



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
RESOURCE CONSERVATION AND RECOVERY ACT**

BASIC INFORMATION

Facility Name: Metech Recycling, Inc.

RCRA ID: UTR000016113

Facility Location:

369 S. Orange Street
Salt Lake City, UT 84101

Facility Contact:

Devin Bielejec, EHS Coordinator
dbielejec@metechrecycling.com

Notification Status:

- Very Small Quantity Generator of Hazardous Waste
- Large Quantity Handler of Universal Waste

Date of Inspection: August 24, 2023

Arrival Time: 9:05 a.m.

Departure Time: 11:30 a.m.

Lead Inspector & Report Author: Kristin McNeill, U.S. EPA RCRA Inspector

Inspection Attendees:

1. Ken Susuico, Operations Manager
ksusuico@metechrecycling.com
385-295-0634
2. Annette Maxwell, U.S. EPA RCRA Inspector
3. Erika Greenwell, Utah Department of Environmental Quality (DEQ) RCRA Inspector
4. Craig Jorgensen, Utah DEQ RCRA Inspector

Type and Purpose of Inspection: Compliance Evaluation Inspection
Compliance with RCRA Subtitle C

Facility Type: NAICS 562920 – Materials Recovery Facilities

Applicable Regulations: R315-260 to R315-273 of the Utah Administrative Code

Inspection Type: Unannounced Inspection

EPA inspection with Utah DEQ accompanying

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with RCRA regulations, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

OPENING CONFERENCE

We met Mr. Susuico outside the building and explained that we were there to conduct a hazardous waste inspection. He escorted us into a conference room, where we began the inspection. Ms. Maxwell and I presented our credentials to Mr. Susuico. We were not denied access to the facility and were allowed to inspect all areas that we selected for inspection. Mr. Susuico accompanied us throughout the inspection.

The following information was obtained verbally during the inspection from Mr. Susuico unless otherwise noted.

FACILITY DESCRIPTION

Ownership

Mr. Susuico explained that Metech is legally owned and operated by First America Metal Corporation (FAMCe).

He explained that Metech has five facilities: Salt Lake City, UT; Denver, CO; Gilroy, CA; Boston, MA; and North Carolina; and that FAMCe has facilities in Chicago, IL and Fort Worth, TX.

Regulatory Status

According to RCRAInfo, Metech is a very small quantity generator of hazardous waste (VSQG) and a large quantity handler of universal waste (LQHUW). During the inspection, Mr. Susuico confirmed that the facility is a VSQG and LQHUW. Based on my observations of waste generation and the amount of waste onsite, the facility appeared to be operating as a VSQG and LQHUW at the time of the inspection.

General Facility and Process Description

Mr. Susuico said that the facility operates Monday through Friday 7:00 a.m. – 3:30 p.m. He said that the warehouse is approximately 24,000 square feet and that they have seven employees: three drivers, two sorters, a supervisor and a manager. According to Mr. Susuico, the facility has been operating at this location since 2021 and they have a lease that runs through December 2023, when they hope to move to a bigger warehouse in the same industrial park that would be 30-36,000 square feet. Mr. Susuico said that this would allow them to store all of their material indoors, since currently they have an outside yard. He also said another issue with the current warehouse is that it is too far from the power transformer for them to use their bailer. Mr. Susuico said that Devin Bielejec, their corporate EHS Coordinator, is dealing with the lease and that they would not have to change their address when they move.

Mr. Susuico said that the facility receives scrap electronics, sorts them, and packages them for offsite shipment. He said the facility receives scrap electronics from numerous sources, including local thrift stores and nearby landfills, which average 190-300 gaylord boxes per week. He said that drivers from Metech pick up electronics, including TVs, from the thrift stores and explained that the cathode ray

tubes (CRTs) mainly come from the landfill and are transported by the landfill's drivers. He said that they have a permit (#35-023867) from Salt Lake City to take CRTs from the County landfill. He said that the incoming material is mostly commercial, with residential only coming from the thrift stores. Mr. Susuico said that at the warehouse, the electronics are sorted and consolidated by type: ferrous, non-ferrous, and plastic, depending on the downstream location where they will be shipped. He said that materials are sent to other Metech or FAMCe facilities as soon as they have enough material to fill a truck.

Mr. Susuico explained that they used to dismantle CRTs, but now do not generally disassemble anything unless it is too large to ship out. He said that inbound CRTs are weighed, tagged, and sorted, and that if they are broken, they are placed into a double-wrapped gaylord. He said that CRTs are accumulated until there are enough to fill a truck and then sent to a facility called GKAT for recycling. He stated that 52 gaylord boxes of CRTs are needed to fill a trailer. He also said that they have a tracking system for CRTs that includes where they came from, weighing the inbound and outbound shipments, and where they end up. The outbound weight is considered to be the amount of material recycled.

Mr. Susuico showed us a certificate for the last shipment of 37,099 pounds of CRTs to GKAT, which took place on June 14, 2023. He explained that they make approximately four shipments per year and have shipped two trailers twice so far this year. He also said that they had only recently gotten the County landfill contract, so they were anticipating an increase in their CRT shipments next year.

Mr. Susuico said that they have an annual audit in December for the American National Standards Institute (ANSI) National Accreditation Board (ANAB), that they are certified by Consumer Electronics to manage e-waste, and that they are a certified recycler by R2. He explained that all of the CRTs in the warehouse are shipped for recycling annually by each December for their audit. He also said that the facility has one year to ship out all of the material they receive, including CRTs. Mr. Susuico said that when he started in 2021, he cleaned everything out of the warehouse.

Regarding universal waste, Mr. Susuico said that they receive universal waste lithium, NiCad, and alkaline batteries, mainly from Moog Medical Devices Group, and universal waste lamps and batteries from Momentum Recycling. He said that the lamps are usually broken, so they package them and send them to the FAMCe facility in Texas. Mr. Susuico said that the lead acid batteries, mainly from computers, are shipped to Western Metals Recycling, Utah Metal Works, or Wasatch Metals Recycling for recycling.

TOUR INFORMATION

Mr. Susuico walked us through the process that he had described in the opening conference. We observed the inbound area where materials are received. At the time of the inspection, a truck of CRTs from the landfill was being unloaded, consisting of 12 pallets of plastic-wrapped CRTs. We also saw the scale where inbound and outbound loads are weighed. Mr. Susuico explained that each gaylord is labeled with a tracking number when it is received.

I observed approximately 325 gaylord boxes of non-CRT e-waste in the inbound processing area. Mr. Susuico said that the two sorters can process 25-52 gaylord boxes per day.

On the outbound side of the warehouse, I observed approximately 85 gaylord boxes of non-CRT e-waste. Mr. Susuico said that Metech works with a local rage room business called Smash It, and that Metech provides them with material to be smashed, which is then returned to Metech in smaller, broken pieces, which are consolidated and sent to the FAMCe shredder facility in California. I observed approximately 100 additional gaylord boxes that had been returned from Smash It. There were another approximately 200 gaylord boxes of e-waste that Mr. Susuico said were ready to be shipped to FAMCe.

I observed one gaylord of consolidated universal waste lamps labeled “finalized goods” and “ligh” but not with the words “universal waste.” It was marked with an accumulation start date of 8/1/21, which was over one year from the date of the inspection (photos 5 and 6). There was also one gaylord of consolidated universal waste alkaline batteries with an accumulation start date in October 2021. Although these containers had been accumulated for more than one year, Mr. Susuico said that they were being held for the purpose of accumulating enough universal waste to facilitate proper recovery, treatment, or disposal. I observed that both of the gaylords were closed and lined with a plastic liner. I also observed a pallet of approximately 32 universal waste lithium batteries that were ready to be shipped.

I observed approximately 20 gaylords of processed CRTs that Mr. Susuico said, after additional CRTs were received to fill the trailer, would be ready to be shipped to GKAT on August 25. According to the email sent September 12, 2023, this load was shipped on September 7, 2023 (Attachment B). He explained that the outbound gaylords are weighed and labeled when they have a load ready to go, so the labels on the gaylords at the time of the inspection were not correct (photos 1 – 3). He said that they can fit 52 gaylords or 26 pallets into a trailer, and that each of the gaylords weighs about 400-500 pounds, so each shipment is approximately 30,000 pounds.

We inspected the outdoor yard on the east side of the warehouse, which is gated and enclosed with a fence (photo 4). Mr. Susuico explained that the containers in this area had been staged to be shipped, but then the yard got broken into and the plastic wrap was torn off of the gaylords. He said that the five pallets of CRTs would be repackaged and shipped out before their December audit. As is visible in photo 4, there were also at least 20 open-top totes of CRTs and e-waste waiting to be processed in this yard. Mr. Susuico stated that they do not keep anything outside in the winter months because of snow, and that this area would be cleaned out in September.

RECORDS REVIEW

Mr. Susuico said that they receive annual trainings through an online system, including haz-mat, emergency action, and universal waste, and that this training is also provided for the drivers from the landfill. Mr. Susuico showed us an email from July 25, 2023, from Mr. Bielejec that included their

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hazardous communication program and training that became effective July 11, 2022. Mr. Susuico also explained that their system will not let them log in if they do not complete their annual training. He showed us rosters for CRT, hazardous communication, and emergency action trainings from August 26, 2022. The roster included names and titles for drivers, sorters, and a supervisor.

CLOSING CONFERENCE

Before leaving the facility, we held a closing conference with Mr. Susuico in which Ms. Maxwell suggested a best management practice related to the walk-through inspection. In the outdoor yard, there were at least 20 open-top totes that were holding CRTs and e-waste. Because these totes were open, Ms. Maxwell cautioned Mr. Susuico to consider the potential for runoff from the material in the totes.

INSPECTION FOLLOW-UP

Mr. Susuico sent an email on September 12, 2023, containing information regarding the shipment of CRTs to GKAT that occurred on September 7, 2023 (Attachment B).

SIGNATURES

KRISTIN MCNEILL  Digitally signed by KRISTIN
MCNEILL
Date: 2024.02.01 16:33:46 -07'00'

Kristin McNeill, Lead RCRA Inspector

**COLLEEN
RATHBONE**  Digitally signed by COLLEEN
RATHBONE
Date: 2024.02.01 08:20:25 -07'00'

Colleen Rathbone, Acting Manager
RCRA and OPA Enforcement Branch
Enforcement and Compliance Assurance Division

ATTACHMENTS

Attachment A: Photo log

Attachment B: Email and attachment received from Mr. Susuico, Metech Operations Manager, on September 12, 2023

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ATTACHMENT A: PHOTO LOG

The photos are original and have not been modified in any way. The photos were taken by Kristin McNeill on August 24, 2023, using a Nikon Coolpix A900 camera.



Photo 1 (DSCN0122.JPG): Disregard – blurry photo, duplicate of Photo 2.

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Photo 2 (DSCN0123.JPG): Disregard – duplicate of Photo 1, but Mr. Susuico explained that these were not correct labels for the outbound shipment of CRTs, which are labeled when ready to be shipped.

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Finished Goods

Material Type:

☐	Cardboard	☐	Stretch Wrap
☐	Paper	☐	Ink
☐	Metals	☐	Toner
☐	Aluminum		
☐	Copper		
☐	Wire:		
☐	Plastic:		
☐	CBS:		
☐	Residual Printed Circuit Boards (CA Only):		
☒	Other:	CRT Glass-Dirty	

Directions: Write the date that material is first placed into the container.

Accumulation Start Date:

Directions: Write the gross, tare, net weights on the lines below.

Date	Gross	Tare	Net

6/18/14 Rev. 1

Photo 3 (DSCN0124.JPG): Disregard – Mr. Susuico explained that these were not correct labels for the outbound shipment of CRTs, which are labeled when ready to be shipped.

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Photo 4 (DSCN0125.JPG): Open totes of CRTs and e-waste in the outdoor yard.



Photo 5 (DSCN0126.JPG): Label and accumulation start date on gaylord holding universal waste lamps seen in photo 6.

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Photo 6 (DSCN0127.JPG): Lined gaylord holding universal waste lamps seen in photo 5.



Photo 7 (DSCN0128.JPG): Business license.

ATTACHMENT B:

Email and attachments received from
Mr. Susuico, Metech Operations Manager

September 12, 2023

Metech Recycling, Inc. (UTR000016113)

369 S. Orange Street, Salt Lake City, UT

August 24, 2023

From: [Kenneth Susuico](#)
To: [McNeill, Kristin](#)
Subject: CRT Glass
Date: Tuesday, September 12, 2023 9:28:16 AM
Attachments: [GKAT Reclamation LLC OUT-16116 09 07 2023 Outbound Receiving Report.pdf](#)

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good morning Kristin,

Please see attached outbound loading report of CRT glass for recycling

Have a great day

Ken.



P: (866) 479-4920

6200 Engle Way
Gilroy, CA 95020, USA

ORDER # OUT-16116
Customer: GKAT Reclamation, LLC
Date: 09/07/2023 11:10 AM
Order Date: 09/06/2023
Pickup Date: 09/07/2023 11:00 PM
Account Rep: Rex Cheng
Customer Contract #
Status: Loading Complete
Shipping Method: Our Trucking

Outbound Report

OUT-16116

Pickup Address: Metech Recycling Inc.
Metech Recycling Inc.
369 S Orange St
Salt Lake City, UT 84104
USA
P: 801.886.3022

Ship To: GKAT Reclamation, LLC
Marc Artozqui
1700 Dixon St
Des Moines, IA 50316
USA

Pallets: 21

Product	LOT ID	Packaging	Unit Count	Gross Weight	Tare	Net
CRT Glass*	363558	Gaylord	1	1344.00 lbs	70.00 lbs	1274.00 lbs
CRT Glass*	363559	Gaylord	1	1334.00 lbs	70.00 lbs	1264.00 lbs
CRT Glass*	363560	Gaylord	1	1133.00 lbs	70.00 lbs	1063.00 lbs
CRT Glass*	363561	Gaylord	1	1308.00 lbs	70.00 lbs	1238.00 lbs
CRT Glass*	363562	Gaylord	1	1204.00 lbs	70.00 lbs	1134.00 lbs
CRT Glass*	363565	Gaylord	1	843.00 lbs	70.00 lbs	773.00 lbs
CRT Glass*	363566	Gaylord	1	3789.00 lbs	70.00 lbs	3719.00 lbs
CRT Glass*	363567	Gaylord	1	3137.00 lbs	70.00 lbs	3067.00 lbs
CRT Glass*	363568	Gaylord	1	1034.00 lbs	70.00 lbs	964.00 lbs
CRT Glass*	363569	Gaylord	1	2736.00 lbs	70.00 lbs	2666.00 lbs
CRT TVs*	363570	Gaylord	1	3881.00 lbs	70.00 lbs	3811.00 lbs
CRT Glass*	363571	Gaylord	1	1471.00 lbs	70.00 lbs	1401.00 lbs
CRT Glass*	363572	Gaylord	1	1228.00 lbs	70.00 lbs	1158.00 lbs
CRT Glass*	363573	Gaylord	1	1374.00 lbs	70.00 lbs	1304.00 lbs
CRT Glass*	363574	Gaylord	1	1223.00 lbs	70.00 lbs	1153.00 lbs
CRT Glass*	363575	Gaylord	1	1369.00 lbs	70.00 lbs	1299.00 lbs
CRT Glass*	363581	Gaylord	1	1214.00 lbs	70.00 lbs	1144.00 lbs
CRT Glass*	363582	Gaylord	1	1293.00 lbs	70.00 lbs	1223.00 lbs

Receiver: Ken Susuico

Loading Complete: 09/07/2023 11:10 AM



P: (866) 479-4920

Outbound Report

OUT-16116

Product	LOT ID	Packaging	Unit Count	Gross Weight	Tare	Net
CRT Glass*	363585	Gaylord	1	1398.00 lbs	70.00 lbs	1328.00 lbs
CRT Glass*	363564	Loose	1	882.00 lbs	70.00 lbs	812.00 lbs
CRT Glass*	363586	Loose	1	1106.00 lbs	70.00 lbs	1036.00 lbs

Gross Weight: 34301.00 lbs

Tare Weight: 1470.00 lbs

Net Weight: 32831.00 lbs

Receiver: Ken Susuico

Loading Complete: 09/07/2023 11:10 AM

Monarch Natural Gas, LLC, Riverbend Compressor Station
Full Compliance Evaluation (FCE)
Off-Site Clean Air Act (CAA) Inspection

Inspection Report Date: June 24, 2021

Inspection Evaluation Timeframe: March 2019 to February 2021

Company Representative: Glenn Hicks, Engineering Manager

Inspection Report Prepared By: Laurie Ostrand /s/ 6/24/21

Inspection Report Reviewed By: Scott H. Patefield **SCOTT PATEFIELD**
Digitally signed by SCOTT PATEFIELD
Date: 2021.06.24 13:22:55 -06'00'

Last CAA Inspection: March 13, 2019

Applicable Rules: Clean Air Act (CAA) Title V
Tribal Minor New Source Review (TMNSR)
40 C.F.R. Part 63, Subpart HH (MACT HH)
40 C.F.R. Part 63, Subpart ZZZZ (MACT ZZZZ)
Consent Decree: Civ. No. 2:10-cv-01282-PMW

CAA Permit History: **TMNSR:** SMNSR-UO-000021-2020.001
Effective October 15, 2020
Title V: Permit # V-UO-000021-2008.00
Effective through: October 15, 2020

I. General Source Information

Parent Company name: Monarch Natural Gas LLC. (Monarch)
Facility Name: Riverbend Compressor Station
Facility Location: Latitude 39.98209, Longitude -109.847535
EPA Region: 8
County, State: Uintah, Utah
Reservation: Uintah & Ouray Reservation
Tribe: Ute Indian Tribe
SIC Code: 1311
AFS Plant Id Number: 49-047-00014
Other Clean Air Act Permits: None

II. Summary of Enforcement Actions:

None in the past five years. A consent decree (CD) between the United States of America v. Gasco Energy, Inc. and Monarch Natural Gas LLC. (Civ. No. 2:10-cv-01282-PMW) was entered and effective on April 6, 2011. The CD contains requirements for the Riverbend Compressor Station. The CD has not yet been terminated.

III. Overall Inspection Findings:

This inspection reviews compliance with: (1) the MNSR permit from October 15, 2020 through February 28, 2021 [pages 6-26]; (2) the Title V permit from March 1, 2019 to October 15, 2020 which includes the Consent Decree (CD) requirements [pages 27-71]. The CD requirements are addressed on pages 64-67. The following concerns were identified:

1. MNSR permit from October 15, 2020 through February 28, 2021

Based on the information provided, it doesn't appear that the instrument Monarch is using, the RIGID Micro CD-100 Combustible Gas Detector, meets Method 21 specification required by Section I.D.2.(a) of the permit. See discussion on page 9 of this report.

2. Title V permit from March 1, 2019 to October 15, 2020 (when the Title V Permit was terminated)

Based on the information provided, it doesn't appear that the monitor Monarch is using, the RIGID Micro CD-100 Combustible Gas Detector, meets Reference Method 21 specifications required by section II.D.1 of the permit (MACT HH requirement for annual LDAR monitoring of closed vent system). See discussion on page 32 of this report.

3. CD requirements

Based on the information provided, to the extent that any leaks in the closed vent system from the dehydrators and tanks to the thermal oxidizer were discovered, as indicated in item #2 above, the monitor that Monarch has been using to confirm that leaks have been repaired does not appear to meet Method 21 requirements. See discussion on page 64 of this report.

Note that this is a final inspection report but not a final determination of compliance.

IV. Description of Process and Permitting History:

The Riverbend Compressor Station (Riverbend) gathers hydrocarbons (natural gas and natural gas condensate) from surrounding well sites via a gathering pipeline system. The natural gas condensate gathered in the well field is temporary stored in storage tanks in the field prior to being sent to Riverbend. The stabilized natural gas condensate from the well field is then routed to natural gas condensate storage tanks at Riverbend. The natural gas is sent to two triethylene glycol dehydration units to remove water vapor entrained in the gas stream. The natural gas is then compressed with four natural gas-fired compressor engines. The compressed natural gas is routed to the gas sales pipeline. The natural gas condensate is transported off site by tanker trucks. The facility also utilizes a methanol injection system to reduce the formation of hydrates in the gas stream. Emission controls for the facility include:

1. An oxidation catalyst for lean-burn engines; and
2. A thermal oxidizer for the condensate storage tanks and dehydration units.

On February 5, 2020, the EPA received an application from Monarch requesting a synthetic minor permit to construct and operate a modification project at the Riverbend Riverbend in accordance with the requirements of the Minor New Source Review (MNSR) permitting program.

Records of potential air emissions indicate the facility was a minor source, with respect to the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR 52.21 at the time of construction, and was now a major source of nitrogen oxides (NOx), with respect to the Tribal Nonattainment New Source Review (NNSR) Permit Program at 40 CFR 49.166.¹ The facility was also a

¹ On April 30, 2018, the EPA designated portions of the Indian country lands within the Uintah and Ouray Indian Reservation as marginal nonattainment for the 2015 ozone NAAQS, effective on August 3, 2018. Riverbend is located within that

major source of NO_x, carbon monoxide (CO), and hazardous air pollutants (HAP) with respect to the Title V Operating Permit Program at 40 CFR part 71 (Part 71) and currently holds an active Part 71 permit that the EPA issued on January 6, 2015 (Permit #V-UO-000021-2008.00).

The TMNSR permit approved the construction and operation of new emission sources, specifically two Joule Thomson (JT) Skids (10 million standard cubic feet per day (MMscfd) and 3 MMscfd, respectively), three 500 barrel (bbl) methanol storage tanks, two 18,000 gallon (gal) pressurized bullet tanks for processed natural gas liquid (NGL) storage, up to four gas driven piston methanol pumps and up to eight gas driven pneumatic controllers associated with the JT Skids. The JT Skids and associated equipment would be constructed inside an existing building within the existing footprint of the facility. The TMNSR permit also established facility-wide annual emissions limits on total HAP. It required the installation, maintenance and operation of an enclosed combustion device to control volatile organic compounds (VOC) and HAP emissions from two triethylene glycol (TEG) dehydration units that each includes a TEG reboiler. The permit also required the enclosed combustion device to control VOC and HAP emissions from working, standing, breathing and flashing loss emissions from four 400-barrel (bbl) condensate storage tanks and two 18,000 gal pressurized bullet tanks. The permit also required the installation, maintenance and operation a catalytic control system and air-to-fuel ratio (AFR) controller on each of four natural gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (RICE) used for natural gas compression at the facility, including associated formaldehyde (CH₂O), CO and NO_x emissions limits.

The TMNSR permit contained emissions limits, construction and operational limitations and associated monitoring, recordkeeping and reporting requirements. Upon compliance with the permit, Monarch will have legally and practicably enforceable restrictions on emissions that can be used when determining the applicability of other Clean Air Act (CAA) permitting requirements, such as those imposed by the PSD Permit Program at 40 CFR part 52, the NNSR Permit Program, Part 71, and the National Emissions Standards for Hazardous Air Pollutants at 40 CFR part 63.

With respect to the National Emissions Standards for Hazardous Air Pollutants at 40 CFR part 63, prior to the issuance of the TMNSR permit, the Riverbend Compressor was considered a major source of HAPs. The TMNSR permit created enforceable limits on HAPs so that after the issuance of the TMNSR permit, the Riverbend is considered an area source of HAPs.

marginal ozone nonattainment area. Appendix S lists the marginal ozone nonattainment major source threshold for VOC or NO_x emissions as 100 tpy. As such, although at the time of construction, Riverbend was considered a minor source with respect to the PSD Permit Program, it is now considered an existing major source of ozone for NO_x with respect to the NNSR Permit Program. Upon full compliance with this synthetic MNSR permit, Riverbend will be a synthetic minor source with respect to the NNSR permit programs and the preconstruction review requirements of NNSR would apply to any future proposed modification that exceeds 100 tpy of VOC or NO_x emissions.

Emission Units

Unit ID	Description	Control Equipment	Observations
RB #1	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04225 Site Installed: 7/20/2013, Mfg*: 10/2004	Oxidation Catalyst	<i>Monarch provided a photograph dated 2/25/21 of the engine's Serial Number and the Serial No. is confirmed to be: 4EK04225. See Photograph 1a in Appendix A.</i> <i>Monarch provided the engine run time in a photograph dated 2/25/21. Engine run time was 99,185 hours. See Photograph 1b in Appendix A.</i>
RB #3	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04234 Site Installed: 7/26/2013, Mfg*: 9/2004	Oxidation Catalyst	<i>Monarch provided a photograph dated 2/25/21 of the engine's Serial Number and the Serial No. is confirmed to be: 4EK04234. See Photograph 2a in Appendix A.</i> <i>Monarch provided the engine run time in a photograph dated 2/25/21. Engine run time was 94,867.4 hours. See Photograph 2b in Appendix A.</i>
RB #4	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04235 Site Installed: 6/23/2013, Mfg*: 10/2004	Oxidation Catalyst	<i>Monarch provided a photograph dated 2/25/21 of the engine's Serial Number and the Serial No. is confirmed to be: 4EK04235. See Photograph 3a in Appendix A.</i> <i>Monarch provided the engine run time in a photograph dated 2/25/21. Engine run time was 66,404 hours. See Photograph 3b in Appendix A.</i>
RB #5	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04227 Site Installed: 9/15/15, Mfg*: 9/30/2004	Oxidation Catalyst	<i>Monarch provided a photograph dated 2/25/21 of the engine's Serial Number and the Serial No. is confirmed to be: 4EK04227 See Photograph 4a in Appendix A.</i> <i>Monarch provided the engine run time in a photograph dated 2/25/21. Engine run time was 40,214 hours. See Photograph 4b in Appendix A.</i>
Dehy #3	24 MMscfd Triethylene Glycol Dehydration Unit Serial No. EL2D78607-01 Installed: 1/1/2006	Thermal Oxidizer	<i>Monarch provided a photograph of a nameplate dated 2/25/01. It can't be determined whether this is the Dehy or reboiler. See Photograph 5 in Appendix A.</i>
Dehy #4	25 MMscfd Triethylene Glycol Dehydration Unit Serial No. EL9G35501-02 Installed: 12/12/2007	Thermal Oxidizer	<i>Monarch provided photograph dated 2/25/21 of the Dehy and reboiler's Serial Numbers. The Dehy Serial No. is: EL9G37301-02 and the reboiler Serial Number is: EL9G5501-02. See Photographs 6 and 7 in Appendix A.</i>

Unit ID	Description	Control Equipment	Observations
T-1 T-2 T-3	400 bbl* Condensate Storage Tanks 6,000 bbl/year total throughput Installed: 2/1/2007 Installed: 11/1/2011 Installed: 11/1/2011	Thermal Oxidizer	
T-4 T-5 T-6 T-7 T-8 T-9	Methanol (MeOH) Storage Tanks 300 bbl capacity; Installed: 11/1/2011 300 bbl capacity; Installed: 11/1/2011 210 bbl capacity; Installed: 11/1/2004 210 bbl capacity; Installed: Unknown 210 bbl capacity; Installed: Unknown Other 100 bbl dehy condenser	None (IEU)	
F-1	Fugitive Emissions	None	
P-1	Pneumatic Devices	None	
-	Pigging Operations	None (IEU)	
-	Condensate Truck Loading	None (IEU)	
H-1	0.5 MMBtu/hr Tank Heater		
H-2	0.5 MMBtu/hr Tank Heater		
H-3	0.5 MMBtu/hr Tank Heater		
H-4	0.25 MMBtu/hr Line Heater		
H-5	0.25 MMBtu/hr Line Heater		
H-6	0.25 MMBtu/hr Line Heater		

* Mfg = Manufactured; hp = horsepower; bbl = barrel; MMscfd = million standard cubic feet per day; IEU = Insignificant Emissions Unit; MMBtu = Million British thermal units per hour.

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C. Facility-Wide Emissions Limitations

1. Construction and Operational Limits

- (a) Facility-wide total HAP emissions shall not exceed 23.97 tons per year (tpy) in any consecutive 12-month period.
- (b) At no time may natural gas emissions to be vented directly to the atmosphere.

2. Emission Calculation Requirements

- (a) The Permittee shall calculate and record the facility-wide total HAP, in tons, at the end of each month, beginning with the first calendar month that permitted operations commence.
- (b) Emissions from all controlled and uncontrolled HAP emission sources for this facility shall be included in the calculations, including, but not limited to: compressor engines, heaters, TEG dehydrators and reboilers, and liquid storage tanks.
- (c) The emissions of HAP for Riverbend shall be calculated as follows:

(i) Compressor Engines:

- (A) For each engine equipped with oxidation catalysts, HAP emissions shall be calculated by using the following equation:

$$\text{HAP EF} \times (\text{hours}/2000 \text{ lbs}) = \text{HAP}_{\text{monthly}}$$

Where:

$$\text{HAP EF} = 0.63 \text{ lb/hr}$$

hours = hours the engine operated per month

$$\text{HAP}_{\text{monthly}} = \text{HAP emissions in tons}$$

- (B) For any full calendar months prior to the initial performance test, the manufacturer-specific controlled HAP emissions factor supplied in the synthetic MNSR application shall be used in the equation. Emissions for the first full calendar month following the initial performance test and thereafter shall be calculated by using the total HAP emissions rate observed in the initial performance test, or the most recent performance test, if more current than the initial performance test.
- (C) Monthly emissions calculations shall account for any engine break-in period where the engine was operated without the catalytic control system installed. Emissions during break-in periods shall be calculated by multiplying the manufacturer-specified HAP emission factor for an uncontrolled engine by the hours the engine operated without the catalytic control system installed for that month.

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- (ii) Enclosed combustion device: Monthly enclosed combustion device emissions from the TEG dehydration units shall be calculated by summing the HAP emissions resulting from running the GRI-GLYCalc™ model, as specified in Section I.E.3 of this permit.
 - (iii) Monthly enclosed combustion device emissions from each NGL and condensate storage tank shall be calculated by summing the HAP emissions resulting from running the EPA approved software, such as TANKS 4.0.9d. or greater as utilized in the permit application, and AP-42 emission factors.
 - (iv) For remaining emission units at the facility, except insignificant emissions units (IEU's), emissions for the month for each unit shall be calculated by multiplying the HAP emission factor for that unit, as shown in the synthetic MNSR permit application submitted to the EPA, in lbs/hr, by the number of operating hours for that unit for that month. If data on operating hours are not available for that unit for that month, full-time operation of that unit shall be assumed.
 - (v) Emissions for IEU's for each month shall be recorded as one-twelfth of the annual emission amount listed for IEU's in the synthetic MNSR application submitted to the EPA, unless the IEU's have changed, in which case the Permittee shall provide the basis for the new IEU emission calculations with the next required report.
- (d) Prior to 12 full months of emissions calculations for facility-wide total HAP emissions, the Permittee shall, within 7 calendar days of the end of each month, add the ton(s) for that month to the recorded facility-wide totals for all previous months since permitted operations commenced and record the total for each. Thereafter, the Permittee shall, within 7 calendar days of the end of each month, add the facility-wide emissions of total HAP emissions in tons for that month to the calculated totals from the preceding 11 months and record a new 12-month total.

3. Recordkeeping Requirements

The Permittee shall maintain the following record:

- (a) The actual monthly and rolling 12-month facility-wide emission totals for total HAP in tons.

Observations: *Monarch provided a spreadsheet showing the monthly and rolling monthly HAP emissions from the operating equipment from October 2020 through February 2021. From October 2020 through February 2021, Monarch calculated the total HAP emissions to be 4.84 tons.*

D. Requirements for the JT Skids

1. Construction and Operations Limits

- (a) The Permittee may construct, install and operate no more than two JT Skids that meet the following specifications:
 - (i) One JT Skid limited to a maximum throughput of 10 MMscfd+; and
 - (ii) One JT Skid limited to a maximum throughput of 3 MMscfd.

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- (b) The construction, installation and operations of the two JT Skids also includes the installation of support equipment which includes three 500 bbl methanol tanks and up to eight pneumatic controllers associated with the operations of the JT Skids.
- (c) Two 18,000 gal pressurized bullet tanks for processed NGL storage have requirements as specified in Section I.E of this permit.
- (d) Only the JT Skids (which includes all support equipment as described in Section D.1(a)-(c) above, herein referred to as the JT Skids) that are operated and controlled as specified in this permit may be installed and operated.

***Observations:** In emails dated April 5, 2021 and May 27, 2021, from Glen Hicks, Monarch, to Laurie Ostrand, EPA, Mr. Hicks indicated that operation of the JT skid, a ProGas 10 mmcf unit, was started on November 20, 2020.*

Mr. Hicks also provided photographs of nameplates taken on March 15, 2021, which included the following: (1) Serial No. 16259-3-0 and was called the 30" ID X 8'-0" H. Cold Separator, (2) Serial No. 16259-1-C and was called the 24" OD x 8'-0" H Inlet Separator, (3) Pro-Gas Services, LLC Unit #P-10194. See photographs 8, 9 and 10 in Appendix A.

Mr. Hicks also indicated that two 500 bbl condensate tanks and one 18,000 propane tank were also added.

2. Monitoring Requirements

- (a) The Permittee shall monitor the collection of all fugitive emission components² of the JT Skids according to the following requirements:
 - (i) Develop a fugitive emissions monitoring plan;
 - (ii) A fugitive emission is defined as any visible emissions from a fugitive emissions component (including but not limited to) observed using optical gas imaging³ or an instrument reading of 500 parts per million (ppm) or greater using Method 21 of 40 CFR part 60, appendix A;
 - (iii) A monitoring survey of each fugitive emissions components shall be conducted semi-annually with at least 4 months separating each monitoring survey; and
 - (iv) The initial monitoring survey must be conducted within 60 days of the first day of operation of the JT Skids.

***Observations:** In an email date May 27, 2021, from Glen Hicks, Monarch, to Laurie Ostrand,*

² Fugitive emissions component means any component that has the potential to emit fugitive emissions of methane or VOC from the JT Skids, including but not limited to valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems, thief hatches or other openings on a controlled storage vessel, compressors, instruments and meters. Devices that vent as part of normal operations, such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the vent, such as the thief hatch on a controlled storage vessel, would be considered fugitive emissions.

³ Optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of ≤60 grams/hr from a quarter inch diameter orifice.

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EPA, Mr. Hick submitted a copy of the fugitive emissions monitoring plan. Based on this plan, it appears that Monarch is assumes that RIGID Micro CD-100 Combustible Gas Detector meets Method 21 monitoring requirements. Mr. Hicks also provided the Operator's Manual for this RIGID Micro CD-100. Based on the Operator's Manual provided, it appears that the RIGID Micro CD-100 Combustible Gas Detector does not provide an empirical value (i.e., readout of the concentration of gas measured in parts per million (ppm)) as required by Section 6.3 of Method 21. Therefore, Monarch is not meeting the requirements of Section I.D.2.(a) of the permit.

- (b) The Permittee shall repair all sources of fugitive emissions of the JT Skids according to the following requirements:
 - (i) Each identified source of fugitive emissions shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after detection of the fugitive emissions; and
 - (ii) Each repaired or replaced fugitive emissions component must be resurveyed as soon as practicable, but no later than 30 days after being repaired, to ensure that there are no fugitive emissions.

Observations: *Mr. Hicks provided spreadsheets showing that LDAR inspections were conducted on December 16, 2020. Leaks, and repairs of the leaks, were identified in the spreadsheets. Mr. Hick's May 27, 2021 email indicates that the LDAR inspection were facility-wide inspections and that the RIGID Micro CD-100 Combustible Gas Detector was used. As indicated above, the RIGID Micro CD-100 Combustible Gas Detector does not appear to meet Section 6.3 of Method 21. Additionally, the spreadsheet for the December 16, 2020 LDAR inspection identifies several leaks. It's not clear if these leaks identified in the spreadsheet are on the JT Skid. If the leaks are on the JT Skid, the spreadsheet does not identify the leak level and repair level in ppm. For the JT Skid, the permit term indicates that the Permittee demonstrate that there are no fugitive emissions by showing readings less than 500 ppm when using Method 21.*

3. Recordkeeping Requirements

- (a) Records shall be maintained of each required surveys of the collection of fugitive emissions components that include the following information:
 - (i) Date of the survey;
 - (ii) Beginning and end time of the survey;
 - (iii) Name of operator(s) performing survey. If the survey is performed by optical gas imaging, you must note the training and experience of the operator;
 - (iv) Ambient temperature, sky conditions and maximum wind speed at the time of the survey;
 - (v) Monitoring instrument used;
 - (vi) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan;
 - (vii) Number and type of components for which fugitive emissions were detected;
 - (viii) Number and type of fugitive emissions components that were not repaired;
 - (ix) Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored;
 - (x) The date of successful repair of the fugitive emissions component;

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- (xi) Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair; and
- (xii) Type of instrument used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.

Observations: Based on the survey records provided, it appears that the recordkeeping requirements for the surveys are being met.

E. Requirements for the TEG Dehydrators and NGL and Condensate Storage Tanks

1. Construction and Operational Limits

- (a) The Permittee may install and operate no more than two TEG dehydration units meeting the following specifications:
 - (i) One TEG dehydration unit limited to a maximum natural gas processing capacity of 24.0 MMscfd, equipped with a natural gas-fired TEG reboiler limited to a maximum heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr); and
 - (ii) One TEG dehydration unit limited to a maximum natural gas processing capacity of 25.0 MMscfd, equipped with a natural gas-fired TEG reboiler limited to a maximum heat input capacity of 0.50 MMBtu/hr.

Observations: In an email dated April 5, 2021, from Glen Hicks, Monarch, to Laurie Ostrand, EPA, Mr. Hicks indicated that the TEG dehydration units at the Riverbend CS are as identified above.

- (b) The Permittee shall install, maintain and operate four 400 bbl, fixed roof condensate storage tanks (hereinafter referred to as condensate storage tanks) designed and operated as specified in this permit;
- (c) The Permittee shall construct, install, maintain and operate two 18,000 gal pressurized natural gas liquid bullet tanks (herein referred to as NGL storage tanks) designed and operated as specified in this permit;
- (d) The Permittee shall, at a minimum, route all produced natural gas emissions from the TEG dehydration units and NGL and condensate storage tanks through a closed-vent system to a 57" diameter, 242" stack length enclosed combustion device with a maximum designed flow rate of 618 thousand scf per day (Mscf/d) designed and operated as specified in this permit; and
- (e) Only the TEG dehydration units and tanks that are operated and controlled as specified in this permit may be installed and operated.

- 2. Emissions Limits:** Actual combined benzene emissions from the process vents of both TEG dehydration units to the atmosphere for the dehydrator approved for installation and operation in this permit shall be maintained at less than 3.66 tons, in any consecutive 12-month period. The emissions limits shall apply at all times.

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Observations: *Monarch provided a spreadsheet showing the monthly and rolling monthly Benzene emissions from October 2020 through February 2021 for the operating equipment. From October 2020 through February 2021, Monarch calculated the total Benzene emissions to be 0.31 tons.*

3. Emissions Calculation Requirements: The Permittee shall meet the following requirements for the TEG dehydration units:
- (a) Actual benzene emissions shall be calculated and recorded within 7 calendar days of the end of each month, beginning with the first calendar month that this permit is effective. Actual benzene emissions shall be calculated, and recorded, in megagrams (Mg) and tons, at the end of each month.
 - (b) Prior to 12 full months of benzene emission data from the dehydrator, the Permittee shall, within 7 calendar days of the end of each month, add the total benzene emissions in Mg and tons for that month to the recorded emissions beginning with the first calendar month that this permit is effective and record the total for each. Thereafter, the Permittee shall, within 7 calendar days of the end of each month, add the benzene emissions for that month to the calculated benzene emissions from the preceding 11 months and record a new 12-month total for each.
 - (c) Actual benzene emissions shall be calculated using the GRI-GLYCalc™ model, Version 4.0 or higher, and the following input parameters:
 - (i) The inlet wet gas stream properties provided in the most recent annual extended wet gas analysis required in Section I.E.7. of this permit;
 - (ii) The temperature and pressure of the inlet wet gas provided in the most recent annual extended wet gas analysis;
 - (iii) The average natural gas throughput from the sum of the sales and fuel meter located at the facility for the current monthly period in MMscfd, recorded per Section I.E.7(b) of this permit;
 - (iv) The hours of operation for each TEG dehydration unit for the month, recorded per Section I.E.7(c) of this permit;
 - (v) The monthly TEG recirculation pump rate in gallons per minute (gpm) for each TEG dehydration unit, as determined according to Section I.E.8(a) of this permit; and
 - (vi) The water content of the dry gas, in pounds water per MMscf, shall be based on sales contract specifications.

Observations: *Monarch provided the monthly GRI-GLYCalc runs for Dehy #4; Dehy #3 had not been operated during that timeframe.*

4. Control and Operational Requirements: The Permittee shall meet the following requirements for each dehydrator:
- (a) The facility shall be equipped with non-resettable natural gas flow meters installed to measure the gas flow from the dehydrators to both the sales line and fuel line;
 - (b) The combined hours of operation for both dehydration units at the facility shall not

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exceed 8,760 in any consecutive 12-month period. Each dehydration unit hours of operation shall be logged daily;

- (c) The Permittee shall install, calibrate, operate and maintain a temperature-sensing device(s) on each dehydrator reboiler capable of maintaining an operating temperature of the reboiler as specified by the manufacturer, such as a thermostat; and
- (d) The Permittee shall follow the manufacturer's recommended maintenance schedule and procedures to ensure optimum performance for the dehydrators.

Observations: *Spreadsheets provided by Monarch contains, from October 2020 through February 2021, the following: (1) monthly MCF of Fuel Gas and Riverbend Compressor Meter for Dehy #4 (Dehy #3 was not operated in this timeframe); and (2) hours of operation of Dehy #3 and Dehy #4.*

5. Closed-Vent System: The Permittee shall design, install, continuously operate and maintain a closed-vent system for the TEG dehydration units and NGL and condensate storage tanks such that it complies with the following requirements:
- (a) The closed-vent system shall route all gases, vapors and fumes emitted from the TEG dehydrator reboilers, and NGL and condensate storage tanks to the enclosed combustion device;
 - (b) All vent lines, connections, fittings, valves, relief valves or any other appurtenance employed to contain and collect gases, vapors and fumes and transport them to the enclosed combustion device shall be maintained and operated during any time the device is operating;
 - (c) The closed vent system shall be designed to operate with no detectable emissions;
 - (d) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors or fumes from entering the enclosed combustion device, the Permittee shall meet one of the following requirements for each bypass device:
 - (i) At the inlet to the bypass device that could divert the stream away from the enclosed combustion device and into the atmosphere, properly install, calibrate, maintain and operate a flow indicator that is capable of taking 15-minute readings and sounding an alarm of the times and durations of all periods when the bypass device is open such that the stream is being, or could be, diverted away from the enclosed combustion device and into the atmosphere; or
 - (ii) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car seal or a lock and key type configuration; and
 - (e) The Permittee shall minimize leaks of hydrocarbon emissions from all vent lines, connections, fittings, valves, relief valves or any other appurtenance employed to contain, collect and transport gases, vapors and fumes to the enclosed combustion device.

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6. Enclosed combustion device

- (a) The Permittee shall design, install, continuously operate and maintain an enclosed combustion device such that the uncontrolled VOC and HAP emissions from the TEG dehydration units, and NGL and condensate storage tanks are reduced by at least 95.0% by weight.

Observations: Monarch provided a photograph dated February 25, 2021 of the TO nameplate. See Photograph 11 in Appendix A. Pictures of the TO were also provided. See Photographs 12 and 13, in Appendix A.

- (b) The Permittee shall ensure that the enclosed combustion device is designed and operated in accordance with the requirements of 40 CFR 60.18(c)⁴ through (e).
- (c) The Permittee shall ensure that the enclosed combustion device is:
- (i) Operated properly per the manufacturer, vendor or Permittee's written instructions at all times that produced natural gas emissions are routed to it;
 - (ii) Maintained in a leak-free condition and operated with no visible smoke emissions;
 - (iii) Operated with a liquid knock-out system to collect any condensable vapors to prevent liquids from going through the enclosed combustion device;
 - (iv) Equipped with a flash-back flame arrestor;
 - (v) Equipped with one of the following:
 - (A) A continuous burning pilot flame, a thermocouple and a malfunction alarm and notification system if the pilot flame fails; or
 - (B) An electronically controlled automatic ignition system with a thermocouple that reignites the pilot flame whenever it goes out; and
 - (vi) Equipped with a monitoring system for continuous measuring and recording of the parameters that indicate proper operation of the enclosed combustion device and the continuous burning pilot flame or automatically controlled automatic ignition system (such as a chart recorder, data logger or similar device). Where sufficient to meet the monitoring requirements in this permit, the Permittee may use a supervisory control and data acquisition (SCADA) system to monitor and record the required data.

7. Testing and Monitoring Requirements

- (a) The Permittee shall obtain an extended wet gas analysis of the inlet wet gas stream to each TEG dehydration unit at least once per calendar year, with no more than 14 months separating each sampling event. The initial analysis shall be obtained within 180 days of

⁴40 CFR 60.18(c)(1) relates to a monitoring method by which a flare shall be designed for and operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. This permit specifies a more stringent requirement for a period not to exceed a total of 1 minute during any 15 consecutive minutes. Therefore, 40 CFR 60.18(c)(1) applies but the Permittee is able to demonstrate compliance with the requirement by demonstrating compliance with the shorter monitoring period specified in section I.C.7(g)(i) of this permit.

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the effective date of this permit. The analysis shall include the inlet gas temperature and pressure at which the sample was taken.

- (b) The Permittee shall read and record the total flow of natural gas at the sales and fuel meters once every month⁵. The Permittee shall calculate and record the average total throughput for the facility for each month in MMscfd for both the sales and fuel meter to use for input in the monthly actual benzene emissions calculations specified in Section I.E.3(c). The throughput shall be calculated by summing the sales and fuel meters and then subtracting the previous monthly reading in MMscf from the current monthly reading in MMscf and dividing the throughput by the number of days since the last reading.
- (c) The Permittee shall read and record the operating hours of each dehydration unit at the end of each month. Prior to 12 full months of operation under this permit, the Permittee shall add the hours for each month to the total hours for all previous months and record the total. Thereafter, at the end of each month, the Permittee shall add the hours for that month to the total hours for the previous 11 months and record a new total.
- (d) The Permittee shall demonstrate that the enclosed combustion device achieves the 95.0 % VOC emission destruction efficiency requirement by performing an initial performance test of the device within 180 days of commencing operation of a new, repaired or replaced unit. Subsequent performance tests of the enclosed combustion device shall be conducted every 60 months thereafter. The results of initial performance tests conducted before the effective date of this permit may be used to demonstrate compliance with the initial performance test requirements, provided the tests were conducted in an equivalent manner as the performance test requirements in this permit. The Permittee shall demonstrate that the enclosed combustion device achieves the 95.0 % VOC emissions destruction efficiency requirement using the following performance test methods and procedures:
 - (i) Method 1 or IA, of 40 CFR part 60, appendix A as appropriate for the selection of the sampling sites;
 - (ii) Method 2, 2A, 2C or 20, of 40 CFR part 60, appendix A to determine gas volumetric flow rate; and
 - (iii) Method 18 at 40 CFR part 60, appendix A, Method 25A at 40 CFR part 60, appendix A, ASTM 06420-99 (2004), or any other method or data that have been validated according to the applicable procedures in Method 301 at 40 CFR part 63, appendix A, to determine compliance with the 95.0 % VOC emissions destruction efficiency requirement.

Observation: *Monarch provided the stack report for the April 21, 2020 test conducted on the thermal oxidizer. The test report shows that the TO achieved an average 99.81% control efficiency. The test report indicates that Methods 1A and 2 were used for sampling site and volumetric flow and Methods 18 and 25A for VOC emissions destruction efficiency.*

⁵ The purpose of the measurement requirement of the flow of natural gas at the sales and fuel meters is to calculate an average natural gas throughput for input into GRI-GlyCalc™ as specified in Section I.E.3(c) of the permit to ensure that actual emissions from the TEG dehydration units do not exceed the 3.66 tpy benzene limit specified in Section I.E.2 of the permit.

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- (e) The Permittee shall perform monthly audio, visual and olfactory (AVO) inspections of the storage tank thief hatches, covers, seals, pressure relief valves and the closed vent system, to ensure proper condition and functioning. If any of the components are not in good working condition, they must be repaired within 30 days of identification of the deficient condition.
- (f) The Permittee shall perform, at a minimum, monthly visual inspections of the enclosed combustion device as follows:
 - (i) Verify the pilot light on the enclosed combustion device is lit and if the enclosed combustion device is being bypassed at the time of inspection;
 - (ii) Inspect the thermocouple, and the malfunction alarm and notification system if the pilot flame fails or the electronically controlled automatic ignition device, as applicable, to ensure proper operation;
 - (iii) Inspect the parameter monitoring system and recorded measurements to ensure proper operation of the enclosed combustion device and monitoring system; and
 - (iv) Respond to any malfunction alarm or other indication of improper enclosed combustion device or monitoring system operation by following the manufacturer's, vendor's or Permittee's instructions to identify the cause of the deficiency and make any necessary repairs within 30 days of identifying the deficient condition to return the enclosed combustion device and monitoring system to compliant operation. All repairs and maintenance activities shall be recorded in a maintenance and repair log and shall be made available for inspection.
- (g) The Permittee shall perform, at a minimum, monthly visual inspections of the enclosed combustion device to ensure it operates with no visible smoke emissions. If any visible smoke emissions are detected, the Permittee shall take the following actions:
 - (i) The Permittee shall demonstrate that the enclosed combustion device operates with no visible emissions, except for periods not to exceed a total of 1 minute during any 15 consecutive minutes, using the procedures specified in EPA Method 22 at 40 CFR part 60, appendix A. The observation period shall be 15 minutes;
 - (ii) If the enclosed combustion device fails the visual emissions test, the Permittee shall follow the manufacturer's, vendor's or Permittee's repair instructions to return the enclosed combustion device to compliant operation. All repairs and maintenance activities shall be recorded in a maintenance and repair log and shall be made available for inspection;
 - (iii) Upon return to operation from any repair and maintenance activity, the enclosed combustion device shall pass a Method 22 test; and
 - (iv) If the enclosed combustion device fails a follow-up Method 22 test, the Permittee shall repeat the procedures in paragraphs (i) through (iii) of this section, until the enclosed combustion device passes a follow-up test.

Observation: *In and email dated June 23, 2021, Glen Hicks, Monarch, submitted to Laurie Ostrand, EPA, documentation of monthly inspections required by sections I.E.7(e), (f) and (g).*

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8. Recordkeeping Requirements

- (a) The Permittee shall read and record the glycol pump recirculation rate of each operating TEG recirculation pump connected to the dehydrator at least once every calendar month, beginning with the first calendar month that this permit is effective, with no more than 31 days separating each reading.
- (b) The Permittee shall also keep records of the following:
 - (i) The monthly and consecutive 12-month benzene emissions calculations, the GRI-GLYCalc™ model input parameters (Input Summary Report) and the GRI-GLYCalc™ model output reports (Emissions Summary Report) for the dehydrator;
 - (ii) The manufacturer's or vendor's written, site-specific engineering specifications, operating instructions, operating procedures and maintenance schedules for the dehydrator;
 - (iii) Any instances when the vent stream is diverted or bypassed from the enclosed combustion device;
 - (iv) Reports of all required extended wet gas analyses of the inlet wet gas stream to the dehydrator;
 - (v) Any instances of an exceedance of the maximum operating temperature of the reboiler as specified in this permit, including:
 - (A) The date, time and temperature of the exceedance when the system subsequently began operating above the maximum reboiler operating temperature specified by the manufacturer;
 - (B) The date, time and temperature recorded at the time when the system subsequently began compliant operation; and
 - (C) Any corrective actions taken and preventative measures adopted to bring the operating temperature back into compliance.
 - (vi) The monthly TEG recirculation pump rates.
- (c) The Permittee shall document and maintain records of all inspections for the closed-vent system, as well as all enclosed combustion device inspections and testing. All records shall include, at a minimum, the following information:
 - (i) The date of the inspection or test;
 - (ii) Records of all instances in which the pilot flame is not present or the enclosed combustion device is not operating within the optimal parameters specified by the manufacturer, vendor or Permittee;
 - (iii) All documentation and/or images produced in the inspection or test;
 - (iv) The findings of the inspection or test, including observations, preventative maintenance, malfunctions and shutdowns;
 - (v) Any corrective action taken; and
 - (vi) The responsible person's name and signature.

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F. Requirements for 4SLB Compressor Engines

1. Construction and Operational Requirements

- (a) The Permittee shall install, maintain and operate four spark ignition reciprocating internal combustion engines used for field gas compression, all meeting the following specifications:
- (i) Operated as a 4-stroke lean-burn engine;
 - (ii) Fired with natural gas from the field;
 - (iii) Equipped with a non-resettable hours of operation meter; and
 - (iv) Limited to a maximum site rating of 1,340 horsepower (hp).
- (b) Only the engines that are operated and controlled as specified in this permit are approved for installation under this permit.

Observations: *Monarch provided photographs dated February 25, 2021 of the nameplates for Engines RB#1, RB#3, RB#4 and RB#5. See Appendix A. The serial numbers in the nameplates are consistent with the engines identified in Emissions Unit Table above.*

2. Emissions Limits

The Permittee shall meet the following emissions limits for each engine:

- (a) CO emissions shall not exceed 1.50 grams per hp-hour (g/hp-hr) and 19.40 tons in any 12 consecutive calendar months.
- (b) NO_x emissions shall not exceed 1.50 g/hp-hr and 19.40 tons in any 12 consecutive calendar months.
- (c) CH₂O emissions shall not exceed 8.30 tons in any 12 consecutive calendar months.
- (d) Equipped with non-resettable hours meters.
- (e) Emissions limits shall apply at all times.

Observations: *A stack test report for tests conducted in November 2020 was provided. The results of the tests were as follows:*

	<i>Test date</i>	<i>CO</i>	<i>NO_x</i>	<i>CH₂O* CO Reduction efficiency</i>
<i>RB#1</i>	<i>11/25/20</i>	<i>0.049 g/HP-hr 0.12 lb/hr</i>	<i>1.1 g/HP-hr 2.8 lb/hr</i>	<i>97.0</i>
<i>RB#3</i>	<i>11/25/20</i>	<i>0.022 g/HP-hr 0.057 lb/hr</i>	<i>0.98 g/HP-hr 2.5 lb/hr</i>	<i>98.7</i>
<i>RB#4</i>	<i>11/24/20</i>	<i>0.0039 g/HP-hr 0.010 lb/hr</i>	<i>0.99 g/HP-hr 2.5 lb/hr</i>	<i>99.7</i>

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RB#5	11/24/20	0.00093 g/HP-hr 0.0023 lb/hr	0.98 g/HP-hr 2.5 lb.hr	99.9
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**CH₂O was not determined but CO reduction efficiency was provided.
The emission calculation sheets in the test report provide the engine hour meter reading.*

3. Control, Operation and Maintenance Requirements

- (a) The Permittee shall install, continuously operate and maintain a catalytic control system on each engine that reduces the uncontrolled emissions of CO by at least 93.0% by weight when the engine is operating within 10% of 100% peak (or the highest achievable) load.
- (b) The Permittee shall follow, for each engine and its respective catalytic control system, the manufacturer's recommended maintenance schedule and procedures or equivalent procedures developed by the Permittee or vendor, to ensure optimum performance of each engine and its respective catalytic control system to ensure compliance with the required NO_x and CO emissions limits and control efficiencies in this permit.
- (c) The Permittee shall install, continuously operate and maintain electronically controlled temperature-sensing devices on each engine that continuously measure and record the exhaust temperatures at the inlet and exhaust of each catalyst bed, such as thermocouple or resistance temperature detectors and data loggers. Each temperature-sensing device shall be calibrated and operated according to manufacturer specifications or equivalent specifications developed by the Permittee or vendor. Each temperature-sensing device shall collect and record data at least once every 15 minutes. For measuring temperature range, the temperature sensor shall have a minimum tolerance of 2.8 °C (5 °F) or 1% of the measurement range, whichever is larger.
- (d) Except during startups, which shall not exceed 30 minutes, the exhaust temperature of each engine at the inlet to the catalyst bed shall be maintained, at all times the engines operate, between 450°F and 1,350°F. The Permittee may request a different temperature range in writing, but the permittee shall not operate under that range until receiving written approval from the EPA.
- (e) The Permittee shall install, operate and maintain pressure sensing devices before and after the catalyst bed to obtain direct readings of the pressure drop across the catalyst bed (also referred to as the differential pressure). Each pressure-sensing device shall collect and record data at least once every 15 minutes. *[Explanatory Note to Permittee: Differential pressure measurements, in general, are used to show the pressure across the filter elements. This information will determine when the elements in the catalyst bed are fouling, blocked or blown out and thus require cleaning or replacement.]*
- (f) During operation the pressure drop across the catalyst bed on each engine shall be maintained to within ±2 inches of water from the baseline pressure drop reading taken during the most recent performance test. The baseline pressure drop for the catalyst bed shall be determined within 10% of 100% peak (or the highest achievable) load measured during the most recent performance test.

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- (g) The Permittee shall only fire each engine with natural gas. The natural gas shall be pipeline-quality in all respects except that the carbon dioxide (CO₂) concentration in the gas is not required to be within pipeline-quality.
- (h) The Permittee may rebuild an existing permitted engine or replace an existing permitted engine with an engine of the same hp rating and configured to operate in the same manner as the engine being rebuilt or replaced. Any operational requirements, control technologies, testing or other provisions that apply to the engines that are rebuilt or replaced shall also apply to the replacement engines.

4. Monitoring Requirements

- (a) Except during startups, which shall not exceed 30 minutes, if the engine exhaust temperature at the inlet to the catalyst bed on any engine deviates from the acceptable range specified in this permit, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
 - (i) Within 24 hours of determining a deviation of the engine exhaust temperature at the inlet to the catalyst bed, the Permittee shall investigate. The investigation shall include testing the temperature sensing device, inspecting the engine for performance problems and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and fouled, destroyed or poisoned catalyst).
 - (ii) If the engine exhaust temperature at the inlet to the catalyst bed can be corrected by following the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the engine exhaust temperature at the inlet to the catalyst bed within 24 hours of inspecting the engine and catalytic control system.
 - (iii) If the engine exhaust temperature at the inlet to the catalyst bed cannot be corrected using the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system has been damaged, then the affected engine shall cease operating immediately and shall not be returned to routine service until the following has been met:
 - (A) The engine exhaust temperature at the inlet to the catalyst bed is measured and found to be within the acceptable temperature range for that engine; and
 - (B) The catalytic control system has been repaired or replaced, if necessary.
- (b) If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
 - (i) Within 24 hours of determining a deviation of the pressure drop across the catalyst bed, the Permittee shall investigate. The investigation shall include testing the pressure transducers and assessing the catalytic control system for possible

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- damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and plugged, fouled, destroyed or poisoned catalyst).
- (ii) If the pressure drop across the catalyst bed can be corrected by following the catalytic control system manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.
 - (iii) If the pressure drop across the catalyst bed cannot be corrected using the catalytic control system manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system is damaged, then the Permittee shall do one of the following:
 - (A) Conduct a performance test within 90 calendar days, as specified in this permit to ensure that the emission limits are being met, and to re-establish the baseline pressure drop across the catalyst bed; or
 - (B) Cease operating the affected engine immediately. The engine shall not be returned to routine service until the pressure drop is measured and found to be within the acceptable pressure range for that engine, as determined from the most recent performance test. Corrective action may include removal and cleaning of the catalyst or replacement of the catalyst.
 - (c) The Permittee is not required to conduct emissions parametric monitoring of exhaust temperature and catalyst differential pressure on engines that have not operated during the monitoring period. The Permittee shall certify that the engine did not operate during the monitoring period in the semi-annual report required in this permit.

Observations: *Based on the information provided by Monarch, it appears that the engines have been meeting the temperature and pressure drop requirements.*

The catalyst inlet temperature is monitored and recorded at each engine and the hourly averages reduced to 4-hour rolling averages. Hourly and 4-hour rolling average catalyst inlet temperature data from October 2020 through January 31, 2021 was provided by Monarch.

EPA reviewed the temperature data submitted and there are no readings above 1,350 °F. There are temperature readings below 450 °F on all engines. EPA assumes those readings are during times when the engine is starting up, shutting down, or not operating. EPA spot checked days when the RB#1 temperature data were below 450 °F against engine operating hour data also provided by Monarch. Those days when catalyst inlet temperature was below 450 °F occurred in months when RB#1 wasn't operated for a full month.

With respect to pressure drop, according to Monarch, the baseline pressure drop was established following catalyst replacement and stack testing in November 2020. Between December 2020 and February 2021 pressure drop reading have been within 2 inches of the established baseline.

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	11/2020 stack test	12/2020	1/2021	2/2021
RB1	5.1	4.7	4.6	5.2
RB3	9.8	8.9	8.6	10.8
RB4	6.1	5.3	6.7	6.1
RB5	5.0	4.9	5.8	5.0

5. Performance Test Requirements

- (a) Performance tests shall be conducted on each engine and associated catalytic control system for measuring NO_x and CO to demonstrate compliance with the emission limits and control efficiency requirements specified in this permit. The initial performance tests shall be conducted within 180 days of the effective date of this permit and according to the provisions in 40 CFR 63.7(a)(2) and under the conditions that are specified in Table 4, point 1 and point 3, complying with the requirement to reduce CO emissions, of 40 CFR part 63, subpart ZZZZ – Requirements for Performance Tests. The Permittee shall conduct performance tests on each engine and associated catalytic control system for the NO_x emissions limit and control efficiency requirements specified in this permit according to Method 7E of 40 CFR part 60, appendix A.
- (b) Subsequent performance tests shall be conducted semi-annually on each engine. After compliance is demonstrated for two consecutive tests, the testing frequency may be reduced to annually. If an annual test indicates non-compliance, then the Permittee shall resume semi-annual testing.
- (c) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters at any time, including immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.
- (d) The Permittee shall not abort any engine tests that demonstrate non-compliance with the emission limits specified in this permit.
- (e) All performance tests conducted on the engines shall meet the following requirements:
 - (i) Each test shall be conducted within 10% of 100% peak load (or at the maximum achievable load representative of normal operations at the time of testing);
 - (ii) Performance tests shall not be conducted during periods of startup, shutdown or malfunction, as specified in 40 CFR 63.7(e)(1);
 - (iii) Each test required in this permit shall consist of at least three separate 1-hour or longer test runs, as specified in 40 CFR 63.7(e)(3);
 - (iv) The engine hp shall either be provided by the Permittee or determined using manufacturer specifications;

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- (v) During each test run, data shall be collected on all parameters necessary to document how emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.);
- (vi) Results from all performance tests shall be reported in units of g-hp/hr;
- (vii) The test methods and procedures shall be conducted as specified in 40 CFR 63.6620(a)-(e) and 40 CFR 63.6640(a)-(e). More specifically, the requirements of 40 CFR part 63, Table 4.1 and 4.3 and associated catalytic control system for the NO_x emissions limit and control efficiency requirements specified in this permit according to Method 7E of 40 CFR part 60, appendix A;
- (viii) If the engine and control system fails to meet any emission limit specified in this permit, appropriate steps shall be taken to correct the deficiency and the engine and control system shall be retested within 30 days after the failed test;
- (ix) Performance test plans for alternate test methods shall be submitted to the EPA for approval at least 60 calendar days prior to the date the test is planned; and
- (x) Alternate test plans shall include and address the following elements:
 - (A) Purpose of the test;
 - (B) Engines and catalytic control systems to be tested;
 - (C) Expected engine operating rate(s) during the test;
 - (D) Sampling and analysis procedures (sampling locations and test methods);
 - (E) Quality assurance plan (calibration procedures and frequency and field documentation; and
 - (F) Data processing and reporting (description of data handling and quality control procedures, report content).
- (f) The Permittee shall notify the EPA at least 30 calendar days prior to scheduled performance testing. The Permittee shall notify the EPA at least 1 week prior to scheduled performance testing if the testing cannot be performed.
- (g) If a permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct the subsequent performance test. The subsequent performance test requirements apply when the engine is restarted and operates more than 720 consecutive hours (or 30 consecutive days) in a given annual period. If an engine for which the EPA has been notified of a scheduled test is permanently shut down prior to testing, the Permittee does not need to start up the engine solely to conduct the performance test.

Observations: *Monarch submitted the test report for the performance tests conducted in November 2020. The test report indicates that three 1-hour test runs were conducted on each engine to determine compliance with the CO and NO_x limits. The test report indicates that the following test methods were used:*

<i>Parameter</i>	<i>U.S.E. Reference Test Methods</i>
<i>Volumetric Flow Rate</i>	<i>1 - 2</i>
<i>Oxygen/Carbon Dioxide</i>	<i>3A</i>
<i>Moisture Content</i>	<i>4</i>
<i>Nitrogen Dioxide</i>	<i>7E</i>
<i>Carbon Monoxide</i>	<i>10</i>

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The performance test results were as follows:

	<i>Test date</i>	<i>CO</i>	<i>NO_x</i>
<i>RB#1</i>	<i>11/25/20</i>	<i>0.049 g/HP-hr 0.12 lb/hr</i>	<i>1.1 g/HP-hr 2.8 lb/hr</i>
<i>RB#3</i>	<i>11/25/20</i>	<i>0.022 g/HP-hr 0.057 lb/hr</i>	<i>0.98 g/HP-hr 2.5 lb/hr</i>
<i>RB#4</i>	<i>11/24/20</i>	<i>0.0039 g/HP-hr 0.010 lb/hr</i>	<i>0.99 g/HP-hr 2.5 lb/hr</i>
<i>RB#5</i>	<i>11/24/20</i>	<i>0.00093 g/HP-hr 0.0023 lb/hr</i>	<i>0.98 g/HP-hr 2.5 lb/hr</i>

6. Emissions Calculation Requirements

The Permittee shall meet the following requirements for each of the engines:

- (a) Actual NO_x, CO and CH₂O emissions shall be calculated and recorded in tons at the end of each calendar month. The first calculation period shall cover the period from the effective date of this permit through the end of that month.
- (b) Prior to 12 full calendar months, the Permittee shall add the emissions for each calendar month to the calculated emissions for all preceding months, beginning with the first calendar month this permit is effective, and record the total. Thereafter, at the end of each calendar month, the Permittee shall, add the emissions for each month to the calculated emissions for the preceding 11 months and record new 12-month totals.
- (c) Emissions shall be calculated as follows:
 - (i) Convert the concentration of NO_x and CO emissions from the most recent performance test results in g/hp-hr to pounds per hour (lb/hr) using the following equation: (NO_x or CO g/hp-hr) x (hp) ÷ (454 g/lb). Then, NO_x, CO and CH₂O emissions in lbs shall be calculated for each calendar month for each engine by multiplying the emission rate for each engine in lb/hr by the number of operating hours the engine operated each calendar month and then by converting that amount to tons.
 - (ii) Emissions calculations for each calendar month shall account for any engine break-in period where the engine was operated without the catalytic control system installed. Emissions during break-in periods shall be calculated by multiplying the manufacturer-specified emission factors in g-hp/hr for an uncontrolled engine by the hours the engine operated without the catalytic control system installed for that month.
 - (iii) For each engine equipped with oxidation catalysts, CH₂O emissions shall be calculated by using the following equation:

$$(\text{CH}_2\text{O EF} \times (\text{hours}/2000 \text{ lbs})) = \text{CH}_2\text{O}_{\text{monthly}}$$

Where:

$$\text{CH}_2\text{O EF} = 0.48 \text{ lb/hr}$$

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hours = hours the engine operated per month
 $\text{CH}_2\text{O}_{\text{monthly}} = \text{CH}_2\text{O}$ emissions in tons

- (d) For any full calendar months prior to the initial performance test the manufacturer-specific controlled CH_2O emissions factor supplied in the synthetic MNSR application shall be used in the equation. Emissions for the first full calendar month following the initial performance test and thereafter shall be calculated by using the total CH_2O emissions rate observed in the initial performance test, or the most recent performance test, if more current than the initial performance test.

Observations: *Monarch provided a spreadsheet showing the monthly and rolling monthly NO_x, CO and CH₂O emissions from the engines. In this spreadsheet, Monarch is using the g/HP-hr determined in an April 2020 test to calculate the October monthly CO and NO_x emissions and the test conducted in November 2020 to calculate the November through February CO and NO_x. Monarch is using the CH₂O emission factor of 0.48 lb/hr to calculate the monthly CH₂O emissions.*

7. Recordkeeping Requirements

- (a) Records shall be kept of manufacturer and/or vendor specifications and maintenance requirements developed by the manufacturer, vendor, or Permittee for each engine, catalytic control system, temperature-sensing device and pressure-measuring device.
- (b) Records shall be kept of all calibration and maintenance conducted for each engine, catalytic control system, temperature-sensing device and pressure-measuring device.
- (c) Records shall be kept of all required performance testing in this permit. The records shall include the following:
- (i) The date, place and time of the performance test;
 - (ii) The company or entity that performed the test;
 - (iii) The analytical techniques or methods used;
 - (iv) The results of such measurements; and
 - (v) The operating conditions as existing at the time of measurement.
- (d) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken due to deviations pursuant to this permit.
- (e) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken due to deviations pursuant to this permit.
- (f) Records shall be kept of all catalyst replacements, engine rebuilds and engine replacements.
- (g) Records shall be kept of all monthly and consecutive 12-month emissions calculations.
- (h) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where the existing engine that has been rebuilt resumes operation without the catalyst control system for a period not to exceed 200 hours.

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- (i) Records shall be kept of each time any engine is shut-down due to a deviation in the inlet temperature to the catalyst bed or pressure drop across a catalyst bed. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.
- (j) Records of the hours of operations of each engine recorded through a non-settable hour meter.
- (k) The Permittee shall maintain and keep records of the following information:
 - (i) All notifications submitted to the EPA to comply with the requirements of this section for each engine;
 - (ii) Maintenance conducted on the engines;
 - (iii) Documentations from the manufacturer and catalyst vendor which shows that the emissions standards and limits are met for each engine; and
 - (iv) Records of the hours of operations of each engine recorded through a non-resettable hour meter.
- (l) The Permittee shall submit an initial notification as required in 40 CFR 63.9(b)(1)-(5) to meet the emission standards of this permit including the following information:
 - (i) Name and address of owner and operator;
 - (ii) The address of the facility;
 - (iii) Engine information including make, model, engine family, serial number, model year, maximum engine horsepower, and engine displacement;
 - (iv) Engine control equipment; and
 - (v) Fuel used.
- (m) The Permittee shall submit performance testing results of each test conducted within 60 days after the test(s) have been completed.

G. Records Retention

- 1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.
- 2. Records shall be kept at the facility or the location that has day-to-day operational control over the facility.

H. Reporting Requirements

1. Annual Reports

- (a) The Permittee shall submit an annual report each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports shall be certified to truth and accuracy by the person primarily responsible for CAA compliance for the Permittee.

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- (b) The report shall include:
- (i) All monthly and 12-month rolling facility-wide emissions for total HAP emissions in tons;
 - (ii) All NO_x, CO, CH₂O, benzene and HAP emissions calculations to demonstrate compliance with the emissions limits in this permit for the TEG Dehydrators and 4SLB Compressor Engines;
 - (iii) The results of all fugitive emissions monitoring surveys and subsequent repairs conducted during the reporting period; and
 - (iv) The results of all required performance test conducted during the reporting period.

2. All documents required to be submitted under this permit shall be submitted to:

Branch Chief, Air and Toxics Enforcement Branch, 8ENF-AT
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, R8
1595 Wynkoop Street
Denver, Colorado 80202

Documents may be submitted via electronic mail to r8airreportenforcement@epa.gov.

Observations: *Monarch submitted a report dated March 25, 2021 that covers the period from October 15, 2020 to December 31, 2020. The report contains the information required above.*

3. The Permittee shall promptly submit to the EPA a written report of any deviations of operational limits specified in this permit and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:

- (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed operational limits in this permit if left un-corrected for more than 5 days after discovering the deviation; and
- (b) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee’s ability to meet the operational limits.

Observations: *No deviations have been reported.*

4. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.
5. The Permittee shall submit any record or report required by this permit upon EPA request.

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Review from March 1, 2019 to October 15, 2020

Title V Permit Section II. National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities – 40 CFR Part 63, Subpart HH:

A. Applicability [40 CFR 63.760]

40 CFR Part 63, Subpart HH applies to the 24 MMscfd glycol dehydrator identified as Dehy#3 and the 25 MMscfd glycol dehydrator identified as Dehy#4 in Table 2 [Table 1 of this permit. [63.760(b)(1)(i)]

Observations: There is nothing to evaluate in this condition.

B. General Standards [40 CFR 63.764]

1. The General Provisions at 40 CFR Part 63, Subpart A apply as specified in Table 2 of 40 CFR Part 63, Subpart HH. Notwithstanding conditions in this permit, the Permittee shall comply with all applicable requirements of 40 CFR Part 63, Subpart A.

Observations: There is nothing to evaluate in this condition.

2. All reports required under 40 CFR Part 63, Subpart A shall be sent to the EPA at the following address as listed in §63.13:

Director, Air and Toxics Technical Enforcement Program, 8ENF-AT
Office of Enforcement, Compliance and Environmental Justice
1595 Wynkoop Street, Denver, CO 80202-1129

Observations: There is nothing to evaluate in this condition.

3. Except as specified in §63.764(e), the Permittee shall comply with the following requirements for the glycol dehydrator:
 - (a) The control requirements for glycol dehydrator process vents specified in §63.765;

MACT HH Requirement:

§ 63.765 Glycol dehydration unit process vent standards

(a) This section applies to each glycol dehydration unit subject to this subpart that must be controlled for air emissions as specified in either paragraph (c)(1)(i) or paragraph (d)(1)(i) of §63.764.

Observations: Riverbend CS was subject to §63.764(c)(1)(i) when it was a major source.

(b) Except as provided in paragraph (c) of this section, an owner or operator of a glycol dehydration unit process vent shall comply with the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(1) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i), (ii), or (iii) of this section.

(i) The owner or operator of a large glycol dehydration unit, as defined in

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§63.761, shall connect the process vent to a control device or a combination of control devices through a closed-vent system. The closed-vent system shall be designed and operated in accordance with the requirements of §63.771(c). The control device(s) shall be designed and operated in accordance with the requirements of §63.771(d). *See discussion below regarding § 63.771(c) and (d).*

(ii) – (iii) *Does not apply to Riverbend CS.*

(2) One or more safety devices that vent directly to the atmosphere may be used on the air emission control equipment installed to comply with paragraph (b)(1) of this section.

Observations: *During the previous inspection in March 13, 2019, Monarch representatives indicated that there are no bypasses between the dehydrators and the thermal oxidizer (TO).*

- (b) The monitoring requirements specified in §63.773; and *See discussion below regarding § 63.773.*
- (c) The recordkeeping and reporting requirements specified in §§63.774 and 63.775. *See discussion below regarding §§ 63.774 and 63.775.*

- 4. At all times the Permittee must operate and maintain any glycol dehydrator, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit. [40 CFR 63.764(j)]

C. Glycol Dehydration Unit Process Vent Standards [40 CFR 63.765]

The Permittee shall comply with the control equipment requirements as follows:

- 1. For each cover, the Permittee shall comply with the cover requirements specified in §63.771(b); *Does not apply to Riverbend CS.*
- 2. For each closed-vent system, the Permittee shall comply with the closed-vent system requirements specified in §63.771(c);

MACT HH Requirement:

§ 63.771 Control equipment requirements

(c) Closed-vent system requirements.

(1) The closed-vent system shall route all gases, vapors, and fumes emitted from the material in an emissions unit to a control device that meets the requirements specified in paragraph (d) of this section.

Observations: *During the previous inspection on March 13, 2019, Monarch representatives indicated that the dehydrator vent gas emissions first vent through*

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a condenser where the gas is dropped to ambient temperatures and then to the TO.

(2) The closed-vent system shall be designed and operated with no detectable emissions.

***Observations:** Semiannual reports submitted on September 30, 2019, January 31, 2020, September 30, 2020, and June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated) indicate that during that timeframe only one leak was detected on August 10, 2020.*

(3) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, the owner or operator shall meet the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) For each bypass device, except as provided for in paragraph (c)(3)(ii) of this section, the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the stream away from the control device to the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking periodic readings and sounding an alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device to the atmosphere; or

(B) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.

(ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (c)(3)(i) of this section.

***Observations:** During the previous inspection on March 13, 2019, Monarch representatives indicated that there are no bypasses between the dehydrators and TO.*

3. For each control device, the Permittee shall comply with the applicable control device requirements specified in §63.771(d) or §63.771(f); and *§63.771(d) is discussed below and §63.771(f) does not apply to Riverbend CS.*

MACT HH Requirement:

§ 63.771(d) Control device requirements for sources except small glycol dehydration units. Owners and operators of small glycol dehydration units, shall comply with the control device requirements in paragraph (f) of this section.

(1) The control device used to reduce HAP emissions in accordance with the standards of this subpart shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of this section.

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(i) An enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) that is designed and operated in accordance with one of the following performance requirements:

(A) Reduces the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of §63.772(e); or

Observations: Stack test reports indicate that Monarch is demonstrating compliance with the percent reduction for control device requirements. Stack test reports indicate that the TO is a TCI USA Inc. model 3000 plus enclosed TO.

(B) –(D) *Do not apply to Riverbend CS.*

§ 63.771(d)(1)(ii) and (iii) *Do not apply to Riverbend CS.*

(2) [Reserved]

(3) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (d)(1) of this section as specified in §63.772(e).

Observations: See test data and methods used as reported by company in tables, below.

TO test results

<i>TO-1 Test date</i>	<i>NMOC (%DRE) average</i>
<i>10/29/19</i>	<i>99.99</i>
<i>4/21/20</i>	<i>99.81</i>

§63.772(e) requires Method 1 or 1A be used for sampling site location for the inlet and outlet of the control device; Method 2, 2A, 2C, or 2D for volumetric flowrate; Method 18, Method 25A, or ASTM D6420-99 (2004) at the inlet and outlet of the control device for control device percent reduction. Test methods used for both tests are identified in the table below.

TO test methods

<i>Gas Parameter</i>	<i>Sampling method</i>
<i>Inlet</i>	
<i>Gas Flow</i>	<i>Methods 1 and 2C</i>
<i>TVOC</i>	<i>Method 25A</i>
<i>O₂, CO₂, N₂, methane</i>	<i>Method 3C</i>
<i>Ethane</i>	<i>Method 18</i>

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<i>Outlet</i>	
<i>Gas Glow</i>	<i>Methods 1 and 2</i>
<i>O₂ and CO₂</i>	<i>Method 3A</i>
<i>H₂O</i>	<i>Method 4</i>
<i>Opacity</i>	<i>Method 9</i>
<i>TVOC</i>	<i>Method 25A</i>
<i>Methane, ethane</i>	<i>Method 18</i>

(4) The owner or operator shall operate each control device in accordance with the requirements specified in paragraphs (d)(4)(i) and (ii) of this section.

(i) Each control device used to comply with this subpart shall be operating at all times when gases, vapors, and fumes are vented from the HAP emissions unit or units through the closed-vent system to the control device, as required under §63.765, §63.766, and §63.769. An owner or operator may vent more than one unit to a control device used to comply with this subpart.

Observations: As part of previous inspection, in a letter dated June 28, 2018, Monarch confirmed that it vents the two dehydrators as well as the condensate, produced water and slop oil tanks to the TO.

(ii) For each control device monitored in accordance with the requirements of §63.773(d), the owner or operator shall demonstrate compliance according to the requirements of §63.772(f) or (g), as applicable.
§63.772(g) does not apply to Riverbend CS.

Observations: Monarch uses a thermocouple to continuously monitor TO combustion temperature.

(5) For each carbon adsorption system used as a control device ... *Does not apply to the Riverbend CS.*

4. For each process modification made to comply with glycol dehydrator process vent standards at §63.765(c)(2), the Permittee shall comply with the process modification standards specified in §63.771(e). *Does not apply to Riverbend CS.*

D. Inspection and Monitoring Requirements [40 CFR 63.773]

1. For each closed-vent system or cover required by the Permittee to comply with 40 CFR Part 63, Subpart HH, the Permittee shall comply with the inspection and monitoring requirements specified in §63.773(c).

Subpart HH Requirement:

§ 63.773(c) Cover and closed-vent system inspection and monitoring requirements.

(1) For each closed-vent system or cover required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (c) (2) through (7) of this section.

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(2) Except as provided in paragraphs (c)(5) and (6) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (c)(2)(i) and (ii) of this section, each cover shall be inspected according to the procedures and schedule specified in paragraph (c)(2)(iii) of this section, and each bypass device shall be inspected according to the procedures of paragraph (c)(2)(iv) of this section.

(i) For each closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange), the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in §63.772(c)⁶ to demonstrate that the closed-vent system operates with no detectable emissions. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in §63.775(d)(1) or (2).

(B) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; or broken or missing caps or other closure devices. The owner or operator shall monitor a component or connection using the procedures in §63.772(c) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced or the connection is unsealed. Inspection results shall be submitted in the Periodic Report as specified in §63.775(e)(2)(iii).

Observations: *In an email dated June 23, 2021, Monarch confirmed that the closed vent system associated with the dehydration units consist of a permanently/semi-permanently sealed system.*

Monarch provided data showing the LDAR inspections were conducted on January 24, 2019, May 8, 2019, August 15, 2019, December 4, 2019, February 12, 2020, April 28, 2020, and August 10, 2020. In his May 27, 2021 email Mr. Hicks indicated that Monarch conducted facility-wide inspections using a RIGID Micro CD-100 Combustible Gas Detector.

At least for the inspections conducted in 2020, it appears that Monarch was using a RIGID Micro CD-100 Combustible Gas Detector to meet the requirements in § 63.773(c)(2)(i)(B) and that Monarch believed the RIGID Micro CD-100 Combustible Gas Detector meets the requirements of Method 21. It also appears that Monarch was also using the RIGID Micro CD-100 Combustible Gas Detector to confirm that a leak was repaired. Forty C.F.R. 63.773(c)(2)(i)(B) only requires visual inspections and Method 21 inspections are only required following repair or replacement of a component to demonstrate that the component operates with no detectable emissions. As discussed above, the RIGID

⁶ 40 CFR 63.772(c) requires the use of EPA Reference Method 21.

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Micro CD-100 Combustible Gas Detector does not meet the equipment specifications in Method 21.

(ii) For closed-vent system components other than those specified in paragraph (c)(2)(i) of this section, the owner or operator shall: : *Does not apply to Riverbend CS.*

(iii) For each cover, the owner or operator shall:

(A) Conduct visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover, or between the cover and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case where the storage vessel is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (e.g., fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere.

(B) The inspections specified in paragraph (c)(2)(iii)(A) of this section shall be conducted initially, following the installation of the cover. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in §63.775(d)(12). Thereafter, the owner or operator shall perform the inspection at least once every calendar year, except as provided in paragraphs (c)(5) and (6) of this section. Annual inspection results shall be submitted in the Periodic Report as specified in §63.775(e)(2)(iii).

Observations: *Semiannual reports submitted on September 30, 2019, January 31, 2020, September 30, 2020 June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated) indicate that during that timeframe only one leak was detected on August 10, 2020.*

(iv) For each bypass device, except as provided for in §63.771(c)(3)(ii), the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the steam away from the control device to the atmosphere, set the flow indicator to take a reading at least once every 15 minutes; or

(B) If the bypass device valve installed at the inlet to the bypass device is secured in the non-diverting position using a car-seal or a lock-and-key type configuration, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass device. *Does not apply to Riverbend CS. See discussion above.*

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(3) In the event that a leak or defect is detected, the owner or operator shall repair the leak or defect as soon as practicable, except as provided in paragraph (c)(4) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected.

Observations: *Semiannual reports submitted on September 30, 2019, January 31, 2020, September 30, 2020, and June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated) indicate that during that timeframe only one leak was detected on August 10, 2020 and it was repaired on August 10, 2020. However, as indicated above, the method used to confirm the leak was repaired did not meet MACT HH requirements.*

(4) Delay of repair of a closed-vent system or cover for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in §63.761, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

Observations: *See above.*

(5) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(5) (i) and (ii) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (c)(2)(i), (ii), or (iii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

Observations: *As part of a previous inspection, in a letter dated June 28, 2018, Monarch indicated that about 28 threaded connections in the dehydration closed vent system are considered “difficult to monitor” because they would require elevating the inspector more than 2 meters above a supported surface. Monarch indicated that these difficult to monitor threaded connections are monitored using a FLIR camera to determine if any visible vapors can be observed.*

(6) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(6) (i) and (ii) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this

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section if:

- (i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and
- (ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

Observations: *See discussion immediately above.*

(7) Records shall be maintained as specified in §63.774(b)(5) through (8).

Observations: *See discussion below pertaining to records.*

2. For each control device required by the Permittee to comply with 40 CFR Part 63, Subpart HH, the Permittee shall comply with the inspection and monitoring requirements as specified in §63.773(b) or §63.773(d).

MACT HH Requirement:

§63.773(d) Control device monitoring requirements.

(1) For each control device, except as provided for in paragraph (d)(2) of this section, the owner or operator shall install and operate a continuous parameter monitoring system in accordance with the requirements of paragraphs (d)(3) through (7) of this section. Owners or operators that install and operate a flare in accordance with §63.771(d)(1)(iii) or (f)(1)(iii) are exempt from the requirements of paragraphs (d)(4) and (5) of this section. The continuous monitoring system shall be designed and operated so that a determination can be made on whether the control device is achieving the applicable performance requirements of §63.771(d), (e)(3), or (f)(1). Each continuous parameter monitoring system shall meet the following specifications and requirements:

- (i) Each continuous parameter monitoring system shall measure data values at least once every hour and record either:
 - (A) Each measured data value; or
 - (B) Each block average value for each 1-hour period or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.

Observations: *Monarch provided a spreadsheet titled “Temperature 20190301 - 20210131.xlsx”. The spreadsheet contains 15-minute temperature readings for the TO from January 1, 2019 through January 31, 2021, and hourly and daily calculated averages from March 1, 2019 to January 31, 2021.*

- (ii) A site-specific monitoring plan must be prepared that addresses the monitoring system design, data collection, and the quality assurance and

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quality control elements outlined in paragraph (d) of this section and in §63.8(d). Each CPMS must be installed, calibrated, operated, and maintained in accordance with the procedures in your approved site-specific monitoring plan. Using the process described in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (d)(1)(ii)(A) through (E) of this section in your site-specific monitoring plan.

- (A) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
- (B) Sampling interface (e.g., thermocouple) location such

that the monitoring system will provide representative measurements;

- (C) Equipment performance checks, system accuracy audits, or other audit procedures;
- (D) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (3); and
- (E) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

Observations: *As part of a previous inspection, on June 15, 2018, Monarch provided a copy of the March 2014 Riverbend Compressor Station and System, Title V Permit Application, Part 71 Permit. Appendix E of the permit contains the Thermal Oxidizer Site Specific Plan.*

(iii) The owner or operator must conduct the CPMS equipment performance checks, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least once every 12 months.

(iv) The owner or operator must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

(2) An owner or operator is exempt from the monitoring requirements specified in paragraphs (d)(3) through (7) of this section for the following types of control devices: *Does not apply to Riverbend CS*

(3) The owner or operator shall install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in either paragraph (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section.

(i) A continuous monitoring system that measures the following operating parameters as applicable:

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(A) For a thermal vapor incinerator that demonstrates during the performance test conducted under §63.772(e) that the combustion zone temperature is an accurate indicator of performance, a temperature monitoring device equipped with a continuous recorder. The monitoring device shall have a minimum accuracy of ± 2 percent of the temperature being monitored in $^{\circ}\text{C}$, or ± 2.5 $^{\circ}\text{C}$, whichever value is greater. The temperature sensor shall be installed at a location representative of the combustion zone temperature.

Observations: *Monarch has installed a temperature indicator and established a temperature operating parameter value to monitor the operation of the TO.*

(B) – (H) do not apply to Riverbend CS.

(ii) A continuous monitoring system that measures the concentration level of organic compounds in the exhaust vent stream . . . *does not apply to Riverbend CS.*

(iii) A continuous monitoring system that measures alternative operating parameters other than those specified in paragraph (d)(3)(i) or (d)(3)(ii) *does not apply to Riverbend CS.*

(4) Using the data recorded by the monitoring system, except for inlet gas flowrate, the owner or operator must calculate the daily average value for each monitored operating parameter for each operating day. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

Observations: *Monarch provided a spreadsheet titled “Temperature 20190301 - 20210131.xlsx”. The spreadsheet contains 15-minute temperature readings for the TO from January 1, 2019 through January 31, 2021, and hourly and daily calculated averages from March 1, 2019 to January 31, 2021.*

(5) For each operating parameter monitor installed in accordance with the requirements of paragraph (d)(3) of this section, the owner or operator shall comply with paragraph (d)(5)(i) of this section for all control devices, and when condensers are installed, the owner or operator shall also comply with paragraph (d)(5)(ii) of this section.

(i) The owner or operator shall establish a minimum operating parameter value or a maximum operating parameter value, as appropriate for the control device, to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of §63.771(d)(1), (e)(3)(ii), or (f)(1). Each minimum or maximum operating parameter value shall be established as follows:

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A) If the owner or operator conducts performance tests in accordance with the requirements of §63.772(e)(3) to demonstrate that the control device achieves the applicable performance requirements specified in §63.771(d)(1), (e)(3)(ii) or (f)(1), then the minimum operating parameter value or the maximum operating parameter value shall be established based on values measured during the performance test and supplemented, as necessary, by a condenser design analysis or control device manufacturer recommendations or a combination of both.

***Observations:** EPA met with Monarch on December 10, 2019 and February 4, 2020 to discuss the Riverbend Compressor Station compliance concerns including the correct operating parameter for the TO. Following those meetings Monarch agreed to look further into the TO operating parameter. Ultimately, Monarch retested the engine in April 2020 and in an email dated September 1, 2020, Laurie Ostrand, EPA indicated that based on the stack test results EPA thought the operating parameter should be 407 °F. In an email dated September 2, 2020, Glen Hicks, Monarch, indicated the they did not disagree*

(B) and (C) do not apply to Riverbend CS.

(ii) The owner or operator shall establish a condenser performance curve does not apply to Riverbend CS.

(6) An excursion for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (d)(6)(i) through (vi) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day and more than one of these operating parameters meets an excursion criterion specified in paragraphs (d)(6)(i) through (vi) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (d)(5)(i) of this section.

***Observations:** In reviewing the daily average temperature data provided by Monarch from March 1, 2019 to January 31, 2021 there doesn't appear to be daily average TO readings less than 719 °F. This if course is using the operating parameter EPA agreed to in September /2020 (as discussed previously) and looking forward and backwards from September 2020 to see if Monarch has been compliant.*

(ii) and (iii) do not apply to Riverbend CS.

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(iv) An excursion occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

Observations: It doesn't appear that there were any excursions due to monitoring data not being available.

(v) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, an excursion occurs when:

(A) For each bypass line subject to §63.771(c)(3)(i)(A) the flow indicator indicates that flow has been detected and that the stream has been diverted away from the control device to the atmosphere.

(B) For each bypass line subject to §63.771(c)(3)(i)(B), if the seal or closure mechanism has been broken, the bypass line valve position has changed, the key for the lock-and-key type lock has been checked out, or the car-seal has broken.

Observations: At the previous inspection on March 13, 2019, Monarch representatives indicated that there are no bypasses between the dehydrators and TO.

(vi) For control device whose model is tested under §63.772(h) an excursion occurs when: *does not apply to Riverbend CS.*

E. Recordkeeping Requirements [40 CFR 63.774]

1. The recordkeeping provisions of 40 CFR Part 63, Subpart A, that apply and those that do not apply to the Permittee are listed in Table 2 of 40 CFR Part 63, Subpart HH.
2. The Permittee shall maintain the records specified in §§63.774(b), (c), (d), (e), (g), and (h). *Note: §§63.774(c), (d), (e), and (h) do not apply to Riverbend CS.*
3. Except as specified in §§63.774(c), 63.774(d), and 63.774(f), the Permittee shall maintain the records specified in §63.774(b). *Note: §§63.774(d) and (f) do not apply to Riverbend CS.*

MACT HH Requirement:

§ 63.774(b) Except as specified in paragraphs (c), (d), and (f) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (11) of this section: *Requested records were reviewed during the offsite inspection.*

(1) The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports and notifications) required by this subpart. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.

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- (i) All applicable records shall be maintained in such a manner that they can be readily accessed.
- (ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.
- (iii) The remaining 4 years of records may be retained offsite.
- (iv) Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(2) Records specified in §63.10(b)(2);

(3) Records specified in §63.10(c) for each monitoring system operated by the owner or operator in accordance with the requirements of §63.773(d). Notwithstanding the requirements of §63.10(c), monitoring data recorded during periods identified in paragraphs (b)(3)(i) through (iv) of this section shall not be included in any average or percent leak rate computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating or failed to collect required data.

- (i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments;
- (ii) [Reserved]
- (iii) Periods of non-operation resulting in cessation of the emissions to which the monitoring applies; and
- (iv) Excursions due to invalid data as defined in §63.773(d)(6)(iv).

Observation: *Requested records were reviewed during the offsite inspection.*

(4) Each owner or operator using a control device to comply with §63.764 of this subpart shall keep the following records up-to-date and readily accessible:

- (i) Continuous records of the equipment operating parameters specified to be monitored under §63.773(d) or specified by the Administrator in accordance with §63.773(d)(3)(iii). For flares, the hourly records and records of pilot flame outages specified in paragraph (e) of this section shall be maintained in place of continuous records.

Observation: *Monarch provided a spreadsheet titled “Temperature 20190301 - 20210131.xlsx”. The spreadsheet contains 15-minute temperature readings for the TO from January 1, 2019 through January 31, 2021, and hourly and daily*

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calculated averages from March 1, 2019 to January 31, 2021.

(ii) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in §63.773(d)(4) of this subpart, *except* as specified in paragraphs (b)(4)(ii)(A) through (C) of this section.

(A), (B) and (C) *do not apply to Riverbend CS.*

Observation: *See Observations immediately above.*

(iii) Hourly records of the times and durations of all periods when the vent stream is diverted from the control device or the device is not operating.

Observation: *As indicated above, Monarch indicated that there are no bypass devices.*

(iv) Where a seal or closure mechanism is used to comply with §63.771(c)(3)(i)(B), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken. *Bypass provisions do not apply to Riverbend.*

(5) Records identifying all parts of the cover or closed-vent system that are designated as unsafe to inspect in accordance with §63.773(c)(5), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

Observations: *Based on information received as part of previous inspections (June 28, 2018 letter), it doesn't appear that any equipment is designated at unsafe to inspect.*

(6) Records identifying all parts of the cover or closed-vent system that are designated as difficult to inspect in accordance with §63.773(c)(6), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

Observations: *As part of information received in previous inspections (June 28, 2018 letter) Monarch indicated that 28 threaded connectors in the CVS are designated as difficult to monitor because an inspector would need to be elevated more than 2 meters above a support surface. Monarch indicated that the components are inspected with a FLIR camera.*

(7) For each inspection conducted in accordance with §63.773(c), during which a leak or defect is detected, a record of the information specified in paragraphs (b)(7)(i) through (b)(7)(viii) of this section.

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- (i) The instrument identification numbers, operator name or initials, and identification of the equipment.
- (ii) The date the leak or defect was detected and the date of the first attempt to repair the leak or defect.
- (iii) Maximum instrument reading measured by the method specified in §63.772(c) after the leak or defect is successfully repaired or determined to be nonrepairable.
- (iv) “Repair delayed” and the reason for the delay if a leak or defect is not repaired within 15 calendar days after discovery of the leak or defect.
- (v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.
- (vi) The expected date of successful repair of the leak or defect if a leak or defect is not repaired within 15 calendar days.
- (vii) Dates of shutdowns that occur while the equipment is unrepaired.
- (viii) The date of successful repair of the leak or defect.
- (ix) Records identifying the carbon replacement schedule under §63.771(d)(5) and records of each carbon replacement.

Observations: *Monarch provided data showing the LDAR inspections were conducted on February 12, 2020, April 28, 2020, August 10, 2020 and December 16, 2020 and that only one leak was detected on August 10, 2020. In his May 27, 2021 email Mr. Hicks indicated that Monarch conducted facility-wide inspections using a RIGID Micro CD-100 Combustible Gas Detector. It appears that the leak was repaired on the day it was detected. As indicated previously it doesn't appear that the monitor Monarch is using to confirm repairs does not meet Method 21.*

(8) For each inspection conducted in accordance with §63.773(c) during which no leaks or defects are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks or defects were detected.

Observations: *Monarch provided data showing the LDAR inspections were conducted on January 24, 2019, May 8, 2019, August 15, 2019, December 4, 2019, February 12, 2020, April 28, 2020, and August 10, 2020. In a June 23, 2021 email Mr. Hicks indicated that “much of the data shows that no leaks were found, but in the Aug 2020, a leak related to the CVS were found and corrected.”*

(9) Records identifying ancillary equipment and compressors that are subject to and controlled under the provisions of 40 CFR part 60, subpart KKK; 40 CFR part 61, subpart V; or 40 CFR part 63, subpart H. *Does not apply to Riverbend*

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CS.

(10) Records of glycol dehydration unit baseline operations calculated as required under §63.771(e)(1). *Does not apply to Riverbend CS.*

(11) Records required in §63.771(e)(3)(i) documenting that the facility continues to operate under the conditions specified in §63.771(e)(2). *Does not apply to Riverbend CS.*

4. If compliance with the benzene emission limit specified in §63.765(b)(1)(ii) is elected, the Permittee shall document, to the Administrator's satisfaction, the items in §63.774(c). *Does not apply to Riverbend CS.*
5. For glycol dehydrators operating at the source that meet the exemption criteria in §63.764(e)(1)(i) or §63.764(e)(1)(ii), the Permittee shall maintain records as specified in §63.774(d). *Does not apply to Riverbend CS.*
6. The Permittee shall keep records of the requirements of §63.774(e) when using a flare to comply with §63.771(d). *Does not apply to Riverbend CS.*
7. The Permittee shall maintain records, pursuant to §63.774(g), of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control equipment and monitoring equipment. The Permittee shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with §63.764(j), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Observations: *Monarch reports malfunctions and deviations in semiannual reports.*

8. The Permittee shall keep records of the requirements of §63.774(h) when using a control device whose model is tested under §63.772(h) to comply with §§63.771(d), (e)(3)(ii) and (f)(1). *Does not apply to Riverbend CS.*

F. Reporting Requirements [40 CFR 63.775]

1. The reporting provisions of subpart A of this part, that apply and those that do not apply to the Permittee are listed in Table 2 of this subpart.
2. The Permittee shall submit the information specified in §63.775(b).

MACT HH Requirement:

§63.775 (b) Each owner or operator of a major source subject to this subpart shall submit the information listed in paragraphs (b)(1) through (b)(6) of this section, except as provided in paragraphs (b)(7) and (b)(8) of this section.

(1) The initial notifications required ... *not applicable to Riverbend CS during the timeframe of the inspection.*

(2) The date of the performance evaluation as specified in §63.8(e)(2), required

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only if the owner or operator is required by the Administrator to conduct a performance evaluation for a continuous monitoring system. A separate notification of the performance evaluation is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(3) The planned date of a performance test at least 60 days before the test in accordance with §63.7(b). Unless requested by the Administrator, a site-specific test plan is not required by this subpart. If requested by the Administrator, the owner or operator must also submit the site-specific test plan required by §63.7(c) with the notification of the performance test. A separate notification of the performance test is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

Observations: *Monarch generally submits notifications of performance testing within the required timeframe.*

(4) A Notification of Compliance Status report as described in paragraph (d) of this section; *See discussion below.*

(5) Periodic Reports as described in paragraph (e) of this section; and *See discussion below.*

(6) If there was a malfunction during the reporting period, the Periodic Report specified in paragraph (e) of this section shall include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.764(j), including actions taken to correct a malfunction.

Observations: *Monarch reports deviations and malfunctions in its semiannual reports.*

(7) [Reserved]

(8) Each owner or operator of ancillary equipment and compressors . . . *does not apply to Riverbend CS.*

3. The Permittee shall submit Notification of Compliance Status Reports as specified in §63.775(d). *the original Notification of Compliance Status Report was not applicable to Riverbend CS during the timeframe of the inspection.*
4. The Permittee shall submit Periodic Reports as specified in §63.775(e).

MACT HH Requirement:

§ 63.775(e) Periodic Reports. An owner or operator of a major source shall prepare Periodic Reports in accordance with paragraphs (e) (1) and (2) of this section and submit them to the Administrator. An owner or operator of an area source shall prepare Periodic

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Reports in accordance with paragraph (e)(3) of this section and submit them to the Administrator.

(1) An owner or operator shall submit Periodic Reports semiannually beginning 60 calendar days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due.

Observations: Since the last EPA inspection, semiannual reports were submitted on September 30, 2019, January 30, 2020, and June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated).

(2) The owner or operator shall include the information specified in paragraphs (e)(2)(i) through (ix) of this section, as applicable.

(i) The information required under §63.10(e)(3). For the purposes of this subpart and the information required under §63.10(e)(3), excursions (as defined in §63.773(d)(6)) shall be considered excess emissions.

Observations: Monarch typically had not been submitting the reports required by §63.10(e)(3).

(ii) A description of all excursions as defined in §63.773(d)(6)⁷ of this subpart that have occurred during the 6-month reporting period.

(A) For each excursion caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), as specified in §63.773(d)(6)(i), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the excursion occurred.

Observations: Monarch did not report any excursion of the TO operating temperature in the 1st and 2nd half 2020 semiannual reports following EPA's agreement of the appropriate operating parameter.

(B) For each excursion caused when the 365-day average condenser... *Does not apply to Riverbend CS.*

(C) For each excursion caused when condenser control efficiency ... *Does not apply to Riverbend CS.*

⁷ Pursuant to §63.773(d)(6), for Riverbend CS, an excursion for the TO is determined to have occurred when the monitoring data or lack of monitoring data result in (1) the daily average value of a monitored operating parameter to be less than the minimum operating parameter limit, or (2) the monitoring data are not available for at least 75 percent of the operating hours in a day.

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(D) For each excursion caused by the lack of monitoring data, as specified in §63.773(d)(6)(iv), the report must include the date and duration of the period when the monitoring data were not collected and the reason why the data were not collected.

Observations: *The semiannual and annual reports generally identify when monitoring data are not available.*

(E) For each excursion caused when the maximum inlet gas flowrate identified under §63.772(h) is exceeded, ... *Does not apply to Riverbend CS.*

(F) For each excursion caused when visible emissions determined under §63.772(i) exceed the maximum allowable duration . . . *Does not apply to Riverbend CS.*

(iii) For each inspection conducted in accordance with §63.773(c) during which a leak or defect is detected, the records specified in §63.774(b)(7) must be included in the next Periodic Report.

Observations: *The semiannual reports submitted on September 30, 2019, January 31, 2020, September 30, 2020 and June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated) indicate that during that timeframe one leak of the closed vent system was discovered on August 10, 2020.*

(iv) For each owner or operator subject to the provisions specified in §63.769, ... *Does not apply to Riverbend CS.*

(v) For each closed-vent system with a bypass line subject to §63.771(c)(3)(i)(A), records required under §63.774(b)(4)(iii) of all periods when the vent stream is diverted from the control device through a bypass line. For each closed-vent system with a bypass line subject to §63.771(c)(3)(i)(B), records required under §63.774(b)(4)(iv) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

Observations: *During the March 13, 2019 inspection, Monarch representatives indicated that there are no bypasses between the dehydrators and TO.*

(vi) If an owner or operator elects to comply with §63.765(b)(1)(ii), the records required under §63.774(c)(3). *Does not apply to Riverbend CS.*

(vii) The information in paragraphs (e)(2)(vii) (A) and (B) of this section shall be stated in the Periodic Report, when applicable.

(A) No excursions.

(B) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

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(viii) Any change in compliance methods as specified in §63.772(f).

Observations: *No changes have been identified during the timeframe of the inspection.*

(ix) If the owner or operator elects to comply with §63.765(c)(2), the records required under §63.774(b)(11). *Does not apply to Riverbend CS.*

(x) For flares, the records specified in §63.774(e)(3). *Does not apply to Riverbend CS.*

(xi) The results of any periodic test as required in §63.772(e)(3) conducted during the reporting period.

Observations: *Monarch has been submitting the test reports.*

(xii) For each carbon adsorber used to meet the control device requirements of §63.771(d)(1), records of each carbon replacement that occurred during the reporting period. *Does not apply to Riverbend CS.*

(xiii) For combustion control device inspections conducted in accordance with §63.773(b) the records specified in §63.774(i). *Does not apply to Riverbend CS.*

(xiv) Certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Observations: *Submittals are certified by a responsible official and contain the certification statement.*

(3) An owner or operator of an area source located inside a UA plus offset and UC boundary shall prepare and submit Periodic Reports in accordance with paragraphs (e)(3)(i) through (iii) of this section. *Does not apply to Riverbend CS.*

5. The Permittee shall submit notifications of process changes as specified in §63.775(f).

Observations: *No process information changes were submitted during the timeframe of the inspection.*

6. The Permittee shall comply with any applicable electronic reporting provisions specified at §63.775(g).

MACT HH Requirement:

§63.775(g) Electronic Reporting

- (1) Within 60 days after the date of completing each performance test (defined in

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§63.2) as required by this subpart you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority.

(2) All reports required by this subpart not subject to the requirements in paragraph (g)(1) of this section must be sent to the Administrator at the appropriate address listed in §63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraph (g)(1) of this section in paper format.

Observation: Paper copies of stack test reports have been submitted to EPA Region 8. It appears that Monarch has been attempting to submit stack test reports into WebFIRE.

Title V Permit, Section III. National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines - 40 CFR Part 63, Subpart ZZZZ

A. Applicability [40 CFR 63.6585]

40 CFR Part 63, Subpart ZZZZ applies to the following emission units:

1. Caterpillar G3516LE engine identified as RB#1 in Table 2 of this permit *[identified in the Emissions Unit Table above]*.
2. Caterpillar G3516LE engine identified as RB#2 in Table 2 of this permit *[now called RB #3 and identified in the Emissions Unit Table above]*.
3. Caterpillar G3516LE engine identified as RB#3 in Table 2 of this permit; *[now called RB #4 and identified in the Emissions Unit Table above]* and

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4. Caterpillar G3516LE engine identified as RB#5 in Table 2 of this permit *[identified in the Emissions Unit Table above]*.

B. General Provisions [40 CFR 63.6665]

1. The General Provisions at 40 CFR Part 63, Subpart A apply as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ. Notwithstanding conditions in this permit, the Permittee shall comply with all applicable requirements of 40 CFR Part 63, Subpart A.

Observations: There is nothing to evaluate in this condition.

2. All reports required under 40 CFR Part 63, Subpart A shall be sent to the EPA at the following address as listed in §63.13:

Director, Air and Toxics Technical Enforcement Program, 8ENF–AT
Office of Enforcement, Compliance and Environmental Justice
1595 Wynkoop Street, Denver, CO 80202–1129

Observations: There is nothing to evaluate in this condition.

C. Emission and Operating Limitations [40 CFR 63.6600 and 63.6605]

1. Pursuant to §63.6600, compliance with the numerical emission limitations established in 40 CFR Part 63, Subpart ZZZZ shall be based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 of 40 CFR Part 63, Subpart ZZZZ.

Observations: Test reports submitted by Monarch indicate that three 1-hour test runs are conducted. The test methods used are described below.

2. The Permittee must comply with the emission limitations and operating limitations specified in §63.6600.

MACT ZZZZ Requirement:

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

§ 63.6600(a), (c), and (d) *Do not apply to Riverbend CS.*

§ 63.6600(b) If you own or operate a new or reconstructed . . . 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions . . . you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of

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2. 4SLB stationary RICE must meet the following emission limitation, except during periods of startup:

- a. Reduce CO emissions by 93 percent or more; or
- b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O₂

During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

Observations: See stack test results below.

10/30/19 – 10/31/19 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>Engine load, %</i>	<i>Catalyst Inlet Temp, °F</i>	<i>Pressure Drop across catalyst</i>
<i>RB #1</i>	<i>98.7</i>	<i>87.3</i>	<i>841</i>	<i>4.9</i>
<i>RB #3</i>	<i>99.7</i>	<i>87.3</i>	<i>841</i>	<i>8.6</i>
<i>RB #4</i>	<i>100</i>	<i>87.3</i>	<i>838</i>	<i>5.3</i>
<i>RB #5</i>	<i>100</i>	<i>87.3</i>	<i>829</i>	<i>5.8</i>

4/22/20 – 4/23/20 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>Engine load, %</i>	<i>Catalyst Inlet Temp, °F</i>	<i>Pressure Drop across catalyst</i>
<i>RB #1</i>	<i>96.4</i>	<i>86.6</i>	<i>822</i>	<i>4.7</i>
<i>RB #3</i>	<i>96.1</i>	<i>86.6</i>	<i>835</i>	<i>9.5</i>
<i>RB #4</i>	<i>99.7</i>	<i>86.6</i>	<i>830</i>	<i>5.8</i>
<i>RB #5</i>	<i>99.89</i>	<i>84.3</i>	<i>816</i>	<i>5.2</i>

11/24/20 – 11/25/20 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>Engine load, %</i>	<i>Catalyst Inlet Temp, °F</i>	<i>Pressure Drop across catalyst</i>
<i>RB #1</i>	<i>97.0</i>	<i>86.6</i>	<i>852</i>	<i>5.1</i>
<i>RB #3</i>	<i>98.7</i>	<i>86.6</i>	<i>836</i>	<i>9.8</i>
<i>RB #4</i>	<i>99.7</i>	<i>86.6</i>	<i>815</i>	<i>5.0</i>
<i>RB #5</i>	<i>99.9</i>	<i>85.8</i>	<i>834</i>	<i>5.0</i>

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

1. new and reconstructed 4SLB stationary RICE ≥250 HP located at a major

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source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst must meet the following operating limitation, except during periods of startup:

- a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and
- b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.

***Observations:** Monarch provided catalyst inlet temperature data and pressure drop data. Those data are discussed below.*

3. The Permittee must be in compliance with the emission limitations and operating limitations that apply at all times. [40 CFR 63.6605(a)]

***Observations:** See **Observations** regarding MACT ZZZZ Tables 2a and 2b, immediately above.*

4. The Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if the required levels have been achieved. Determination of whether such operations and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

D. Testing and Initial Compliance Requirements [40 CFR 63.6610, 63.6615, 63.6620, and 63.6625]

1. The Permittee must conduct the initial performance tests or other compliance demonstrations requirements as specified in §63.6610.

***Observations:** The initial performance test was conducted prior to the review timeframe for this inspection.*

2. The Permittee must conduct subsequent performance tests as specified in §63.6615.

MACT ZZZZ Requirement:

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

1. For each new or reconstructed 4SLB stationary RICE ≥ 250 HP located at major sources complying with the requirement to reduce CO emissions and not using a CEMS you must conduct subsequent performance tests semiannually. (After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.)

Observations: Previously Monarch had been testing the engines annually at the Riverbend CS. However, it appears that they have gone to semiannual testing.

3. The Permittee must use the performance tests and other procedures specified §63.6620.

MACT ZZZZ Requirement:

§63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you. *Table 3 is discussed above and Table 4 below.*

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1), (3) and (4) *do not apply to Riverbend CS.*

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

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MACT ZZZZ Requirement:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each 4SLB stationary RICE complying with the requirement to reduce CO emissions, you must:

Observations: Tests on the engines were conducted on 10/30-31/19, 4/22-23/20, and 11/24-25/20

<i>You must</i>	<i>Using:</i>	<i>According to the following requirements:</i>	<i>For all Test Identified Above</i>
<i>Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and.</i>	<i>One option is Method 1</i>		<i>Yes – Method 1</i>
<i>ii. Measure the O₂ at the inlet and outlet of the control device; and</i>	<i>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) (heated probe not necessary)</i>	<i>(b) Measurements to determine O₂ must be made at the same time as the measurements for CO concentration.</i>	<i>Yes – Method 3A</i>
<i>iii. Measure the CO at the inlet and the outlet of the control device</i>	<i>(1) ASTM D6522-00 (Reapproved 2005) (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4</i>	<i>c) The CO concentration must be at 15 percent O₂, dry basis.</i>	<i>Yes – Method 10</i>

Three separate test runs, each lasting an hour, were conducted at each engine.

4. The Permittee must meet the monitoring, installation, collection, operation and maintenance requirements as specified in §63.6625.

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MACT ZZZZ Requirement:

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

§63.6625(a), (c), (d), (e), (f), (g), (i), and (j) *Do not apply to Riverbend CS.*

§63.6625(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

Observations: *Riverbend CS is required to install a CPMS to continuously monitor the catalyst inlet temperature.*

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

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(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

Observations: The CPMS site-specific monitoring plan was submitted with the March 2014 Title V permit application.

§63.6625 (h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

5. The Permittee must demonstrate initial compliance with the emission limitations, operating limitations, and other requirements that apply as specified in §63.6630.

Observations: The initial performance test was conducted prior to the timeframe of review for this inspection.

E. Continuous Compliance Requirements [40 CFR 63.6635 and 63.6640]

1. The Permittee must monitor and collect data to demonstrate continuous compliance as specified in §63.6635.
2. The Permittee must demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements as specified in §63.6640.

MACT ZZZZ Requirement:

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. *If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test.*

When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

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Observations: *The Riverbend CS is subject to Tables 2a and 2b. Pursuant to Table 6, compliance with Tables 2a and 2b emission limits and operating requirements is demonstrated by:*

- i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; and*
- ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and*
- iii. Reducing these data to 4-hour rolling averages; and*
- iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and*
- v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.*

See above Tables showing results from 10/2019, 4/2020, and 11/2020 performance testing.

The catalyst inlet temperature is monitored and recorded at each engine and the hourly averages reduced to 4-hour rolling averages. Monarch provided hourly and 4-hour rolling average catalyst inlet temperature data from 1/1/2019 through 1/31/2021.

EPA reviewed the temperature data submitted and there are no readings above 1,350 °F. There are temperature readings below 450 °F on all engines. EPA assumes those readings are during times when the engine is starting up, shutting down, or not operating. EPA spot checked days when the RB#1 temperature data were below 450 °F against engine operating hour data also provided by Monarch. Those days when catalyst inlet temperature was below 450 °F occurred in months when RB#1 wasn't operated for a full month.

Pressure drop is measured monthly. Based on the pressure drop information provided by Monarch (pressure drop reading from 11/2019 to 10/2020), the Monarch appears to have met the pressure drop requirements.

Summary of Pressure Drop Readings from 10/2019 to 10/2020

	10/2019 stack test	11/2020	12/23/19	1/2020	2/2020	3/2020	4/2020	5/2020	6/2020	7/2020	8/2020	9/2020	10/2020
RB1	4.9	ED	ED	ED	ED	4.9	4.7	ED	4.8	ED	4.7	4.6	5.0
RB3	8.6	8.3	7.7	8.6	9.1	9.4	9.5	9.0	9.9	8.6	8.6	9.5	8.8
RB4	5.3	5.3	5.5	5.3	5.5	5.3	5.8	5.6	ED	5.7	5.4	5.7	ED
RB5	5.8	ED	ED	ED	ED	ED	5.2	5.2	6.3	ED	ED	ED	ED

ED = Engine down

Catalyst replaced and baseline pressure drop reestablished following stack testing.

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(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

Observations: Monarch submits semiannual reports identifying when deviations have occurred. As indicated above. In the 2nd half 2019 semiannual report Monarch reported two instances of low catalyst temperatures on RB#1 on 7/10/19 and RB#3 on 11/21/19.

(c) and (f) *Do not apply to Riverbend CS.*

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

Observations: Engine startups at the Riverbend CS occurred prior to the timeframe of this inspection.

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you.

Observations: Monarch has not reported any deviation from meeting the requirements of Table 8.

F. Notifications, Reports, and Records [40 CFR 63.6645, 63.6650, 63.6655, 63.6660]

1. The Permittee must submit notifications as specified in §63.6645.

MACT ZZZZ Requirement:

§63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following; . . . (4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

Observations: Monarch has submitted notifications of performance tests.

(c) through (f) and (h) pertain to initial notifications and notification of compliance status following initial performance testing and *did not apply to Riverbend CS during the timeframe of the inspection.*

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(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

Observations: Generally, Monarch submits the required notification of performance testing.

(i) *Does not apply to Riverbend CS.*

2. The Permittee must submit reports as specified in §63.6650.

MACT ZZZZ Requirement:

§ 63.6650 What reports must I submit and when

(a) You must submit each report in Table 7 of this subpart that applies to you. *Applies to the engines at Riverbend CS.*

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

1. For each new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP must submit a compliance report. The compliance report must contain:

- a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period. The report must be submitted:
 - i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and
 - ii. *Does not apply to Riverbend CS.*

Observations: The semiannual generally indicate the percent of data loss but do not mention the CMS were out of control.

b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e):

- i. Semiannually according to the requirements in §63.6650(b)

Observations: See discussion regarding §§ 63.6650(d) and (e) below. Monarch has identified two instances of inlet catalyst low temperature in recent semiannual reports.

c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).

- i. Semiannually according to the requirements in §63.6650(b).

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Observations: *Monarch has not reported any malfunctions.*

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section. *Applies to the engines at Riverbend CS.*

(1) and (2) *no longer applies (pertained to the first semiannual Compliance report).*

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

Observations: *Since the last EPA inspection, semiannual reports were submitted on 9/30/19, 1/30/20, 9/30/20 and 1/30/21.*

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

Observations: *See Title V reporting requirements discussed below.*

(6) – (7) *no longer applies (pertained to the first Compliance report).*

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

Observations: *Monarch submitted the 2019 annual compliance report on 11/20/20. Monarch indicated that the report was submitted late due to Covid-19 issues. Monarch submitted the annual compliance report for the period 1/1/20 to 10/15/20 on 6/23/21.*

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

Observations: *See Observation directly above.*

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

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- (1) Company name and address.
- (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (3) Date of report and beginning and ending dates of the reporting period.
- (4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.
- (5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.
- (6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

Observations: *Generally, the required information is contained in the semiannual reports.*

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

- (1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.
- (2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

Observations: *Monarch has been identifying deviations in semiannual reports.*

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

- (1) The date and time that each malfunction started and stopped.
- (2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

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(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

Observations: *The following semiannual reports were submitted: 9/30/19, 1/30/20, 9/30/20, 1/30/21, and 6/23/21 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated). The only MACT ZZZZ deviation reported in that timeframe pertained to two instances of low catalyst temperature on RB#1 and RB#3.*

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

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Observations: Monarch submits the Title V and MACT ZZZZ reports as one report.

(g) and (h) *Does not apply to Riverbend CS.*

3. The Permittee must keep records as specified in §63.6655.

MACT ZZZZ Requirement:

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Observations: Requested records were provided for this offsite inspection.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) and (e) and (f) *Do not apply to Riverbend CS.*

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

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Observations: Certain records were requested and reviewed as part of this offsite compliance evaluation.

4. The Permittee must keep the records in the format and for the duration as specified in §63.6660.

MACT ZZZZ Requirement:

§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

Observations: Certain records were requested and reviewed as part of this offsite compliance evaluation.

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Title V Permit Section IV. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW

- A. This source is subject to the requirements of Consent Decree Case No. 2:10-CV-01282-PMW (Consent Decree), filed and effective on April 6, 2011. Notwithstanding the conditions in this permit, the Permittee shall comply with all applicable provisions of the Consent Decree.

Observations: There is nothing to evaluate for this provision.

- B. Requirements for the Glycol Dehydrator [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-1, Paragraph 6]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 6

- (a) Each dehydrator is subject to the total HAP emission limits, recordkeeping, and reporting requirements set forth in 40 CFR Part 63, Subpart HH.

Observations: See MACT HH discussion above. In past inspection reports EPA identified concerns with MACT HH compliance. Monarch appears to have addressed the EPA concerns. However, as indicated in the MACT HH discussion, the monitor that Monarch has been using to confirm that leaks of the closed vent system have been repaired does not meet Method 21 requirements.

- (b) The Permittee shall operate a thermal oxidizer on the dehydrators that achieves a 95% by weight or greater reduction of VOC emissions.

Observations: See testing results below:

TO test results

<i>TO-1 Test date</i>	<i>NMOC (%DRE) average</i>
<i>10/29/19</i>	<i>99.99</i>
<i>4/21/20</i>	<i>99.81</i>

- (c) The Permittee shall operate a continuous monitoring system, as described in Appendix A of the Consent Decree, to demonstrate the thermal oxidizer is meeting the 95% by weight or greater reduction of VOC emissions.

Observations: See MACT HH discussion above. In past inspection reports EPA identified concerns with MACT HH compliance. Monarch appears to have addressed the prior EPA concerns. As discussed above, to the extent that any leaks in the closed vent system from the tanks to the thermal oxidizer were discovered, as indicated in the MACT HH discussion, the monitor that Monarch has been using to confirm that leaks have been repaired does not appear to meet Method 21 requirements.

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C. Requirements for Storage Tanks [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-2, Paragraph 7]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 7
- (a) The Permittee shall continuously control VOC and HAP emission from the condensate, produced water, and slop oil storage tanks using either the thermal oxidizer or an alternative control device system that meets the specifications and operational requirements in Section IV.A-1 of the Consent Decree.

Observations: As part of previous inspections, in a letter dated June 28, 2018, Monarch indicated that the condensate, produced water and slop oil storage tanks are all controlled by the thermal oxidizer.

D. Requirements for Compressor Engines [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-3, Paragraphs 8, 9, and 10]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 8
- (a) The reciprocating internal combustion engines (RICE) are subject to the emission limits, recordkeeping, and reporting requirements set forth in 40 CFR Part 63, Subpart ZZZZ.

Observations: See MACT ZZZZ discussion above. In past inspection reports EPA identified concerns with MACT ZZZZ compliance. Monarch appears to have addressed the EPA concerns.

2. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 9
- (a) All control devices on RICE shall meet an emission limit of 2.0 gram per horse power hour (g/hp-hr) for NO_x and 2 g/hp-hr for CO, when the RICE are operating at a 90% load or higher.

Observations: See test data reported by company in tables below:

10/30/19 – 10/31/19 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>CO g/bhp-hr</i>	<i>NO_x g/bhr-hr</i>	<i>Engine load, %</i>
<i>RB #1</i>	<i>98.7</i>	<i>0.020</i>	<i>1.0</i>	<i>87.3</i>
<i>RB #3</i>	<i>99.7</i>	<i>0.0038</i>	<i>0.93</i>	<i>87.3</i>
<i>RB #4</i>	<i>100</i>	<i>0.0</i>	<i>0.91</i>	<i>87.3</i>
<i>RB #5</i>	<i>100</i>	<i>0.0</i>	<i>0.85</i>	<i>87.3</i>

4/22/20 – 4/23/20 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>CO g/bhp-hr</i>	<i>NO_x g/bhr-hr</i>	<i>Engine load, %</i>
<i>RB #1</i>	<i>96.4</i>	<i>0.055</i>	<i>1.1</i>	<i>86.6</i>
<i>RB #3</i>	<i>96.1</i>	<i>0.057</i>	<i>0.9</i>	<i>86.6</i>
<i>RB #4</i>	<i>99.70</i>	<i>0.0037</i>	<i>0.72</i>	<i>86.6</i>

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<i>RB #5</i>	<i>99.89</i>	<i>0.0015</i>	<i>0.72</i>	<i>84.3</i>
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11/24/20 – 11/25/20 Test

<i>Engine</i>	<i>% CO reduction</i>	<i>CO g/bhp-hr</i>	<i>NOx g/bhr-hr</i>	<i>Engine load, %</i>
<i>RB #1</i>	<i>97.0</i>	<i>0.049</i>	<i>1.1</i>	<i>86.6</i>
<i>RB #3</i>	<i>98.7</i>	<i>0.022</i>	<i>0.98</i>	<i>86.6</i>
<i>RB #4</i>	<i>99.7</i>	<i>0.0039</i>	<i>0.99</i>	<i>86.6</i>
<i>RB #5</i>	<i>99.9</i>	<i>0.00093</i>	<i>0.98</i>	<i>85.8</i>

3. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 10
 - (a) The Permittee shall conduct annual performance tests for NOX and CO using EPA Reference Methods in accordance with the Reference Method Test Protocol that shall be submitted to EPA at least 60 days in advance of testing the new RICE.

Observations: Generally, Monarch submits a test protocol 60 days prior to the performance test and uses EPA reference methods for determining NOx and CO.

- (b) For additional tests performed using the same Reference Method Test Protocol, the Permittee is not required to submit the Protocol to the EPA for approval as long as the Permittee continues to comply with all requirements of the Test Protocol.

Observations: There is nothing to evaluate.

E. General Recordkeeping Requirements [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-8, Paragraph 18]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 18
 - (a) The Permittee shall maintain records and information adequate to demonstrate compliance with the requirements of Section IV of the Consent Decree, and shall report the status of compliance with these requirements in the Annual Reports submitted pursuant to Section VII of the Consent Decree.
 - (b) The Permittee shall submit all applicable reports as required under 40 CFR Part 63, Subpart HHs and ZZZZ.

Observations: See discussions above regarding MACT HH and MACT ZZZZ report.

F. General Pollution Control Requirements [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-9, Paragraph 19]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 19
 - (a) All emission capture, collection and pollution abatement equipment, including vent lines, connections, fittings, valves, relief valves, hatches and other

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appurtenances required in Section IV.A. of the Consent Decree must be maintained in good working order and operated properly at all times that the Riverbend Compressor Station is operated.

***Observations:** See discussion under MACT HH regarding thermal oxidizer testing and monitoring and closed vent system, and under MACT ZZZZ regarding testing engine testing and monitoring.*

G. Startup, Shutdown, Malfunction and Non-operation [Consent Decree Case No. 2:10-CV-01282-PMW, Section A-10, Paragraph 20]

1. Requirements of Consent Decree Case No. 2:10-CV-01282-PMW, Paragraph 20
 - (a) Affected sources that are subject to 40 CFR Part 63, Subpart HH shall comply with the provisions of 40 CFR §63.762 during all periods of startup, shutdown, and malfunction and non-operation of such affected sources.
 - (b) Affected sources that are subject to 40 CFR Part 63, Subpart ZZZZ shall comply with the provisions of 40 CFR §63.6605 during all periods of startup, shutdown, malfunction and non-operation of such affected sources.

***Observations:** Monarch maintains an SSM plan with the last update being submitted with the July 31, 2016 semiannual report.*

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Title V Permit Section V. Facility-Wide Requirements [40 CFR 71.6(a)(1)]

Conditions in this section of this permit apply to all emissions units located at the source, including any units not specifically listed in Table 2 [table 1 in inspection report] of the Facility Emission Points section of this permit.

A. Recordkeeping Requirements [40 CFR 71.6(a)(3)(ii)]

The Permittee shall comply with the following generally applicable recordkeeping requirements:

1. If the Permittee determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants (HAPs) is not subject to a relevant standard or other requirement established under 40 CFR Part 63, the Permittee shall keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination shall include an analysis (or other information) that demonstrates why the Permittee believes the source is unaffected (e.g., because the source is an area source). [40 CFR 63.10(b)(3)]
2. Records shall be kept of off permit changes, as required by the Off Permit Changes section of this permit.

Observations: It doesn't appear that there have been any off-permit changes since the permit was issued on 1/6/15.

B. Reporting Requirements [40 CFR 71.6(a)(3)(iii)]

1. The Permittee shall submit to the EPA all reports of any required monitoring under this permit semiannually. The first report shall cover the period from the effective date of this permit through December 31st, 2014. Thereafter, the report shall be submitted semi-annually, by April 1st and October 1st of each year. The report due on April 1st shall cover the 6 month period ending on the last day of December before the report is due. The report due on October 1st shall cover the 6 month period ending on the last day of June before the report is due. All instances of deviations from permit requirements shall be clearly identified in such reports. All required reports shall be certified by a responsible official consistent with the Submissions section of this permit.

[Explanatory note: This provision does not alter the January 30th due date for the Annual Report required by Paragraph 87 of the Consent Decree. However, the Annual Report may satisfy the requirements of the semi-annual report due on April 1st. To help Part 71 Permittees meet reporting responsibilities, the EPA has developed a form "SIXMON" for 6 month monitoring reports. The form may be found on EPA's website at: <http://www.epa.gov/air/oaqps/permits/p71forms.html>]

Permit # V-UO-000021-2008.00 – Title V Permit Requirements
Review from March 1, 2019 to October 15, 2020

Observations: Semiannual reports were submitted on September 30, 2019, January 30, 2020, September 30, 2020, and June 23, 2021 (for the period July 1, 2020 to October 15, 2020 when the Title V Permit was terminated).

2. “Deviation” means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or recordkeeping established in accordance with §71.6(a)(3)(i) and (a)(3)(ii). For a situation lasting more than 24 hours which constitutes a deviation, each 24 hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:
 - (a) A situation where emissions exceed an emission limitation or standard;
 - (b) A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met; or
 - (c) A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.
3. The Permittee shall promptly report to the EPA deviations from permit requirements, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. “Prompt” is defined as follows:
 - (a) Any definition of “prompt” or a specific time frame for reporting deviations provided in an underlying applicable requirement as identified in this permit.
 - (b) Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
 - (i) For emissions of a HAP or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
 - (ii) For emissions of any regulated air pollutant, excluding a HAP or a toxic air pollutant that continues for more than two (2) hours in excess of permit requirements, the report must be made within 48 hours.
 - (iii) For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report.
 - (c) If any of the conditions in (i) or (ii) of paragraph (b) above are met, the Permittee must notify EPA by telephone (1-800-227-6312), facsimile (303-312-6409), or by email to r8airreportenforcement@epa.gov based on the timetables listed above. [Notification must specify that this notification is a deviation report for a Part 71 permit]. A written notice, certified consistent with the Submissions section of this permit must be submitted within ten working days of the occurrence. All

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deviations reported under this section must also be identified in the 6-month report required under Condition 1 in this section of this permit.

[Explanatory note: To help Part 71 Permittees meet reporting responsibilities, the EPA has developed a form “PDR” for prompt deviation reporting. The form may be found on the EPA’s website at:

<http://www.epa.gov/air/oaqps/permits/p71forms.html>]

Observations: The following deviations were reported:

Deviations

<i>Report timeframe</i>	<i>Deviations</i>
<i>1/1/19 to 6/30/19</i>	<i>No deviations reported</i>
<i>7/1/19 to 12/31/19</i>	<i>Two low-temperature inlet catalyst readings, one on RB#1 and one on RB#3</i> <i>Seven days where TO temperature below operating parameter.⁸</i>
<i>1/1/20 to 6/30/20</i>	<i>Late Fee payment and annual emission reporting</i>
<i>7/1/20 to 10/15/20</i>	<i>Late reporting</i>

Title V Permit Section VI. General [Permit] Provisions

A. Annual Fee Payment [40 CFR 71.9]

See Emission Inventory below. The permittee shall pay the annual permit fee each year no later than April 1. The fee shall cover the previous calendar year. The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all “regulated pollutants (for fee calculation)” emitted from the source by the presumptive emissions fee (in dollars/ton) in effect at the time of calculation.

B. Annual Emissions Inventory [40 CFR 71.9(h)(1) and (2)]

Annual Emissions Inventory Submittals

<i>Requirement</i>	<i>Status</i>
The permittee shall submit an annual emissions report of its actual emissions for both criteria pollutants and regulated HAPS for this facility for the preceding calendar year for fee assessment purposes. The annual emissions report shall be certified by a responsible official and shall be submitted each year to EPA on April 1.	<i>See historical record below.</i> <i>For 2019 - submitted on 10/19/20</i> <i>For 2020 – submitted on 6/23/21.</i>

⁸ Although these don’t appear to fully meet a deviation as these are only partial, and not a full 24-hour period when the operating parameter was exceeded.

**Permit # V-UO-000021-2008.00 – Title V Permit Requirements
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Actual Emissions – tons per year as reported by Monarch

<i>Pollutant</i>	<i>2019</i>	<i>2020 (1/1/20 to 10/15/20)</i>
<i>NOx</i>	<i>43</i>	<i>14.9</i>
<i>VOC</i>	<i>17.1</i>	<i>10.5</i>
<i>SO₂</i>	<i>0.1</i>	<i>0.04</i>
<i>PM₁₀</i>		<i>0.15</i>
<i>Formaldehyde</i>	<i>4.6</i>	<i>2.8</i>
<i>Total HAPs</i>	<i>7.88</i>	<i>4.5</i>

- C. Compliance Requirements [40 CFR 71.6(a)(6), Section 113(a) and 113(e)(1) of the CAA, and 40 CFR 51.212, 52.12, 52.33, 60.11(g), 61.12]**

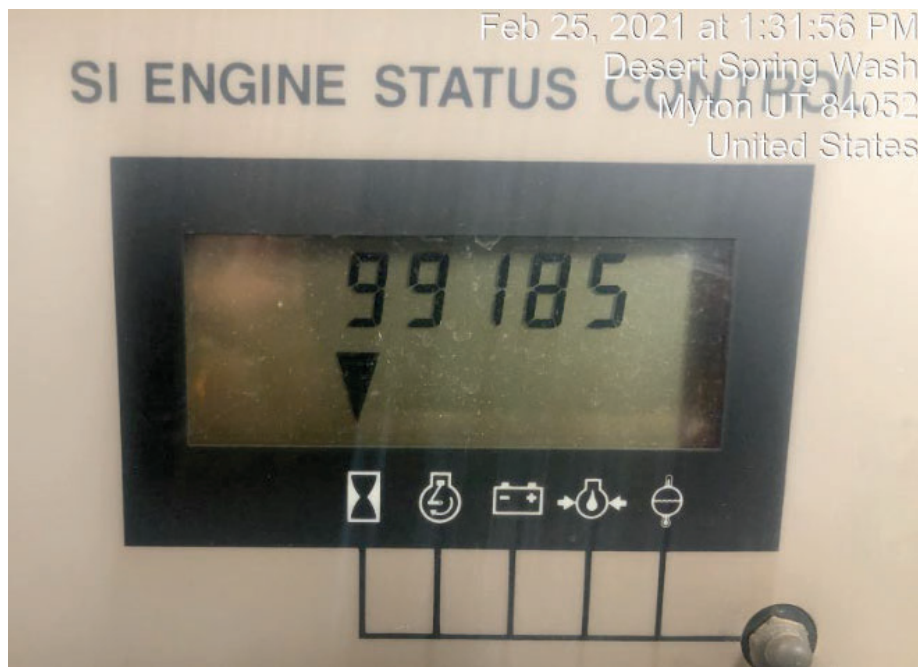
Compliance Certification Submittals

Requirement	Status
The permittee shall submit to EPA a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices annually by April 1 st , and shall cover the 12-month month period as the two consecutive semi-annual monitoring reports. The compliance certification shall be certified as to truth, accuracy, and completeness by a responsible official consistent with § 71.5(d).	• <i>For 2019 - submitted on 10/19/20</i> • <i>For 2020 – submitted on 6/23/21.</i>

Appendix A – Photographs Provided by Monarch



Photograph 1a – RB#1 Serial Number



Photograph 1b – RB#1 Runtime

Appendix A – Photographs Provided by Monarch



Photograph 2a – RB#3 Serial Number

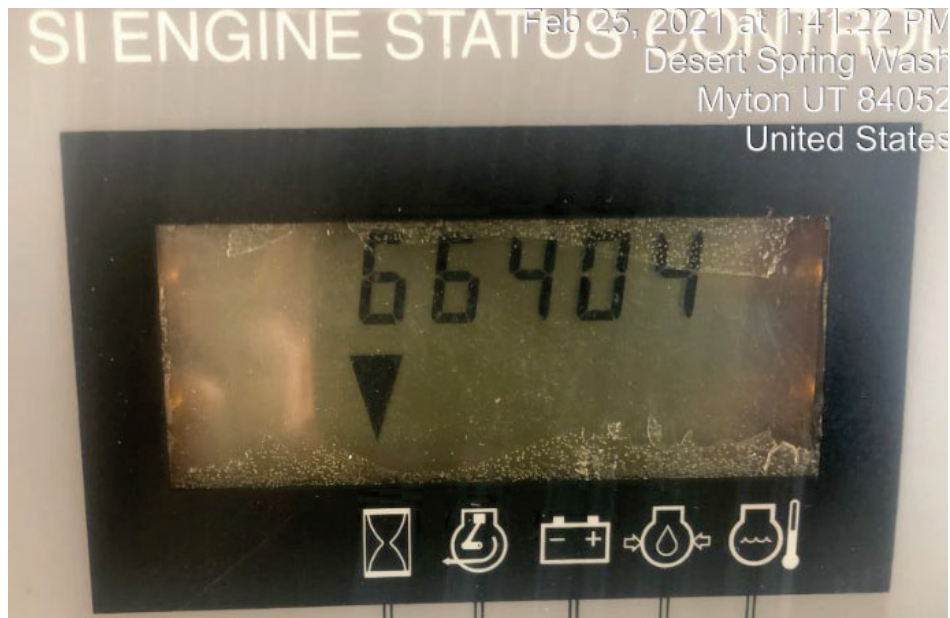


Photograph 2b – RB#3 Runtime

Appendix A – Photographs Provided by Monarch



Photograph 3a – RB#4 Serial Number

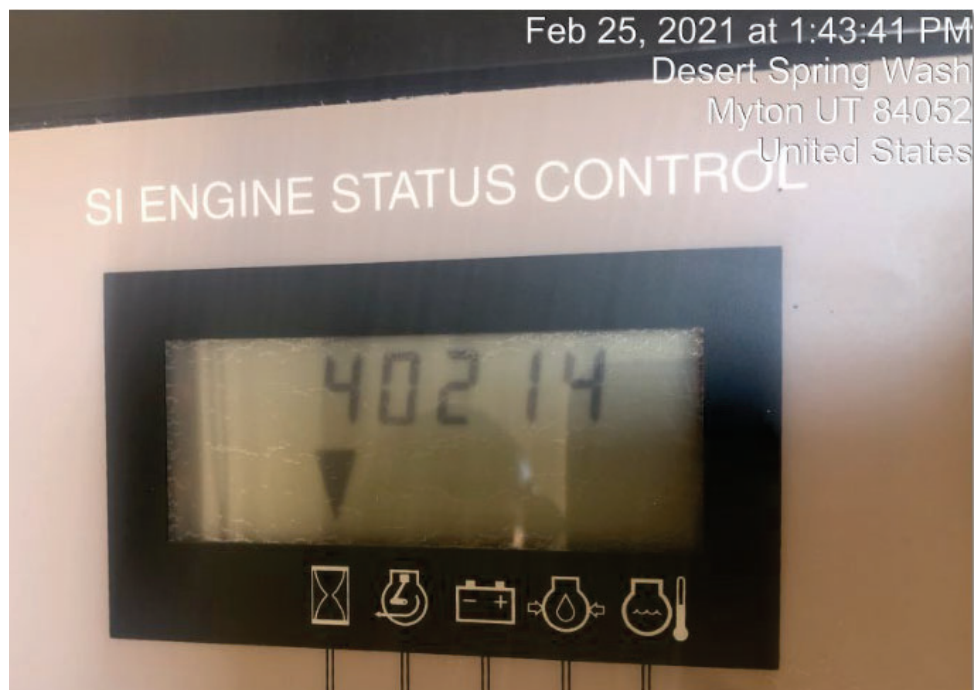


Photogrtaph 3b – RB#4 Runtime

Appendix A – Photographs Provided by Monarch



Photograph 4a – RB#5 Serial Number

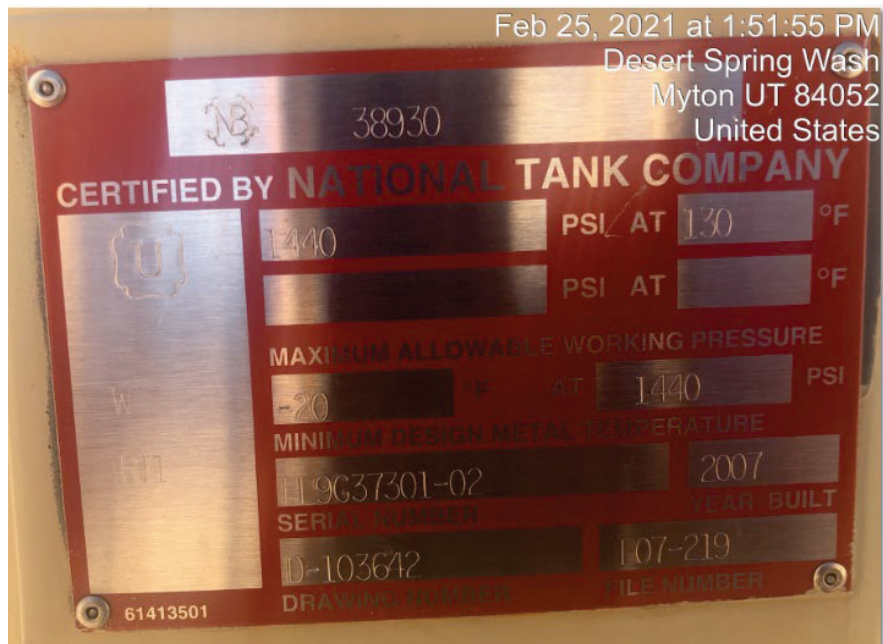


Photograph 4b – RB#5 Runtime

Appendix A – Photographs Provided by Monarch

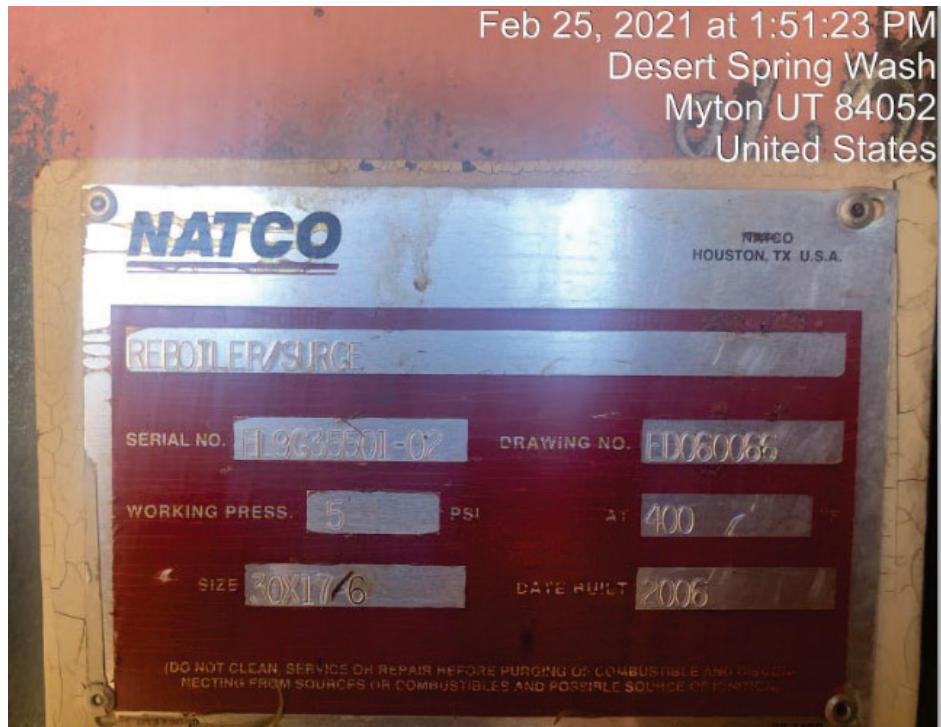


Photograph 5 – Dehy #3



Photograph 6 – Dehy #4

Appendix A – Photographs Provided by Monarch

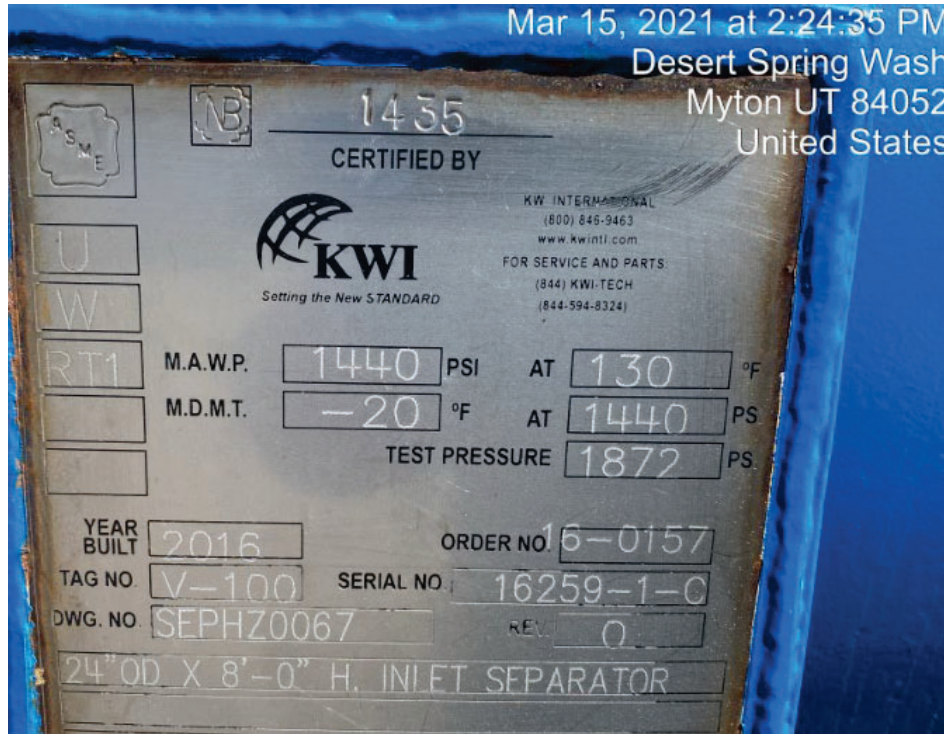


Photograph 7– Dehy #4 – Reboiler



Photograph 8 – JT Skid related

Appendix A – Photographs Provided by Monarch

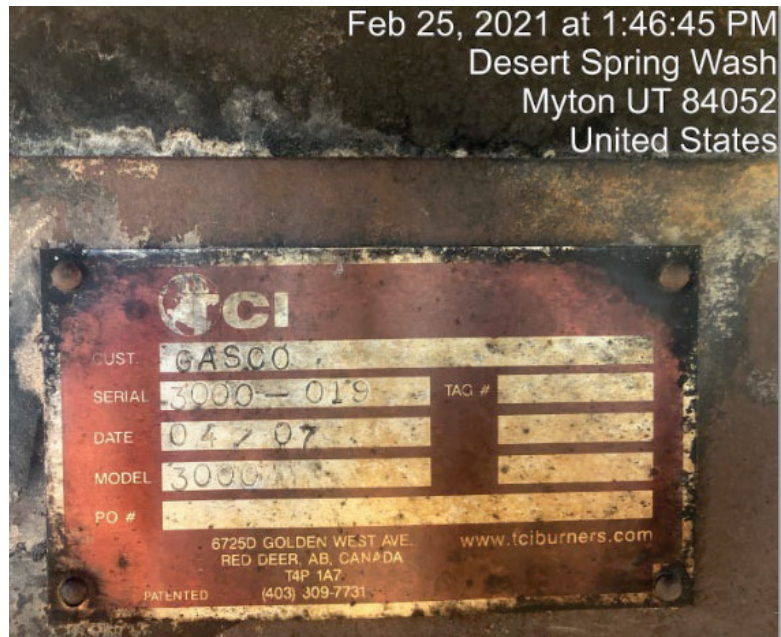


Photograph 9 – JT Skid related



Photograph 10 – JT skid related

Appendix A – Photographs Provided by Monarch



Photograph 11 – Thermal oxidizer nameplate



Photograph 12 – Thermal Oxidizer

Appendix A – Photographs Provided by Monarch



Photograph 13 – Thermal Oxidizer

Monarch Natural Gas, LLC, Riverbend Compressor Station
Full Compliance Evaluation (FCE)
On-Site Clean Air Act (CAA) Inspection

Inspection Report Date: March 22, 2023

EPA Representatives: Michael Stovern, Colin Lecortz, Christine Tokarz

Tribal Representatives: Lonnie Favel, Mariko Blackbird, Alverna Nelson, Monaco Weidner

Company Representative: Glenn Hicks and Rico Aguiler

Inspection Report Prepared By: Michael Stovern

Inspection Report Reviewed By: Scott H. Patefield **SCOTT PATEFIELD** Digitally signed by SCOTT PATEFIELD
Date: 2023.05.03 14:20:09 -06'00'

Last CAA Inspection: June 24, 2021

Applicable Rules: Tribal Minor New Source Review (TMNSR)
40 C.F.R. Part 63, Subpart HH (MACT HH)
40 C.F.R. Part 63, Subpart ZZZZ (MACT ZZZZ)

CAA Permit History: **TMNSR:** SMNSR-UO-000021-2020.001
Effective October 15, 2020
Title V: Permit # V-UO-000021-2008.00
Effective through: October 15, 2020

I. General Source Information

Parent Company name: Monarch Natural Gas LLC. (Monarch)
Facility Name: Riverbend Compressor Station
Facility Location: Latitude 39.98209, Longitude -109.847535
EPA Region: 8
County, State: Uintah, Utah
Reservation: Uintah & Ouray Reservation
Tribe: Ute Indian Tribe
SIC Code: 1311
ICIS-AIR ID Number: 080000004901300014
Other Clean Air Act Permits: None

II. Summary of Enforcement Actions:

None in the past seven years. A consent decree (CD) between the United States of America v. Gasco Energy, Inc. and Monarch Natural Gas LLC. (Civ. No. 2:10-cv-01282-PMW) was entered and effective on April 6, 2011. The CD contains requirements for the Riverbend Compressor Station. The CD was terminated on 9/17/2021.

III. Overall Inspection Findings:

This inspection reviews compliance with all federal regulatory requirements from February 2021 through March 2023. The following concerns were identified:

1. Based on the information provided, it doesn't appear that the instrument Monarch is using, the RIGID Micro CD-100 Combustible Gas Detector, meets Method 21 specification required by Section I.D.2.(a) of the permit. See discussion on pages 10-11 of this report.
2. Monarch was incorrectly calculating their "12-month rolling total" for their dehydrator benzene emissions. Monarch only calculated calendar year 12-month totals and reset the total at the beginning of each calendar year.

Note that this is a final inspection report but not a final determination of compliance.

IV. Description of Process and Permitting History:

The Riverbend Compressor Station (Riverbend) gathers hydrocarbons (natural gas and natural gas condensate) from surrounding well sites via a gathering pipeline system. The natural gas condensate gathered in the well field is temporary stored in storage tanks in the field prior to being sent to Riverbend. The stabilized natural gas condensate from the well field is then routed to natural gas condensate storage tanks at Riverbend. The natural gas is sent to two triethylene glycol dehydration units to remove water vapor entrained in the gas stream. The natural gas is then compressed with four natural gas-fired compressor engines. The compressed natural gas is routed to the gas sales pipeline. The natural gas condensate is transported off site by tanker trucks. The facility also utilizes a methanol injection system to reduce the formation of hydrates in the gas stream. Emission controls for the facility include:

1. An oxidation catalyst for lean-burn engines; and
2. A thermal oxidizer for the condensate storage tanks and dehydration units.

On February 5, 2020, the EPA received an application from Monarch requesting a synthetic minor permit to construct and operate a modification project at the Riverbend Riverbend in accordance with the requirements of the Minor New Source Review (MNSR) permitting program.

Records of potential air emissions indicate the facility was a minor source, with respect to the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR 52.21 at the time of construction, and was now a major source of nitrogen oxides (NO_x), with respect to the Tribal Nonattainment New Source Review (NNSR) Permit Program at 40 CFR 49.166.¹ The facility was also a major source of NO_x, carbon monoxide (CO), and hazardous air pollutants (HAP) with respect to the Title V Operating Permit Program at 40 CFR part 71 (Part 71) and currently held an active Part 71 permit that the EPA issued on January 6, 2015 (Permit #V-UO-000021-2008.00).

The TMNSR permit approved the construction and operation of new emission sources, specifically two Joule Thomson (JT) Skids (10 million standard cubic feet per day (MMscfd) and 3 MMscfd, respectively), three 500 barrel (bbl) methanol storage tanks, two 18,000 gallon (gal) pressurized bullet

¹ On April 30, 2018, the EPA designated portions of the Indian country lands within the Uintah and Ouray Indian Reservation as marginal nonattainment for the 2015 ozone NAAQS, effective on August 3, 2018. Riverbend is located within that marginal ozone nonattainment area. Appendix S lists the marginal ozone nonattainment major source threshold for VOC or NO_x emissions as 100 tpy. As such, although at the time of construction, Riverbend was considered a minor source with respect to the PSD Permit Program, it is now considered an existing major source of ozone for NO_x with respect to the NNSR Permit Program. Upon full compliance with this synthetic MNSR permit, Riverbend will be a synthetic minor source with respect to the NNSR permit programs and the preconstruction review requirements of NNSR would apply to any future proposed modification that exceeds 100 tpy of VOC or NO_x emissions.

tanks for processed natural gas liquid (NGL) storage, up to four gas driven piston methanol pumps and up to eight gas driven pneumatic controllers associated with the JT Skids. The JT Skids and associated equipment would be constructed within the existing footprint of the facility.

The TMNSR permit also established facility-wide annual emissions limits on total HAP. It required the installation, maintenance and operation of an enclosed combustion device to control volatile organic compounds (VOC) and HAP emissions from two triethylene glycol (TEG) dehydration units that each includes a TEG reboiler. The permit also required the enclosed combustion device to control VOC and HAP emissions from working, standing, breathing and flashing loss emissions from four 400-barrel (bbl) condensate storage tanks and two 18,000 gal pressurized bullet tanks. The permit also required the installation, maintenance and operation a catalytic control system and air-to-fuel ratio (AFR) controller on each of four natural gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (RICE) used for natural gas compression at the facility, including associated formaldehyde (CH₂O), CO and NO_x emissions limits.

The TMNSR permit contained emissions limits, construction and operational limitations and associated monitoring, recordkeeping and reporting requirements. Upon compliance with the permit, Monarch will have legally and practicably enforceable restrictions on emissions that can be used when determining the applicability of other Clean Air Act (CAA) permitting requirements, such as those imposed by the PSD Permit Program at 40 CFR part 52, the NNSR Permit Program, Part 71, and the National Emissions Standards for Hazardous Air Pollutants at 40 CFR part 63.

With respect to the National Emissions Standards for Hazardous Air Pollutants at 40 CFR part 63, prior to the issuance of the TMNSR permit, the Riverbend Compressor was considered a major source of HAPs. The TMNSR permit created enforceable limits on HAPs so that after the issuance of the TMNSR permit, the Riverbend is considered an area source of HAPs.

Emission Units

Unit ID	Description	Control Equipment	Observations
RB #1	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04225 Site Installed: 7/20/2013, Mfg*: 10/2004	Oxidation Catalyst	<i>The inspectors confirmed the serial number to be: 4EK04225.</i>
RB #3	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04234 Site Installed: 7/26/2013, Mfg*: 9/2004	Oxidation Catalyst	<i>The inspectors confirmed the serial number to be: 4EK04234.</i>
RB #4	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04235 Site Installed: 6/23/2013, Mfg*: 10/2004	Oxidation Catalyst	<i>The inspectors confirmed the serial number to be: 4EK04235.</i>
RB #5	Caterpillar 3516 TALE; 1,340 hp* 4-Stroke Lean-Burn Reciprocating Internal Combustion Engine, Natural Gas-Fired Serial No. 4EK04227 Site Installed: 9/15/15, Mfg*: 9/30/2004	Oxidation Catalyst	<i>The inspectors confirmed the serial number to be: 4EK04227</i>
Dehy #3	24 MMscfd Triethylene Glycol Dehydration Unit Serial No. EL2D78607-01 Installed: 1/1/2006	Thermal Oxidizer	<i>The inspectors observed this dehydration unit located on site and operational.</i>
Dehy #4	25 MMscfd Triethylene Glycol Dehydration Unit Serial No. EL9G35501-02 Installed: 12/12/2007	Thermal Oxidizer	<i>The inspectors observed this dehydration unit located on site and was not operational at the time of the inspection.</i>
T-1 T-2 T-3	400 bbl* Condensate Storage Tanks 6,000 bbl/year total throughput Installed: 2/1/2007 Installed: 11/1/2011 Installed: 11/1/2011	Thermal Oxidizer	

Unit ID	Description	Control Equipment	Observations
T-4 T-5 T-6 T-7 T-8 T-9	Methanol (MeOH) Storage Tanks 300 bbl capacity; Installed: 11/1/2011 300 bbl capacity; Installed: 11/1/2011 210 bbl capacity; Installed: 11/1/2004 210 bbl capacity; Installed: Unknown 210 bbl capacity; Installed: Unknown Other 100 bbl dehy condenser	None (IEU)	
F-1	Fugitive Emissions	None	
P-1	Pneumatic Devices	None	
-	Pigging Operations	None (IEU)	
-	Condensate Truck Loading	None (IEU)	
H-1	0.5 MMBtu/hr Tank Heater		
H-2	0.5 MMBtu/hr Tank Heater		
H-3	0.5 MMBtu/hr Tank Heater		
H-4	0.25 MMBtu/hr Line Heater		
H-5	0.25 MMBtu/hr Line Heater		
H-6	0.25 MMBtu/hr Line Heater		

* Mfg = Manufactured; hp = horsepower; bbl = barrel; MMscfd = million standard cubic feet per day; IEU = Insignificant Emissions Unit; MMBtu = Million British thermal units per hour.

V. General Inspection Observations and Commentary:

This inspection was conducted on-site with a series of follow-up information, data and records requests.

The inspectors and tribal representatives arrived at Monarch's field offices at 8:10 am. The inspectors proceeded to make introductions and showed their credentials to both tribal and facility personnel. A brief meeting was conducted in the field offices where the inspectors stated that they were there to conduct a full compliance determination.

The inspectors asked if the Consent Decree has been terminated and facility personnel stated that it has been terminated on 10/22/2020.

The inspectors then asked for facility operating specifics which can be seen in Table 1 below:

Table 1: Operating Specifics

Compressor Station Throughput Actuals (MMscf/day)	10
Compressor Station Capacity (MMscf/day)	35-40
Inlet Pressure (psi)	75
Inlet Gas From	Surrounding well pads
Outlet Gas to	Dominion pipeline
Outlet Pressure (psi)	700

The inspectors asked if any equipment has been added or removed from the site since the previous inspection in 2021, to which the facility personnel stated "no".

The inspectors asked what equipment was controlled by the thermal oxidizer and the facility personnel stated that the condensate storage tanks and dehydrator reboiler emissions are routed to the thermal oxidizer.

The opening meeting concluded at 8:55 and all personnel; proceeded to drive to the facility location.

All personnel arrived at the site at 9:55 am. A safety briefing was conducted, and the facility walkthrough began at 10:02 am.

The following significant equipment was identified during the inspection:

- 4 compressor engines located on-site with two operating and two shut-in (See table 2 below for engine specific details)
- 2 dehydration units on-site with one operating and one shut-in
- Condensate tanks (3x)

- Methanol tanks (7x)
- J-T Skid (has not operated in 2 years)
- TCI 3000 enclosed combustor

Insignificant facility equipment identified during walkthrough includes:

- Inlet pig catchers
- Inlet slug catcher (1x)
- Inlet scrubber (1x)
- Inlet methanol tank (500 gal)
- Heat trace (1x)
- Engine coolant tank (500 gal)
- TEG tank (500 gal)
- Fuel gas system purging gas post compression and dehydration (1x)
- Outlet scrubber (1x)

Table 2: Engine Details

Engine ID	Make	Model	Serial #	Mfg Date	Max HP	Fuel	Stroke Burn	Engine Status
RB #1	Caterpillar	3516 LE	4EK04225	10/2004	1340	NG	4SLB	Running
RB #3	Caterpillar	3516 LE	4EK04234	9/2004	1340	NG	4SLB	Running
RB #4	Caterpillar	3516 LE	4EK04235	10/2004	1340	NG	4SLB	Shut-in
RB #5	Caterpillar	3516 LE	4EK04227	9/2004	1340	NG	4SLB	Shut-in

Following the facility walkthrough, the close out meeting began at 11:15 am. During the close out meeting the inspectors stated that a follow-up information request would be sent to the source and that the goal is to finalize the inspection report within 60 days.

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Review of Compliance from February 28, 2021 to March 22 2023

SMNSR Permit Section I:

C. Facility-Wide Emissions Limitations

1. Construction and Operational Limits

- (a) Facility-wide total HAP emissions shall not exceed 23.97 tons per year (tpy) in any consecutive 12-month period.
- (b) At no time may natural gas emissions to be vented directly to the atmosphere.

2. Emission Calculation Requirements

- (a) The Permittee shall calculate and record the facility-wide total HAP, in tons, at the end of each month, beginning with the first calendar month that permitted operations commence.
- (b) Emissions from all controlled and uncontrolled HAP emission sources for this facility shall be included in the calculations, including, but not limited to: compressor engines, heaters, TEG dehydrators and reboilers, and liquid storage tanks.

- (c) The emissions of HAP for Riverbend shall be calculated as follows:

(i) Compressor Engines:

- (A) For each engine equipped with oxidation catalysts, HAP emissions shall be calculated by using the following equation:

$$\text{HAP EF} \times (\text{hours}/2000 \text{ lbs}) = \text{HAP}_{\text{monthly}}$$

Where:

$$\text{HAP EF} = 0.63 \text{ lb/hr}$$

hours = hours the engine operated per month

$$\text{HAP}_{\text{monthly}} = \text{HAP emissions in tons}$$

- (B) For any full calendar months prior to the initial performance test, the manufacturer-specific controlled HAP emissions factor supplied in the synthetic MNSR application shall be used in the equation. Emissions for the first full calendar month following the initial performance test and thereafter shall be calculated by using the total HAP emissions rate observed in the initial performance test, or the most recent performance test, if more current than the initial performance test.
- (C) Monthly emissions calculations shall account for any engine break-in period where the engine was operated without the catalytic control system installed. Emissions during break-in periods shall be calculated by multiplying the manufacturer-specified HAP emission factor for an uncontrolled engine by the hours the engine operated without the catalytic control system installed for that month.

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Review of Compliance from February 28, 2021 to March 22 2023

- (ii) Enclosed combustion device: Monthly enclosed combustion device emissions from the TEG dehydration units shall be calculated by summing the HAP emissions resulting from running the GRI-GLYCalc™ model, as specified in Section I.E.3 of this permit.
 - (iii) Monthly enclosed combustion device emissions from each NGL and condensate storage tank shall be calculated by summing the HAP emissions resulting from running the EPA approved software, such as TANKS 4.0.9d. or greater as utilized in the permit application, and AP-42 emission factors.
 - (iv) For remaining emission units at the facility, except insignificant emissions units (IEU's), emissions for the month for each unit shall be calculated by multiplying the HAP emission factor for that unit, as shown in the synthetic MNSR permit application submitted to the EPA, in lbs/hr, by the number of operating hours for that unit for that month. If data on operating hours are not available for that unit for that month, full-time operation of that unit shall be assumed.
 - (v) Emissions for IEU's for each month shall be recorded as one-twelfth of the annual emission amount listed for IEU's in the synthetic MNSR application submitted to the EPA, unless the IEU's have changed, in which case the Permittee shall provide the basis for the new IEU emission calculations with the next required report.
- (d) Prior to 12 full months of emissions calculations for facility-wide total HAP emissions, the Permittee shall, within 7 calendar days of the end of each month, add the ton(s) for that month to the recorded facility-wide totals for all previous months since permitted operations commenced and record the total for each. Thereafter, the Permittee shall, within 7 calendar days of the end of each month, add the facility-wide emissions of total HAP emissions in tons for that month to the calculated totals from the preceding 11 months and record a new 12-month total.

3. Recordkeeping Requirements

The Permittee shall maintain the following record:

- (a) The actual monthly and rolling 12-month facility-wide emission totals for total HAP in tons.

Observations: *Monarch provided a spreadsheet showing the monthly and rolling monthly HAP emissions from the operating equipment from February 2021 through March 2023. Monarch did not appropriately calculate "12-month rolling total". Monarch only calculated 12-month totals and reset the total at the beginning of each calendar year.*

D. Requirements for the JT Skids

1. Construction and Operations Limits

- (a) The Permittee may construct, install and operate no more than two JT Skids that meet the following specifications:
 - (i) One JT Skid limited to a maximum throughput of 10 MMscfd+; and
 - (ii) One JT Skid limited to a maximum throughput of 3 MMscfd.

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- (b) The construction, installation and operations of the two JT Skids also includes the installation of support equipment which includes three 500 bbl methanol tanks and up to eight pneumatic controllers associated with the operations of the JT Skids.
- (c) Two 18,000 gal pressurized bullet tanks for processed NGL storage have requirements as specified in Section I.E of this permit.
- (d) Only the JT Skids (which includes all support equipment as described in Section D.1(a)-(c) above, herein referred to as the JT Skids) that are operated and controlled as specified in this permit may be installed and operated.

Observations: During the facility walkthrough Glen Hicks, Monarch, indicated that the JT skids have not ran in two years.

2. Monitoring Requirements

- (a) The Permittee shall monitor the collection of all fugitive emission components² of the JT Skids according to the following requirements:
 - (i) Develop a fugitive emissions monitoring plan;
 - (ii) A fugitive emission is defined as any visible emissions from a fugitive emissions component (including but not limited to) observed using optical gas imaging³ or an instrument reading of 500 parts per million (ppm) or greater using Method 21 of 40 CFR part 60, appendix A;
 - (iii) A monitoring survey of each fugitive emissions components shall be conducted semi-annually with at least 4 months separating each monitoring survey; and
 - (iv) The initial monitoring survey must be conducted within 60 days of the first day of operation of the JT Skids.

Observations: Monarch submitted a copy of the fugitive emissions monitoring plan. Based on this plan, it appears that Monarch is assumes that RIGID Micro CD-100 Combustible Gas Detector meets Method 21 monitoring requirements. However, the detector only has a 40 ppm methane sensitivity which does not meet the method 21 analyzer requirement (6.3) to have a sensitivity of 2.5% of the 500 ppm specified leak definition. To meet this requirement the detector would need a 12.5 ppm sensitivity.

- (b) The Permittee shall repair all sources of fugitive emissions of the JT Skids according to the following requirements:

² Fugitive emissions component means any component that has the potential to emit fugitive emissions of methane or VOC from the JT Skids, including but not limited to valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems, thief hatches or other openings on a controlled storage vessel, compressors, instruments and meters. Devices that vent as part of normal operations, such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the vent, such as the thief hatch on a controlled storage vessel, would be considered fugitive emissions.

³ Optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of ≤60 grams/hr from a quarter inch diameter orifice.

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- (i) Each identified source of fugitive emissions shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after detection of the fugitive emissions; and
- (ii) Each repaired or replaced fugitive emissions component must be resurveyed as soon as practicable, but no later than 30 days after being repaired, to ensure that there are no fugitive emissions.

Observations: Monarch provided spreadsheets showing that LDAR inspections were conducted on 6/17/2021, 12/14/2021, 2/8/2022, 8/30/2022, 3/15/2023. Leaks, and repairs of the leaks, were identified in the spreadsheets. As indicated above, the RIGID Micro CD-100 Combustible Gas Detector does not appear to meet Section 6.3 of Method 21. Additionally, the spreadsheet does not identify the leak level and repair level in ppm. For the JT Skid, the permit term indicates that the Permittee demonstrate that there are no fugitive emissions by showing readings less than 500 ppm when using Method 21.

3. Recordkeeping Requirements

- (a) Records shall be maintained of each required surveys of the collection of fugitive emissions components that include the following information:
 - (i) Date of the survey;
 - (ii) Beginning and end time of the survey;
 - (iii) Name of operator(s) performing survey. If the survey is performed by optical gas imaging, you must note the training and experience of the operator;
 - (iv) Ambient temperature, sky conditions and maximum wind speed at the time of the survey;
 - (v) Monitoring instrument used;
 - (vi) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan;
 - (vii) Number and type of components for which fugitive emissions were detected;
 - (viii) Number and type of fugitive emissions components that were not repaired;
 - (ix) Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored;
 - (x) The date of successful repair of the fugitive emissions component;
 - (xi) Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair; and
 - (xii) Type of instrument used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.

Observations: Based on the survey records provided, it appears that the recordkeeping requirements for the surveys are being met.

E. Requirements for the TEG Dehydrators and NGL and Condensate Storage Tanks

1. Construction and Operational Limits

- (a) The Permittee may install and operate no more than two TEG dehydration units meeting the following specifications:

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- (i) One TEG dehydration unit limited to a maximum natural gas processing capacity of 24.0 MMscfd, equipped with a natural gas-fired TEG reboiler limited to a maximum heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr); and
- (ii) One TEG dehydration unit limited to a maximum natural gas processing capacity of 25.0 MMscfd, equipped with a natural gas-fired TEG reboiler limited to a maximum heat input capacity of 0.50 MMBtu/hr.

Observations: *During the on-site facility walkthrough the inspectors identified the two TEG dehydration units match the requirements above.*

- (b) The Permittee shall install, maintain and operate four 400 bbl, fixed roof condensate storage tanks (hereinafter referred to as condensate storage tanks) designed and operated as specified in this permit;
 - (c) The Permittee shall construct, install, maintain and operate two 18,000 gal pressurized natural gas liquid bullet tanks (herein referred to as NGL storage tanks) designed and operated as specified in this permit;
 - (d) The Permittee shall, at a minimum, route all produced natural gas emissions from the TEG dehydration units and NGL and condensate storage tanks through a closed-vent system to a 57" diameter, 242" stack length enclosed combustion device with a maximum designed flow rate of 618 thousand scf per day (Mscf/d) designed and operated as specified in this permit; and
 - (e) Only the TEG dehydration units and tanks that are operated and controlled as specified in this permit may be installed and operated.
2. Emissions Limits: Actual combined benzene emissions from the process vents of both TEG dehydration units to the atmosphere for the dehydrator approved for installation and operation in this permit shall be maintained at less than 3.66 tons, in any consecutive 12-month period. The emissions limits shall apply at all times.

Observations: *Monarch provided a spreadsheet showing the monthly and rolling monthly Benzene emissions from February 2021 through March 2023 for the operating equipment. From February 2021 through March 2023, the peak 12 month rolling total Benzene emission was 0.90 tons. Monarch did not appropriately calculate "12-month rolling total". Monarch calculated 12-month totals and reset the total at the beginning of each calendar year.*

3. Emissions Calculation Requirements: The Permittee shall meet the following requirements for the TEG dehydration units:
- (a) Actual benzene emissions shall be calculated and recorded within 7 calendar days of the end of each month, beginning with the first calendar month that this permit is effective. Actual benzene emissions shall be calculated, and recorded, in megagrams (Mg) and tons, at the end of each month.
 - (b) Prior to 12 full months of benzene emission data from the dehydrator, the Permittee shall, within 7 calendar days of the end of each month, add the total benzene emissions in Mg

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and tons for that month to the recorded emissions beginning with the first calendar month that this permit is effective and record the total for each. Thereafter, the Permittee shall, within 7 calendar days of the end of each month, add the benzene emissions for that month to the calculated benzene emissions from the preceding 11 months and record a new 12-month total for each.

- (c) Actual benzene emissions shall be calculated using the GRI-GLYCalc™ model, Version 4.0 or higher, and the following input parameters:
- (i) The inlet wet gas stream properties provided in the most recent annual extended wet gas analysis required in Section I.E.7. of this permit;
 - (ii) The temperature and pressure of the inlet wet gas provided in the most recent annual extended wet gas analysis;
 - (iii) The average natural gas throughput from the sum of the sales and fuel meter located at the facility for the current monthly period in MMscfd, recorded per Section I.E.7(b) of this permit;
 - (iv) The hours of operation for each TEG dehydration unit for the month, recorded per Section I.E.7(c) of this permit;
 - (v) The monthly TEG recirculation pump rate in gallons per minute (gpm) for each TEG dehydration unit, as determined according to Section I.E.8(a) of this permit; and
 - (vi) The water content of the dry gas, in pounds water per MMscf, shall be based on sales contract specifications.

Observations: *Monarch provided the monthly GRI-GLYCalc runs for Dehy #4; Dehy #3 from February 2021 through March 2023 for the months each dehy was in operation.*

4. Control and Operational Requirements: The Permittee shall meet the following requirements for each dehydrator:
- (a) The facility shall be equipped with non-resettable natural gas flow meters installed to measure the gas flow from the dehydrators to both the sales line and fuel line;
 - (b) The combined hours of operation for both dehydration units at the facility shall not exceed 8,760 in any consecutive 12-month period. Each dehydration unit hours of operation shall be logged daily;
 - (c) The Permittee shall install, calibrate, operate and maintain a temperature-sensing device(s) on each dehydrator reboiler capable of maintaining an operating temperature of the reboiler as specified by the manufacturer, such as a thermostat; and
 - (d) The Permittee shall follow the manufacturer's recommended maintenance schedule and procedures to ensure optimum performance for the dehydrators.

Observations: *Spreadsheets provided by Monarch contains, from February 2021 through March 2023, (1) monthly MCF of Fuel Gas and Riverbend Compressor Meter and (2) hours of operation of Dehy #3 and Dehy #4.*

5. Closed-Vent System: The Permittee shall design, install, continuously operate and maintain a

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closed-vent system for the TEG dehydration units and NGL and condensate storage tanks such that it complies with the following requirements:

- (a) The closed-vent system shall route all gases, vapors and fumes emitted from the TEG dehydrator reboilers, and NGL and condensate storage tanks to the enclosed combustion device;
- (b) All vent lines, connections, fittings, valves, relief valves or any other appurtenance employed to contain and collect gases, vapors and fumes and transport them to the enclosed combustion device shall be maintained and operated during any time the device is operating;
- (c) The closed vent system shall be designed to operate with no detectable emissions;
- (d) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors or fumes from entering the enclosed combustion device, the Permittee shall meet one of the following requirements for each bypass device:
 - (i) At the inlet to the bypass device that could divert the stream away from the enclosed combustion device and into the atmosphere, properly install, calibrate, maintain and operate a flow indicator that is capable of taking 15-minute readings and sounding an alarm of the times and durations of all periods when the bypass device is open such that the stream is being, or could be, diverted away from the enclosed combustion device and into the atmosphere; or
 - (ii) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car seal or a lock and key type configuration; and
- (e) The Permittee shall minimize leaks of hydrocarbon emissions from all vent lines, connections, fittings, valves, relief valves or any other appurtenance employed to contain, collect and transport gases, vapors and fumes to the enclosed combustion device.

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6. Enclosed combustion device

- (a) The Permittee shall design, install, continuously operate and maintain an enclosed combustion device such that the uncontrolled VOC and HAP emissions from the TEG dehydration units, and NGL and condensate storage tanks are reduced by at least 95.0% by weight.

Observations: A TCI 3000 enclosed combustor was observed to operating at the facility during the on-site facility walkthrough.

- (b) The Permittee shall ensure that the enclosed combustion device is designed and operated in accordance with the requirements of 40 CFR 60.18(c)⁴ through (e).
- (c) The Permittee shall ensure that the enclosed combustion device is:
- (i) Operated properly per the manufacturer, vendor or Permittee's written instructions at all times that produced natural gas emissions are routed to it;
 - (ii) Maintained in a leak-free condition and operated with no visible smoke emissions;
 - (iii) Operated with a liquid knock-out system to collect any condensable vapors to prevent liquids from going through the enclosed combustion device;
 - (iv) Equipped with a flash-back flame arrestor;
 - (v) Equipped with one of the following:
 - (A) A continuous burning pilot flame, a thermocouple and a malfunction alarm and notification system if the pilot flame fails; or
 - (B) An electronically controlled automatic ignition system with a thermocouple that reignites the pilot flame whenever it goes out; and
 - (vi) Equipped with a monitoring system for continuous measuring and recording of the parameters that indicate proper operation of the enclosed combustion device and the continuous burning pilot flame or automatically controlled automatic ignition system (such as a chart recorder, data logger or similar device). Where sufficient to meet the monitoring requirements in this permit, the Permittee may use a supervisory control and data acquisition (SCADA) system to monitor and record the required data.

7. Testing and Monitoring Requirements

- (a) The Permittee shall obtain an extended wet gas analysis of the inlet wet gas stream to each TEG dehydration unit at least once per calendar year, with no more than 14 months separating each sampling event. The initial analysis shall be obtained within 180 days of

⁴40 CFR 60.18(c)(1) relates to a monitoring method by which a flare shall be designed for and operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. This permit specifies a more stringent requirement for a period not to exceed a total of 1 minute during any 15 consecutive minutes. Therefore, 40 CFR 60.18(c)(1) applies but the Permittee is able to demonstrate compliance with the requirement by demonstrating compliance with the shorter monitoring period specified in section I.C.7(g)(i) of this permit.

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the effective date of this permit. The analysis shall include the inlet gas temperature and pressure at which the sample was taken.

- (b) The Permittee shall read and record the total flow of natural gas at the sales and fuel meters once every month⁵. The Permittee shall calculate and record the average total throughput for the facility for each month in MMscfd for both the sales and fuel meter to use for input in the monthly actual benzene emissions calculations specified in Section I.E.3(c). The throughput shall be calculated by summing the sales and fuel meters and then subtracting the previous monthly reading in MMscf from the current monthly reading in MMscf and dividing the throughput by the number of days since the last reading.
- (c) The Permittee shall read and record the operating hours of each dehydration unit at the end of each month. Prior to 12 full months of operation under this permit, the Permittee shall add the hours for each month to the total hours for all previous months and record the total. Thereafter, at the end of each month, the Permittee shall add the hours for that month to the total hours for the previous 11 months and record a new total.
- (d) The Permittee shall demonstrate that the enclosed combustion device achieves the 95.0 % VOC emission destruction efficiency requirement by performing an initial performance test of the device within 180 days of commencing operation of a new, repaired or replaced unit. Subsequent performance tests of the enclosed combustion device shall be conducted every 60 months thereafter. The results of initial performance tests conducted before the effective date of this permit may be used to demonstrate compliance with the initial performance test requirements, provided the tests were conducted in an equivalent manner as the performance test requirements in this permit. The Permittee shall demonstrate that the enclosed combustion device achieves the 95.0 % VOC emissions destruction efficiency requirement using the following performance test methods and procedures:
 - (i) Method 1 or IA, of 40 CFR part 60, appendix A as appropriate for the selection of the sampling sites;
 - (ii) Method 2, 2A, 2C or 20, of 40 CFR part 60, appendix A to determine gas volumetric flow rate; and
 - (iii) Method 18 at 40 CFR part 60, appendix A, Method 25A at 40 CFR part 60, appendix A, ASTM 06420-99 (2004), or any other method or data that have been validated according to the applicable procedures in Method 301 at 40 CFR part 63, appendix A, to determine compliance with the 95.0 % VOC emissions destruction efficiency requirement.

Observation: *Monarch provided the extended wet gas analyses of the inlet wet gas stream to each TEG dehydration unit from February 2021 through March 2023 and they met the requirement to complete one at least every 12-months. Monarch provided the stack report for the April 21, 2020 test conducted on the thermal oxidizer. The test report shows that the TO*

⁵ The purpose of the measurement requirement of the flow of natural gas at the sales and fuel meters is to calculate an average natural gas throughput for input into GRI-GlyCalc™ as specified in Section I.E.3(c) of the permit to ensure that actual emissions from the TEG dehydration units do not exceed the 3.66 tpy benzene limit specified in Section I.E.2 of the permit.

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achieved an average 99.81% control efficiency. The test report indicates that Methods 1A and 2 were used for sampling site and volumetric flow and Methods 18 and 25A for VOC emissions destruction efficiency.

- (e) The Permittee shall perform monthly audio, visual and olfactory (AVO) inspections of the storage tank thief hatches, covers, seals, pressure relief valves and the closed vent system, to ensure proper condition and functioning. If any of the components are not in good working condition, they must be repaired within 30 days of identification of the deficient condition.
- (f) The Permittee shall perform, at a minimum, monthly visual inspections of the enclosed combustion device as follows:
 - (i) Verify the pilot light on the enclosed combustion device is lit and if the enclosed combustion device is being bypassed at the time of inspection;
 - (ii) Inspect the thermocouple, and the malfunction alarm and notification system if the pilot flame fails or the electronically controlled automatic ignition device, as applicable, to ensure proper operation;
 - (iii) Inspect the parameter monitoring system and recorded measurements to ensure proper operation of the enclosed combustion device and monitoring system; and
 - (iv) Respond to any malfunction alarm or other indication of improper enclosed combustion device or monitoring system operation by following the manufacturer's, vendor's or Permittee's instructions to identify the cause of the deficiency and make any necessary repairs within 30 days of identifying the deficient condition to return the enclosed combustion device and monitoring system to compliant operation. All repairs and maintenance activities shall be recorded in a maintenance and repair log and shall be made available for inspection.
- (g) The Permittee shall perform, at a minimum, monthly visual inspections of the enclosed combustion device to ensure it operates with no visible smoke emissions. If any visible smoke emissions are detected, the Permittee shall take the following actions:
 - (i) The Permittee shall demonstrate that the enclosed combustion device operates with no visible emissions, except for periods not to exceed a total of 1 minute during any 15 consecutive minutes, using the procedures specified in EPA Method 22 at 40 CFR part 60, appendix A. The observation period shall be 15 minutes;
 - (ii) If the enclosed combustion device fails the visual emissions test, the Permittee shall follow the manufacturer's, vendor's or Permittee's repair instructions to return the enclosed combustion device to compliant operation. All repairs and maintenance activities shall be recorded in a maintenance and repair log and shall be made available for inspection;
 - (iii) Upon return to operation from any repair and maintenance activity, the enclosed combustion device shall pass a Method 22 test; and
 - (iv) If the enclosed combustion device fails a follow-up Method 22 test, the Permittee shall repeat the procedures in paragraphs (i) through (iii) of this section, until the enclosed combustion device passes a follow-up test.

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***Observation:** Monarch, submitted documentation of monthly inspections from February 2021 through March 2023 as required by sections I.E.7(e), (f) and (g).*

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8. Recordkeeping Requirements

- (a) The Permittee shall read and record the glycol pump recirculation rate of each operating TEG recirculation pump connected to the dehydrator at least once every calendar month, beginning with the first calendar month that this permit is effective, with no more than 31 days separating each reading.
- (b) The Permittee shall also keep records of the following:
 - (i) The monthly and consecutive 12-month benzene emissions calculations, the GRI-GLYCalc™ model input parameters (Input Summary Report) and the GRI-GLYCalc™ model output reports (Emissions Summary Report) for the dehydrator;
 - (ii) The manufacturer's or vendor's written, site-specific engineering specifications, operating instructions, operating procedures and maintenance schedules for the dehydrator;
 - (iii) Any instances when the vent stream is diverted or bypassed from the enclosed combustion device;
 - (iv) Reports of all required extended wet gas analyses of the inlet wet gas stream to the dehydrator;
 - (v) Any instances of an exceedance of the maximum operating temperature of the reboiler as specified in this permit, including:
 - (A) The date, time and temperature of the exceedance when the system subsequently began operating above the maximum reboiler operating temperature specified by the manufacturer;
 - (B) The date, time and temperature recorded at the time when the system subsequently began compliant operation; and
 - (C) Any corrective actions taken and preventative measures adopted to bring the operating temperature back into compliance.
 - (vi) The monthly TEG recirculation pump rates.
- (c) The Permittee shall document and maintain records of all inspections for the closed-vent system, as well as all enclosed combustion device inspections and testing. All records shall include, at a minimum, the following information:
 - (i) The date of the inspection or test;
 - (ii) Records of all instances in which the pilot flame is not present or the enclosed combustion device is not operating within the optimal parameters specified by the manufacturer, vendor or Permittee;
 - (iii) All documentation and/or images produced in the inspection or test;
 - (iv) The findings of the inspection or test, including observations, preventative maintenance, malfunctions and shutdowns;
 - (v) Any corrective action taken; and
 - (vi) The responsible person's name and signature.

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F. Requirements for 4SLB Compressor Engines

1. Construction and Operational Requirements

- (a) The Permittee shall install, maintain and operate four spark ignition reciprocating internal combustion engines used for field gas compression, all meeting the following specifications:
- (i) Operated as a 4-stroke lean-burn engine;
 - (ii) Fired with natural gas from the field;
 - (iii) Equipped with a non-resettable hours of operation meter; and
 - (iv) Limited to a maximum site rating of 1,340 horsepower (hp).
- (b) Only the engines that are operated and controlled as specified in this permit are approved for installation under this permit.

***Observations:** During the on-site facility walkthrough the inspectors confirmed the presence of four compressor engines meeting the requirements above.*

2. Emissions Limits

The Permittee shall meet the following emissions limits for each engine:

- (a) CO emissions shall not exceed 1.50 grams per hp-hour (g/hp-hr) and 19.40 tons in any 12 consecutive calendar months.
- (b) NO_x emissions shall not exceed 1.50 g/hp-hr and 19.40 tons in any 12 consecutive calendar months.
- (c) CH₂O emissions shall not exceed 8.30 tons in any 12 consecutive calendar months.
- (d) Equipped with non-resettable hours meters.
- (e) Emissions limits shall apply at all times.

***Observations:** A stack test report for tests conducted in April 2021 and 2022 was provided. The results of the tests were as follows:*

	<i>Test date</i>	<i>CO</i>	<i>NO_x</i>	<i>CH₂O* CO Reduction efficiency</i>
<i>RB#1</i>	<i>4/6/21</i>	<i>0.010 g/HP-hr 0.129 tons</i>	<i>1.1 g/HP-hr 14.2 tons</i>	<i>100.0</i>
<i>RB#1</i>	<i>4/26/22</i>	<i>0.0026 g/HP-hr 0.03 tons</i>	<i>0.93 g/HP-hr 12.0 tons</i>	<i>99.82</i>
<i>RB#3</i>	<i>4/6/21</i>	<i>0.005 g/HP-hr 0.058 tons</i>	<i>1.1 g/HP-hr 14.2 tons</i>	<i>99.7</i>
<i>RB#3</i>	<i>4/26/22</i>	<i>0.034 g/HP-hr</i>	<i>0.66 g/HP-hr</i>	<i>97.77</i>

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		<i>0.44 tons</i>	<i>8.5 tons</i>	
<i>RB#4</i>	<i>4/7/21</i>	<i>0.017 g/HP-hr</i> <i>0.22 tons</i>	<i>1.0 g/HP-hr</i> <i>12.9 tons</i>	<i>98.7</i>
<i>RB#4</i>	<i>4/27/22</i>	<i>0.004 g/HP-hr</i> <i>0.05 tons</i>	<i>0.56 g/HP-hr</i> <i>7.2 tons</i>	<i>99.57</i>
<i>RB#5</i>	<i>4/7/21</i>	<i>0.0052 g/HP-hr</i> <i>0.07 tons</i>	<i>0.99 g/HP-hr</i> <i>12.8 tons</i>	<i>99.6</i>
<i>RB#5</i>	<i>4/27/22</i>	<i>0.027 g/HP-hr</i> <i>0.35 tons</i>	<i>0.41 g/HP-hr</i> <i>5.3 tons</i>	<i>96.99</i>

**CH₂O was not determined but CO reduction efficiency was provided.
The emission calculation sheets in the test report provide the engine hour meter reading.*

3. Control, Operation and Maintenance Requirements

- (a) The Permittee shall install, continuously operate and maintain a catalytic control system on each engine that reduces the uncontrolled emissions of CO by at least 93.0% by weight when the engine is operating within 10% of 100% peak (or the highest achievable) load.
- (b) The Permittee shall follow, for each engine and its respective catalytic control system, the manufacturer's recommended maintenance schedule and procedures or equivalent procedures developed by the Permittee or vendor, to ensure optimum performance of each engine and its respective catalytic control system to ensure compliance with the required NO_x and CO emissions limits and control efficiencies in this permit.
- (c) The Permittee shall install, continuously operate and maintain electronically controlled temperature-sensing devices on each engine that continuously measure and record the exhaust temperatures at the inlet and exhaust of each catalyst bed, such as thermocouple or resistance temperature detectors and data loggers. Each temperature-sensing device shall be calibrated and operated according to manufacturer specifications or equivalent specifications developed by the Permittee or vendor. Each temperature-sensing device shall collect and record data at least once every 15 minutes. For measuring temperature range, the temperature sensor shall have a minimum tolerance of 2.8 °C (5 °F) or 1% of the measurement range, whichever is larger.
- (d) Except during startups, which shall not exceed 30 minutes, the exhaust temperature of each engine at the inlet to the catalyst bed shall be maintained, at all times the engines operate, between 450°F and 1,350°F. The Permittee may request a different temperature range in writing, but the permittee shall not operate under that range until receiving written approval from the EPA.
- (e) The Permittee shall install, operate and maintain pressure sensing devices before and after the catalyst bed to obtain direct readings of the pressure drop across the catalyst bed (also referred to as the differential pressure). Each pressure-sensing device shall collect and record data at least once every 15 minutes. *[Explanatory Note to Permittee: Differential pressure measurements, in general, are used to show the pressure across the filter elements. This information will determine when the elements in the catalyst bed are fouling, blocked or blown out and thus require cleaning or replacement.]*

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- (f) During operation the pressure drop across the catalyst bed on each engine shall be maintained to within ± 2 inches of water from the baseline pressure drop reading taken during the most recent performance test. The baseline pressure drop for the catalyst bed shall be determined within 10% of 100% peak (or the highest achievable) load measured during the most recent performance test.
- (g) The Permittee shall only fire each engine with natural gas. The natural gas shall be pipeline-quality in all respects except that the carbon dioxide (CO₂) concentration in the gas is not required to be within pipeline-quality.
- (h) The Permittee may rebuild an existing permitted engine or replace an existing permitted engine with an engine of the same hp rating and configured to operate in the same manner as the engine being rebuilt or replaced. Any operational requirements, control technologies, testing or other provisions that apply to the engines that are rebuilt or replaced shall also apply to the replacement engines.

4. Monitoring Requirements

- (a) Except during startups, which shall not exceed 30 minutes, if the engine exhaust temperature at the inlet to the catalyst bed on any engine deviates from the acceptable range specified in this permit, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
 - (i) Within 24 hours of determining a deviation of the engine exhaust temperature at the inlet to the catalyst bed, the Permittee shall investigate. The investigation shall include testing the temperature sensing device, inspecting the engine for performance problems and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and fouled, destroyed or poisoned catalyst).
 - (ii) If the engine exhaust temperature at the inlet to the catalyst bed can be corrected by following the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the engine exhaust temperature at the inlet to the catalyst bed within 24 hours of inspecting the engine and catalytic control system.
 - (iii) If the engine exhaust temperature at the inlet to the catalyst bed cannot be corrected using the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system has been damaged, then the affected engine shall cease operating immediately and shall not be returned to routine service until the following has been met:
 - (A) The engine exhaust temperature at the inlet to the catalyst bed is measured and found to be within the acceptable temperature range for that engine; and
 - (B) The catalytic control system has been repaired or replaced, if necessary.
- (b) If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop

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established during the most recent performance test, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.

- (i) Within 24 hours of determining a deviation of the pressure drop across the catalyst bed, the Permittee shall investigate. The investigation shall include testing the pressure transducers and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and plugged, fouled, destroyed or poisoned catalyst).
- (ii) If the pressure drop across the catalyst bed can be corrected by following the catalytic control system manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.
- (iii) If the pressure drop across the catalyst bed cannot be corrected using the catalytic control system manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system is damaged, then the Permittee shall do one of the following:
 - (A) Conduct a performance test within 90 calendar days, as specified in this permit to ensure that the emission limits are being met, and to re-establish the baseline pressure drop across the catalyst bed; or
 - (B) Cease operating the affected engine immediately. The engine shall not be returned to routine service until the pressure drop is measured and found to be within the acceptable pressure range for that engine, as determined from the most recent performance test. Corrective action may include removal and cleaning of the catalyst or replacement of the catalyst.
- (c) The Permittee is not required to conduct emissions parametric monitoring of exhaust temperature and catalyst differential pressure on engines that have not operated during the monitoring period. The Permittee shall certify that the engine did not operate during the monitoring period in the semi-annual report required in this permit.

Observations: *Based on the information provided by Monarch, it appears that the engines have been meeting the catalyst inlet temperature and pressure drop requirements.*

EPA reviewed the temperature data submitted and there are no readings above 1,350 °F. There are temperature readings below 450 °F on all engines. EPA assumes those readings are during times when the engine is starting up, shutting down, or not operating. EPA spot checked days when the inlet catalyst temperature data were below 450 °F against the concurrent pressure drop data and both indicated that the engine was not operational.

With respect to pressure drop, according to Monarch, the baseline pressure drop was established following catalyst replacement and stack testing in November 2020. Between February 2021 and March 2023 pressure drop reading have been within 2 inches of the established baseline.

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5. Performance Test Requirements

- (a) Performance tests shall be conducted on each engine and associated catalytic control system for measuring NO_x and CO to demonstrate compliance with the emission limits and control efficiency requirements specified in this permit. The initial performance tests shall be conducted within 180 days of the effective date of this permit and according to the provisions in 40 CFR 63.7(a)(2) and under the conditions that are specified in Table 4, point 1 and point 3, complying with the requirement to reduce CO emissions, of 40 CFR part 63, subpart ZZZZ – Requirements for Performance Tests. The Permittee shall conduct performance tests on each engine and associated catalytic control system for the NO_x emissions limit and control efficiency requirements specified in this permit according to Method 7E of 40 CFR part 60, appendix A.
- (b) Subsequent performance tests shall be conducted semi-annually on each engine. After compliance is demonstrated for two consecutive tests, the testing frequency may be reduced to annually. If an annual test indicates non-compliance, then the Permittee shall resume semi-annual testing.
- (c) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters at any time, including immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.
- (d) The Permittee shall not abort any engine tests that demonstrate non-compliance with the emission limits specified in this permit.
- (e) All performance tests conducted on the engines shall meet the following requirements:
 - (i) Each test shall be conducted within 10% of 100% peak load (or at the maximum achievable load representative of normal operations at the time of testing);
 - (ii) Performance tests shall not be conducted during periods of startup, shutdown or malfunction, as specified in 40 CFR 63.7(e)(1);
 - (iii) Each test required in this permit shall consist of at least three separate 1-hour or longer test runs, as specified in 40 CFR 63.7(e)(3);
 - (iv) The engine hp shall either be provided by the Permittee or determined using manufacturer specifications;
 - (v) During each test run, data shall be collected on all parameters necessary to document how emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.);
 - (vi) Results from all performance tests shall be reported in units of g-hp/hr;
 - (vii) The test methods and procedures shall be conducted as specified in 40 CFR 63.6620(a)-(e) and 40 CFR 63.6640(a)-(e). More specifically, the requirements of 40 CFR part 63, Table 4.1 and 4.3 and associated catalytic control system for the NO_x emissions limit and control efficiency requirements specified in this permit according to Method 7E of 40 CFR part 60, appendix A;

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- (viii) If the engine and control system fails to meet any emission limit specified in this permit, appropriate steps shall be taken to correct the deficiency and the engine and control system shall be retested within 30 days after the failed test;
- (ix) Performance test plans for alternate test methods shall be submitted to the EPA for approval at least 60 calendar days prior to the date the test is planned; and
- (x) Alternate test plans shall include and address the following elements:
 - (A) Purpose of the test;
 - (B) Engines and catalytic control systems to be tested;
 - (C) Expected engine operating rate(s) during the test;
 - (D) Sampling and analysis procedures (sampling locations and test methods);
 - (E) Quality assurance plan (calibration procedures and frequency and field documentation; and
 - (F) Data processing and reporting (description of data handling and quality control procedures, report content).
- (f) The Permittee shall notify the EPA at least 30 calendar days prior to scheduled performance testing. The Permittee shall notify the EPA at least 1 week prior to scheduled performance testing if the testing cannot be performed.
- (g) If a permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct the subsequent performance test. The subsequent performance test requirements apply when the engine is restarted and operates more than 720 consecutive hours (or 30 consecutive days) in a given annual period. If an engine for which the EPA has been notified of a scheduled test is permanently shut down prior to testing, the Permittee does not need to start up the engine solely to conduct the performance test.

Observations: *Monarch submitted the test report for the performance tests conducted in April 2021 and April 2022. The test report indicates that three 1-hour test runs were conducted on each engine to determine compliance with the CO and NOx limits. The test report indicates that the following test methods were used:*

<i>Parameter</i>	<i>U.S.E. Reference Test Methods</i>
<i>Volumetric Flow Rate</i>	<i>1 - 2</i>
<i>Oxygen/Carbon Dioxide</i>	<i>3A</i>
<i>Moisture Content</i>	<i>4</i>
<i>Nitrogen Dioxide</i>	<i>7E</i>
<i>Carbon Monoxide</i>	<i>10</i>

The performance test results were as follows:

	<i>Test date</i>	<i>CO</i>	<i>NOx</i>
<i>RB#1</i>	<i>4/6/21</i>	<i>0.010 g/HP-hr 0.129 tons</i>	<i>1.1 g/HP-hr 14.2 tons</i>
<i>RB#1</i>	<i>4/26/22</i>	<i>0.0026 g/HP-hr 0.03 tons</i>	<i>0.93 g/HP-hr 12.0 tons</i>
<i>RB#3</i>	<i>4/6/21</i>	<i>0.005 g/HP-hr 0.058 tons</i>	<i>1.1 g/HP-hr 14.2 tons</i>
<i>RB#3</i>	<i>4/26/22</i>	<i>0.034 g/HP-hr</i>	<i>0.66 g/HP-hr</i>

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		<i>0.44 tons</i>	<i>8.5 tons</i>
<i>RB#4</i>	<i>4/7/21</i>	<i>0.017 g/HP-hr</i> <i>0.22 tons</i>	<i>1.0 g/HP-hr</i> <i>12.9 tons</i>
<i>RB#4</i>	<i>4/27/22</i>	<i>0.004 g/HP-hr</i> <i>0.05 tons</i>	<i>0.56 g/HP-hr</i> <i>7.2 tons</i>
<i>RB#5</i>	<i>4/7/21</i>	<i>0.0052 g/HP-hr</i> <i>0.07 tons</i>	<i>0.99 g/HP-hr</i> <i>12.8 tons</i>
<i>RB#5</i>	<i>4/27/22</i>	<i>0.027 g/HP-hr</i> <i>0.35 tons</i>	<i>0.41 g/HP-hr</i> <i>5.3 tons</i>

6. Emissions Calculation Requirements

The Permittee shall meet the following requirements for each of the engines:

- (a) Actual NO_x, CO and CH₂O emissions shall be calculated and recorded in tons at the end of each calendar month. The first calculation period shall cover the period from the effective date of this permit through the end of that month.
- (b) Prior to 12 full calendar months, the Permittee shall add the emissions for each calendar month to the calculated emissions for all preceding months, beginning with the first calendar month this permit is effective, and record the total. Thereafter, at the end of each calendar month, the Permittee shall, add the emissions for each month to the calculated emissions for the preceding 11 months and record new 12-month totals.
- (c) Emissions shall be calculated as follows:
 - (i) Convert the concentration of NO_x and CO emissions from the most recent performance test results in g/hp-hr to pounds per hour (lb/hr) using the following equation: (NO_x or CO g/hp-hr) x (hp) ÷ (454 g/lb). Then, NO_x, CO and CH₂O emissions in lbs shall be calculated for each calendar month for each engine by multiplying the emission rate for each engine in lb/hr by the number of operating hours the engine operated each calendar month and then by converting that amount to tons.
 - (ii) Emissions calculations for each calendar month shall account for any engine break-in period where the engine was operated without the catalytic control system installed. Emissions during break-in periods shall be calculated by multiplying the manufacturer-specified emission factors in g-hp/hr for an uncontrolled engine by the hours the engine operated without the catalytic control system installed for that month.
 - (iii) For each engine equipped with oxidation catalysts, CH₂O emissions shall be calculated by using the following equation:

$$(\text{CH}_2\text{O EF} \times (\text{hours}/2000 \text{ lbs})) = \text{CH}_2\text{O}_{\text{monthly}}$$

Where:

CH₂O EF = 0.48 lb/hr

hours = hours the engine operated per month

CH₂O_{monthly} = CH₂O emissions in tons

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- (d) For any full calendar months prior to the initial performance test the manufacturer-specific controlled CH₂O emissions factor supplied in the synthetic MNSR application shall be used in the equation. Emissions for the first full calendar month following the initial performance test and thereafter shall be calculated by using the total CH₂O emissions rate observed in the initial performance test, or the most recent performance test, if more current than the initial performance test.

***Observations:** Monarch provided a spreadsheet showing the monthly and rolling monthly NO_x, CO and CH₂O emissions from the engines. In this spreadsheet, Monarch is using the g/HP-hr determined in the most recent stack test to calculate the monthly CO and NO_x emissions. Monarch is using the CH₂O emission factor of 0.48 lb/hr to calculate the monthly CH₂O emissions. Monarch did not appropriately calculate “12-month rolling total”. Monarch calculated calendar year 12-month totals and reset the total at the beginning of each calendar year.*

7. Recordkeeping Requirements

- (a) Records shall be kept of manufacturer and/or vendor specifications and maintenance requirements developed by the manufacturer, vendor, or Permittee for each engine, catalytic control system, temperature-sensing device and pressure-measuring device.
- (b) Records shall be kept of all calibration and maintenance conducted for each engine, catalytic control system, temperature-sensing device and pressure-measuring device.
- (c) Records shall be kept of all required performance testing in this permit. The records shall include the following:
- (i) The date, place and time of the performance test;
 - (ii) The company or entity that performed the test;
 - (iii) The analytical techniques or methods used;
 - (iv) The results of such measurements; and
 - (v) The operating conditions as existing at the time of measurement.
- (d) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken due to deviations pursuant to this permit.
- (e) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken due to deviations pursuant to this permit.
- (f) Records shall be kept of all catalyst replacements, engine rebuilds and engine replacements.
- (g) Records shall be kept of all monthly and consecutive 12-month emissions calculations.
- (h) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where the existing engine that has been rebuilt resumes operation without the catalyst control system for a period not to exceed 200 hours.
- (i) Records shall be kept of each time any engine is shut-down due to a deviation in the inlet

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temperature to the catalyst bed or pressure drop across a catalyst bed. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.

- (j) Records of the hours of operations of each engine recorded through a non-settable hour meter.
- (k) The Permittee shall maintain and keep records of the following information:
 - (i) All notifications submitted to the EPA to comply with the requirements of this section for each engine;
 - (ii) Maintenance conducted on the engines;
 - (iii) Documentations from the manufacturer and catalyst vendor which shows that the emissions standards and limits are met for each engine; and
 - (iv) Records of the hours of operations of each engine recorded through a non-resettable hour meter.
- (l) The Permittee shall submit an initial notification as required in 40 CFR 63.9(b)(1)-(5) to meet the emission standards of this permit including the following information:
 - (i) Name and address of owner and operator;
 - (ii) The address of the facility;
 - (iii) Engine information including make, model, engine family, serial number, model year, maximum engine horsepower, and engine displacement;
 - (iv) Engine control equipment; and
 - (v) Fuel used.
- (m) The Permittee shall submit performance testing results of each test conducted within 60 days after the test(s) have been completed.

G. Records Retention

- 1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.
- 2. Records shall be kept at the facility or the location that has day-to-day operational control over the facility.

H. Reporting Requirements

1. Annual Reports

- (a) The Permittee shall submit an annual report each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports shall be certified to truth and accuracy by the person primarily responsible for CAA compliance for the Permittee.
- (b) The report shall include:

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- (i) All monthly and 12-month rolling facility-wide emissions for total HAP emissions in tons;
- (ii) All NO_x, CO, CH₂O, benzene and HAP emissions calculations to demonstrate compliance with the emissions limits in this permit for the TEG Dehydrators and 4SLB Compressor Engines;
- (iii) The results of all fugitive emissions monitoring surveys and subsequent repairs conducted during the reporting period; and
- (iv) The results of all required performance test conducted during the reporting period.

2. All documents required to be submitted under this permit shall be submitted to:

Branch Chief, Air and Toxics Enforcement Branch, 8ENF-AT
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, R8
1595 Wynkoop Street
Denver, Colorado 80202

Documents may be submitted via electronic mail to r8airreportenforcement@epa.gov.

Observations: *Monarch submitted a report dated March 28, 2022 that covers the period from January 1, 2021 to December 31, 2021 and a report dated March 14, 2023 that covers the period from January 1, 2022 to December 31, 2022. Both reports contain the information required above.*

3. The Permittee shall promptly submit to the EPA a written report of any deviations of operational limits specified in this permit and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:
- (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed operational limits in this permit if left un-corrected for more than 5 days after discovering the deviation; and
 - (b) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee’s ability to meet the operational limits.

Observations: *No deviations have been reported.*

4. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.
5. The Permittee shall submit any record or report required by this permit upon EPA request.

Appendix A – Photographs Provided by Monarch

National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities – 40 CFR Part 63, Subpart HH:

Observations: 40 CFR Part 63, Subpart HH applies to the 24 MMscfd glycol dehydrator identified as Dehy#3 and the 25 MMscfd glycol dehydrator identified as Dehy#4 in Table 3. The dehydration units are an area source for HAPs because the potential to emit from the dehydration unit and tanks do not exceed 10 tons for a single HAP and 25 tons for all HAPs. All of the MACT HH requirements are covered by the requirements of the synthetic minor permit requirements above.

Appendix A – Photographs Provided by Monarch

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines - 40 CFR Part 63, Subpart ZZZZ

Observations: All of the MACT ZZZZ requirements are covered by the requirements of the synthetic minor permit requirements above.