AQD on March 13, 2023. The report followed the format specified in the regulation. The LoReed system had one leak above 500ppmv on December 22, 2022 and repaired by December 28, 2022. No other incidents of excess emissions, excursions, or monitor downtime.

ANR submitted an annual and semi-annual deviation report on time. No deviations were reported in either of these reports. I reviewed records of the operating parameters and hours of operation of the glycol dehydrators. The vent stream of the glycol dehydrators was not diverted from the control devices. Records are maintained as required.

VIII. Stack/Vent Restrictions:

Stack/Vent Restrictions are not applicable for FGMACTHHH.

IX. Other Requirements:

The facility is considered a major source of HAPs due to formaldehyde, which has the potential to emit greater than 10 tons per year. ANR has developed a site-specific monitoring plan; the plan includes the CPMS which identifies the method for determining daily average values, system accuracy audits, recordkeeping and reporting requirements. ANR complied with all applicable requirements in 40 CFR Part 63, Subpart HHH by October 15, 2015.

FGMACTDDDDD-EXISTING GAS1:

Unit Designed to Burn Gas 1 Subcategory requirements for Existing Boilers and Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD with heat input values less than 50 mmbtu/hr. Originally, ANR included EURC001 (8 MMBtu/hr) Kewanee boiler L3W-200-G, and EURC025 (0.125 MMBtu/hr) Maintenance garage boiler as equipment covered in this flexible group. However, EURC001 was removed from this facility on October 2, 2017 and was replaced with two Cleaver Brooks CFC-3300 natural gas-fired boilers and each rated at 2.97 MMBtu/hr under exemption R 282(2)(b)(i). These two new boilers would be covered under FGMACTDDDDD-NEWGAS1.

Additionally, ANR claims that EURC025 meets exemption R 282(2)(b)(i) and meets definition of a hot water heater in 40 CFR Part 63, Subpart DDDDDD (Boiler MACT). Therefore, this FGMACTDDDDD-Existing Gas 1 is not necessary.

FGMACTDDDDD-NEWGAS1:

Unit Designed to Burn Gas 1 Subcategory requirements for New or Reconstructed Boilers and Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. New and reconstructed boilers or process heaters must comply with this subpart upon startup. The equipment covered in this flexible group is EURC016 25.5 MMBtu gas withdrawal heater, EURC017 25.5 MMBtu gas withdrawal heater.

As previously stated, two new two Cleaver Brooks CFC-3300 natural gas-fired boilers and each rated at 2.97 MMBtu/hr were installed in October 2017 that are also subject to this Flexible Group. The facility is using the Emission Unit names (EURC027 and EURC028).

I. Emission Limits:

Emission Limits are not applicable for FGMACTDDDDD-NEWGAS1.

II. Material Limits:

The facility only burns natural gas in the withdraw heaters and new boilers.

III. Process/Operational Restrictions:

The facility conducts annual tune-ups on EURC016 and EURC017. The most recent tune-up was conducted November 28, 2022 and the most recent Annual Compliance Report was received March 13, 2023. EGLE received a Notification of

Compliance Statement indicating that the facility complies with the required initial tune-up requirements according to the procedures in 40 CFR 63.7540(a)(10), and the facility has had an energy assessment performed according to 40 CFR 63.7530(e).

The most recent tune-ups for EURC027 and EURC028 were completed February 24, 2022. These tune-ups are required every 5 years.

IV. Design/Equipment Parameters:

Design/Equipment Parameters are not applicable for FGMACTDDDDDD-NEWGAS1.

V. Testing/Sampling:

Testing/Sampling are not applicable for FGMACTDDDDDD-NEWGAS1.

VI. Monitoring/Recordkeeping:

The permittee maintains all monitoring and associated recordkeeping requirements at the facility.

VII. Reporting:

Reporting of any semi-annual reports, and annual compliance reports for ROP certification were submitted to the EGLE in timely manner. EGLE received a NOC status on February 19, 2015 for EURC016 and EURC017. EGLE received the Initial Notification for EURC027 and EURC028 on October 25, 2017. The most recent annual Periodic Compliance Report was received on March 13, 2023.

VIII. Stack/Vent Restrictions:

Stack/Vent Restrictions are not applicable for FGMACTDDDDDD-NEWGAS1.

IX. Other Requirements:

Based on the Conditions in the permit, the facility complies with the applicable provisions for the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63 Subpart DDDDD).

FG-MACT5D-DEHYS:

Although not included in the most recent ROP, the reboilers to glycol dehydrators EURC015 and EURC024 are subject to the provisions for the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63 Subpart DDDDD).

The most recent tune-ups for EURC015 and EURC024 were completed on December 22, 2020 for EURC024 and December 23, 2020 for EURC015. These tune-ups are required every 5 years.

NAME *Caryn Owens*

DATE 11-14-23

SUPERVISOR *Shane Nixon*