

Simcoe, LLC – Miera Central Delivery Point
Full Compliance Evaluation (FCE)
On-Site Inspection

Inspection Date: June 28, 2022

Inspection Report Date: August 23, 2022

EPA Representatives: Colin Schwartz, Environmental Scientist, US EPA Region 8
Alex North, Environmental Scientist, US EPA Region 8
Youn Joo Kim, Environmental Scientist, US EPA Region 8
Katelyn Bergl, Environmental Scientist, US EPA Region 8

Tribal Representatives: David Heermance
Andrew Switzer
Merideth Breeden

Company Representatives: Pat Atencio

Inspection Report Prepared By: Colin Schwartz, Environmental Scientist, US EPA Region 8

Inspection Report Reviewed By: Scott Patefield, Manager, Enforcement and Compliance Assurance
Division, Air and Toxics Enforcement Branch

Last Inspection: May 16, 2018 SCOTT PATEFIELD Digitally signed by SCOTT
PATEFIELD
Date: 2022.08.15 15:52:46 -06'00'

Operating Status: Operating

Applicable Requirements: SMNSR- Tribal Minor New Source Review
40 CFR Part 60, Subpart JJJJ: Standards of Performance for New
Stationary Sources (NSPS JJJJ)
40 CFR Part 63, Subpart ZZZZ: National Emissions Standards for
Hazardous Air Pollutants for Stationary Reciprocating Internal
Combustion Engines (MACT ZZZZ)
40 CFR Part 63, Subpart HH: National Emissions Standards for
Hazardous Pollutants from Oil and Natural Gas Production
Facilities (MACT HH- area source)

Permit Number: SMNSR-SU-000039-2021.002	Issue Date: January 11, 2022
Replaces Permit: SMNSR-SU-000039-2012.001	Effective Date: January 11, 2022
	Expiration Date: None

Facility Information and Emission Unit Identification

Parent Company Name: Simcoe, LLC
Mailing Address: 1199 Main Avenue, Suite 101, Durango, Colorado 81301
Facility Contact: Julie Best, Environmental Manager
(970) 822-8924
Facility Operator & Name: Simcoe, LLC – Miera Central Delivery Point (Miera)
Facility Location: Latitude 37.19886, Longitude -107.740183

County, State: La Plata, Colorado
Reservation: Southern Ute Indian Reservation
Tribe: Southern Ute Indian Tribe
Responsible Official: Erin Dunman
SIC Code: 1311 – Crude Petroleum and Natural Gas
AFS ID: 08-067-U0043
Other CAA Permits: There are no other CAA permits for this facility.

Enforcement History

None in the past five years.

Inspection Findings/Areas of Concern

No concerns were identified through the inspection and records review of the facility.

Compliance Assistance

No compliance assistance was provided as a result of this full compliance evaluation. However, a copy of this report, which highlights EPA's areas of concern, will be provided to SIMCOE upon finalization.

Description of Operations

The Miera Central Delivery Point is located on Indian country lands within the exterior boundaries of the Southern Ute Indian Reservation and is a natural gas compression facility. Upstream of the facility are Fruitland Gas (coal-bed methane) wells which are connected to a gathering pipeline system and the inlet of the facility. The natural gas entering the facility first passes through an inlet separator vessel to remove any free liquids in the gas stream by gravity and is then fed into an inlet filter. The gas stream then passes to a distribution header, which distributes the gas to one of four reciprocating internal combustion engines used for natural gas compression. On the inlet to each compressor there exists a filter vessel to filter out any solids in the gas such as coal dust. Each compressor unit consists of a skid mounted combination of engine and 3-stage compressor fueled by natural gas. After compression the natural gas passes through an outlet coalescer vessel to remove any entrained droplets of lubrication oil carried over from the compressors. The natural gas then passes through the glycol dehydration units to remove water vapor. The gas is then metered and routed into a medium pressure pipeline. The dehydration units vent reboiler emissions to atmosphere.

The permit application indicates that Miera has four Caterpillar G3606 TALE Compressor Engines (C-100, C-200, C-300, and C-400) that are site-rated at 1,734 horsepower. The permit application also indicates that the current C-400 engine is subject to NSPS Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

The EPA also notes that Miera is an area source of hazardous air pollutants (HAPS) and C-100, C-200,

C-300, and C-400 commenced construction prior to June 12, 2016, and have not been reconstructed. Therefore, C-100, C-200, C-300, and C-400 are subject to NESHAP Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines (RICE) existing area source requirements.

Additionally, the EPA notes that each TEG dehydrators uncontrolled potential benzene emissions are below 1.0 tpy; therefore, the Miera must only maintain records of this determination under 40 CFR 63.774(d)(1) in the NESHAP Subpart HH – Oil and Natural Gas Production Facilities.

General Inspection Observations and Commentary

On June 23, 2022, at 1:20 PM, EPA representatives Colin Schwartz, Alex North, Katelyn Bergl, and Youn Joo Kim and Southern Ute Indian Tribe Air Program representatives Meredith Breeden, Andrew Switzer, and David Heermance met with SIMCOE representative Pat Atencio onsite at the SIMCOE Miera Compressor Station. Multiple SIMCOE inspections had already occurred that week with the same group so an opening conference had already been conducted, during which EPA inspectors presented credentials. A safety orientation was also completed earlier in the week, and EPA inspectors informed Mr. Atencio that the site would be surveyed using a forward looking infrared (FLIR) camera, but that the camera operator would remain at least 35 feet from all potential sources of ignition at the site; therefore, no hot work permit was required.

After the opening conference, Mr. Atencio walked everyone through the process at Miera which involved the inlet, separation, compression, then dehydration of the natural gas. Liquids of produced water, condensate and lube oil from the compression process is routed to tanks onsite. According to information provided by Mr. Atencio during the inspection, Miera currently has an inlet pressure of about 30 psi and after compression the facility ramps the gas up to 300 psi. Processed gas goes to the pipeline where it is routed to the Florida Gas Plant and produced water is piped to the Florida SWD, a saltwater disposal facility that injects the produced water back below the water table. During the inspection, only one of the two dehydration units were operating. Mr. Atencio noted that Dehy-2 is kept onsite as a spare and does not regularly operate anymore. Dehy-1 was estimated to operate at 7 gal/min at the glycol recirculating pump. Emissions from the reboiler, from both dehydration units if operating, are vented directly to atmosphere.

All four compressor engines were operating at the time of the inspection. Mr. Schwartz verified the operating parameters from the CPMS of the engines, listed in Table 1 below. Additional information regarding serial numbers can be found in Table 2 below.

Table 1: Engine Parameters Recorded During Inspection

Unit ID	Catalyst Exhaust Temperature (°F)	Catalyst Inlet Temperature (°F)	Pressure Drop (inches of water)	DP Baseline (inches of water)
C-100	875	n.r	7.03	7.5
C-200	861	n.r	4.40	4.6
C-300	871	n.r	4.43	4.3
C-400	879	859	6.67	6.5

Note: Catalyst inlet temperatures are recorded with the SCADA system. Records reviewed showed that this is being properly monitored but was not readily available onsite.

No visible emissions were observed while EPA inspectors were on site and therefore no photos or videos were recorded while onsite. EPA and Southern Ute Indian Tribe air quality representatives met with Mr. Atencio for a brief closing conference. The EPA did not have any concerns during the onsite inspection.

EPA and tribal staff departed the facility at 1:58 PM. An email to request relevant compliance-related information and records was sent to Ms. Erin Dunman on July 12, 2022. Ms. Dunman provided the requested information to EPA via email on July 26, 2022.

Permit Number SMNSR-SU-000039-2021.002 Requirements and Compliance Status

Inspector notes discussing compliance status will follow each relevant permit requirement in **bold blue** font.

A. Facility Emission Points

Table 2 - Emission Units and Emission Generator Activities

Unit I.D.	Description	Control Equipment	Observations
C-100	Natural Gas Fired TALE 4-SLB Caterpillar Reciprocating internal combustion engine (RICE) Model No. G3606 - 1734 hp (1775 nameplate rated hp) Serial Number: 3XF00197 Manufacture Date: Prior to 07/01/07 In an email dated 7/26/22, Ms. Dunman indicated that the engine was manufactured on 10/30/1998 and installed April 2020.	Selective Catalytic Oxidation	See Table 1
C-200	Natural Gas Fired TALE 4-SLB Caterpillar Reciprocating internal combustion engine (RICE) Model No. G3606 – 1734 hp (1775 nameplate rated hp) Serial Number: 4ZS01426 Manufacture Date: Prior to 7/01/07 In an email dated 7/26/22, Ms. Dunman indicated that the engine was manufactured on 8/31/2010, and installed May 2020.	Selective Catalytic Oxidation	See Table 1
C-300	Natural Gas Fired TALE 4-SLB Caterpillar Reciprocating internal combustion engine (RICE) Model No. G3606 – 1734 hp (1775 nameplate rated hp) Serial Number: 3XF00261 Manufacture Date: Prior to 7/01/07 In an email dated 6/13/18, Ms. Dunman indicated that the engine was manufactured on 5/24/2000 and installed June 2020.	Selective Catalytic Oxidation	See Table 1
C-400	Natural Gas Fired TALE Caterpillar 4-SLB Reciprocating internal combustion engine (RICE) Model No. G3606 – 1734 hp (1666 nameplate rated hp) Serial Number: 4ZS/3XF00154 Manufacture Date: Prior to 7/01/07 Modified: After 6/12/06 In an email dated 7/26/22, Ms. Dunman indicated that the engine was manufactured in 2/27/1998 and installed August 2021.	None	See Table 1 Onsite the nameplate appeared to read 1,666 hp however documents provided showed 1,775 hp. Either case the horsepower would be allowed as permitted.

Unit I.D.	Description	Control Equipment	Observations
Dehy-1	30 MMscfd Triethylene Glycol (TEG) Dehydration Unit	Process Modifications and Wet Gas Monitoring	Dehy-1 was operating Contact tower was 100 degrees F, 300 psi. Reboiler temp was set to 375 degrees F. Verified Rototech recirculation pump, serial #38654, model#GS2214ED and approximately 7 gal/min. (recirc pump changed out since previous inspection)
Dehy-2	30 MMscfd Triethylene Glycol (TEG) Dehydration Unit	Process Modifications and Wet Gas Monitoring	Dehy-2 was not operating and is considered a spare at the time of inspection due to limited throughput

Potential to Emit with Legally and Practicable Enforceable Controls(PTE)

Table 3 – Potential-to-Emit With Legally and Practicably Enforceable Controls

	NO _x	CO	VOC	PM	SO ₂	CH ₂ O	Total HAPs
C-100	16.74	4.19	14.73	0.51	0.03	1.41	1.41
C-200	16.74	4.19	14.73	0.51	0.03	1.41	1.41
C-300	16.74	4.19	14.73	0.51	0.03	1.41	1.41
C-400	16.74	4.19	14.73	0.51	0.03	1.41	1.41
Dehy-1	0	0	0.57	0	0	0	0.02
Dehy-2	0	0	0.58	0	0	0	0.02
IEU	2.19	1.84	0.17	0.16	0.01	0.01	0.01
TOTAL	69.16	18.60	60.26	2.22	0.13	8.91	8.94

NO_x= nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO₂ = sulfur dioxide; CH₂O = formaldehyde; HAP = hazardous air pollutant

B. Requirements for Engines

1. Construction and Operational Limits:

- (a) The Permittee shall install and operate emission controls as specified in this permit on four reciprocating internal combustion engines used for compression, each meeting the following specifications:
 - (i) Operated as a 4-stroke lean-burn engine;
 - (ii) Fired with natural gas; and
 - (iii) Limited to a maximum site rating of 1,734 horsepower (hp).
- (b) Only the engines that are operated and controlled as specified in this permit are approved for installation under this permit.

Observation: There are four engines onsite. C-100, C-200, and C-300 have nameplate ratings greater than 1,734 (see Table 2 above with engine descriptions). However, SIMCOE uses Caterpillar's derating scale of 3% reduction in horsepower for every 1,000 feet above 6,000 feet above sea level. Therefore, the manufacture rated horsepower of 1,775 at an elevation of approximate 6,800 feet above sea level can conservatively estimate 1,734 hp.

2. Emission Limits:

- (a) Emissions from each engine shall not exceed:
 - (i) CO: 0.96 pounds per hour (lbs/hr); and
 - (ii) CH₂O: 0.51 lbs/hr.
- (c) Emission limits specified in this permit shall apply at all times, unless otherwise specified in this permit.

Observation: Based on information provided by SIMCOE during performance tests, semi-annual portable analyzer tests, and annual emissions reports, all shown in respective tables below, the engines operating at Miera have not exceeded the emissions limits from calendar year 2018 through 2021.

3. Control and Operational Requirements

- (a) The Permittee shall ensure that each engine is equipped with an oxidation catalyst control system capable of reducing uncontrolled CO emissions to meet the emission limits specified in this permit.
- (b) The Permittee shall install, operate and maintain temperature-sensing devices (i.e., thermocouple or resistance temperature detectors) before the catalytic control system on each engine to continuously monitor the exhaust temperature at the inlet of the catalyst bed. Each temperature-sensing device shall be calibrated and operated by the Permittee according to manufacturer specifications or equivalent specifications developed by the Permittee or vendor.

Observation: During the inspection, Mr. Schwartz verified engine parameters for the temperature sensing devices and emissions control systems operating for each engine at Miera.

- (c) Except during startups, which shall not exceed 30 minutes, the engine exhaust temperature of each engine, at the inlet to the catalyst bed, shall be maintained at all times the engines operate with an inlet temperature of at least 450°F and no more than 1,350°F.

Observation: during the inspection, Mr. Schwartz verified catalyst temperature parameters for each engine at Miera.

- (d) 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 measured during the most recent performance test. The baseline pressure drop for the catalyst bed shall be determined at $100\% \pm 10\%$ of the engine load measured during the most recent performance test.

Observation: during the inspection, Mr. Schwartz verified the pressure drop parameters for each engine at Miera. See Table 1 above.

- (e) 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.

Observation: Following the onsite inspection, Mr. Schwartz requested multiple records regarding vendor specific emissions control maintenance, fuel records, engine maintenance plans and maintenance conducted including catalyst replacement, and engine replacement or rebuilds. Ms. Dunman provided the information as requested via email on July 26, 2022.

- (f) The Permittee shall follow, for each engine and any respective catalytic control system, the manufacturer's recommended maintenance schedule and procedures or equivalent maintenance schedule and procedures developed by the Permittee or vendor, to ensure optimum performance of each engine and its respective catalytic control system.

Observation: during the records review, Mr. Schwartz requested maintenance records and preventative maintenance for each engine. Ms. Dunman provided these reports and checklists as requested for the previous 2 years. In an email dated July 26, 2022, Ms. Dunman provided copies of completed checklist for preventative maintenance that occurs approximately every two months however the interval appears to be less than 1000 hours per engine.

- (g) The Permittee may rebuild 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 replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engines that are replaced shall also apply to the rebuilt and replaced engines.

Observation: Mr. Schwartz requested engine replacement information when it was determined that the serial numbers did not match from the previous inspection reports. Ms. Dunman provided acceptable information to verify that the replaced engines are configured

to operate in the same manner to comply with these permit terms.

- (h) The Permittee may resume operation without the catalytic control system during an engine break-in period, not to exceed 200 operating hours, for rebuilt and replaced engines.

Observation: during the records review, Mr. Schwartz reviewed break-in period records. Ms. Dunman provided the information for C-200, the only replacement that occurred since the previous inspection. C-200 operated for 18 hours without a catalyst as allowed by the permit.

4. Performance Testing Requirements

- (a) Performance tests shall be conducted on each engine for measuring CO and CH₂O emissions to demonstrate compliance with each emission limitation in this permit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR Part 60, Appendix A and 40 CFR Part 63, Appendix A, or an EPA-approved American Society for Testing and Materials (ASTM) method. The Permittee may submit to the EPA a written request for approval of an alternate test method but shall only use that alternate test method after obtaining approval from the EPA.

Observation: during the records review, Mr. Schwartz reviewed the recent performance tests reference methods, specifically the 4/5/2022 performance test. The tests were conducted using a Fourier Transform Infra-Red (FTIR) gas analyzer, following reference method ASTM D6348–03 as incorporated by reference in 40 CFR 60.4244 (NSPS, Subpart JJJJ).

- (i) The initial performance test shall be conducted within 90 calendar days of startup of a new engine.
 - (ii) Subsequent performance tests for CH₂O emissions shall be conducted within 12 months of most recent performance test.
 - (iii) Performance tests shall be conducted within 90 calendar days of replacement of the catalyst on an engine.
 - (iv) Performance tests shall be conducted within 90 calendar days of startup of all rebuilt replaced engines.
- (b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters the day of or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid. Artificially increasing an engine load to meet testing requirements is not considered engine tuning or adjustments.
- (c) The Permittee shall not abort any engine tests that demonstrate non-compliance with the CO or CH₂O emission limits in this permit.
- (d) All performance tests conducted on each engine shall meet the following requirements:
 - (i) The pressure drop across each catalyst bed and the inlet temperature to each catalyst bed shall be measured and recorded at least once per test during all performance tests.
 - (ii) The Permittee shall measure nitrogen oxides (NO_x) emissions from each engine simultaneously with all performance tests for CO emissions. NO_x emissions shall

be measured using a portable analyzer and protocol approved by the EPA. [*Note to Permittee: Although the permit does not contain NO_x emission limits, NO_x measurement requirements have been included as an indicator to ensure compliance with Condition C.4(b) above.*]

- (iii) All tests shall be performed at a maximum operating rate (90% to 110% of the maximum achievable load available on the day of the test). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing but shall only test at that alternate load level after obtaining written approval from the EPA.

Observation: during the records review, Mr. Schwartz reviewed the recent performance tests, specifically the 4/5/2022 performance test. According to information provided by the stack test company, all tests are conducted at 90% or greater load or at maximum achievable load based upon the current condition at the time of testing.

- (iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured and calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).
- (v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits in this permit.

Observation: during the records review, Mr. Schwartz reviewed the recent performance tests, specifically the 4/5/2022 performance test. Each of the three runs lasted just over an hour.

- (vi) Performance test plans shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned.
- (vii) Performance test plans that have already been approved by the EPA for the emission units approved in this permit may be used in lieu of new test plans unless the EPA requires the submittal and approval of new test plans. The Permittee may submit new plans for EPA approval at any time.
- (viii) The 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, test methods, laboratory identification);
 - E) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
 - F) Data processing and reporting (description of data handling and quality control procedures, report content).
- (e) 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.
- (f) If the results of a complete and valid performance test of the emissions from any permitted

engine demonstrate noncompliance with the emission limits in this permit, the engine shall be shut down as soon as safely possible, and appropriate corrective action shall be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The Permittee shall notify the EPA in writing within 24 hours of each such shut down. The engine must be retested within 7 days of being restarted and the emissions must meet the applicable limits in this permit. If the retest shows that the emissions continue to exceed the limits in this permit, the engine shall again be shut down as soon as safely possible, and the engine may not operate, except for purposes of startup and testing, until the Permittee demonstrates through testing that the emissions do not exceed the emission limits in this permit.

- (g) If a permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct a performance test. The Permittee may conduct the performance test when the engine is started up again.

Observation: The operator has submitted the required annual performance test results, shown below in Table 4. During the records review, notification of testing was submitted in a timely manner with no notifications of testing coming less than 30 days before the test dates. Reports were received no later than 60 days after the completion of the stack tests.

Table 4: Annual Performance Test Results

Unit ID	Test Date	NOx (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	CO (lb/hr)	CH ₂ O (lb/hr)	Avg. Inlet Catalyst Temp.(°F)	Avg. Δ P (inches H ₂ O)
C-100	4/5/2022	0.6	0.04	0.05	0.11	0.19	842	4.6
C-200	4/5/2022	0.8	0.1	0.1	0.03	0.04	846	7.5
C-400	10/4/2021	0.6	0.03	0	0.07	0.1	821	6.5
C-300	8/2/2021	1.0	0.02	NA	0.07	0.18	910	4.3
C-100	4/15/2021	0.7	0.01	0.1	0.03	0.08	880	6.4
C-200	4/14/2021	0.5	0	0.1	0.16	0.01	819	5.7
C-400	4/14/2021	0.5	0	0	0.01	0.09	794	7.4
C-300	8/12/2020	0.94	0.04	NA	0.11	0.22	813	NA
C-200	6/30/2020	0.65	0.03	0.06	0.1	0.02	793	NA
C-400	6/30/2020	0.71	0.02	0.06	0.08	0.14	784	NA
C-100	4/21/2020	0.84	0.05	0.08	0.19	0.21	809	NA
C-200	4/20/2020	0.65	0.08	NA	0.27	0.33	809	NA
C-300	4/20/2020	0.90	0.04	NA	0.16	0.23	793	NA
C-400	7/9/2019	0.85	0.02	0.04	0.07	0.15	773	7.1
C-100	5/13/2019	0.72	0.08	NA	0.25	0.30	797	NA
C-200	5/8/2019	0.63	0.08	NA	0.27	0.28	822	NA
C-300	5/9/2019	0.74	0.05	NA	0.20	0.21	809	NA

5. Monitoring Requirements

- (a) The Permittee shall continuously monitor the exhaust temperature of each engine at the inlet to the catalyst bed.

Observation: During the records review, Mr. Schwartz requested specific dates to verify that records of engine requirements are continuously monitored. Ms. Dunman provided the records in an email dated July 26, 2022.

- (b) Except during startups, which shall not exceed 30 minutes, if the engine's exhaust temperature at the inlet to the catalyst bed on any one engine deviates from the acceptable ranges 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 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.

Observation: The operator has submitted annual deviation reports, shown below in Table 7. It did not appear that deviations caused any of the engines to cease operations since the previous inspection in 2018.

- (c) The Permittee shall monitor the pressure drop across the catalyst bed on each engine every 30 days using pressure sensing devices before and after the catalyst bed to obtain a direct reading of the pressure drop (also referred to as the differential pressure). *[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.]*

Observation: Mr. Schwartz requested specific dates to verify proper monitoring of engine requirements. Ms. Dunman provided the records in an email dated July 26, 2022. See Table 1 above for baseline pressure compared to what was recorded during the onsite inspection

- (d) The Permittee shall perform the first measurement of the pressure drop across the catalyst bed on each engine no more than 30 days from the date of the initial performance test. Thereafter, the Permittee shall measure the pressure drop across the catalyst bed, at a

minimum of every 30 days. Subsequent performance tests, as required in this permit, can be used to meet the periodic pressure drop monitoring requirement provided it occurs within the 30-day window. The pressure drop reading can be a one-time measurement on that day, the average of performance tests runs conducted on that day, or an average of all the measurements taken on that day if continuous readings are taken.

- (e) The Permittee shall monitor CO and NO_x emissions from the exhaust of the catalytic control system on each engine at least quarterly, to demonstrate compliance with emission limits in this permit. To meet this requirement, the Permittee shall:
 - (i) Measure CO and NO_x emissions at the normal operating load using a portable analyzer and a monitoring protocol approved by the EPA or conduct a performance test as specified in this permit;
 - (ii) Measure the CO and NO_x emissions simultaneously; and
 - (iii) Commence monitoring for CO and NO_x emissions within 90 calendar days of the Permittee's submittal of the initial performance test results for CO emissions to the EPA.
- (f) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters the day of or during the measurements. Any such tuning or adjustments may result in a determination by the EPA that the result is invalid. Artificially increasing an engine load to meet measuring requirements is not considered engine tuning or adjustments.
- (g) If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop reading taken during the most recent performance test, or if the results of any quarterly emissions monitoring demonstrate non-compliance with the CO the emission limits 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 pressure drop across the catalyst bed or the emission limits in this permit, 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, or the elevated emission rates, 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, or the elevated emission rates, 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 pressure drop across the catalyst bed. The Permittee shall perform a portable analyzer test for CO and NO_x and establish a new temporary pressure drop baseline until a performance test can be scheduled and completed; 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 and the emission rates are found to be in compliance with the emission limits in this permit. Corrective action may include removal and cleaning of the catalyst or replacement of the catalyst.

Observation: The operator has submitted annual deviation reports, shown below in Table 7. No pressure drops outside of ± 2 inches of water from the baseline appear to have occurred since the previous inspection in 2018.

- (h) For any one engine: If the results of 2 consecutive quarterly portable analyzer measurements demonstrate compliance with the CO emission limit, required monitoring frequency for the respective pollutant may change from quarterly to semi-annually.
- (i) For any one engine: If the results of any subsequent portable analyzer measurements demonstrate non-compliance with the CO emission limit, the required test frequency shall revert back to quarterly.

Observation: As allowed by the permit (discussed below), SIMCOE conducts semiannual portable analyzer monitoring of the permitted engines. On some instances, the semiannual monitoring is satisfied by the annual performance test. Performance test results are shown in Table 4 above.

- (j) The Permittee shall submit portable analyzer specifications and monitoring protocols to the EPA at the following address for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring:

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

Documents may be submitted electronically to r8airreportenforcement@epa.gov.

- (k) Portable analyzer specifications and monitoring protocols that have already been approved by the EPA for the emission units approved in this permit may be used in lieu of new protocols unless the EPA determines it is necessary to require the submittal and approval of new protocols. The Permittee may submit a new protocol for EPA approval at any time.
- (l) The Permittee is not required to conduct emissions monitoring and 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(s) did not operate during the monitoring period in the annual report.

Observation: From December 1, 2020 (when IKAV/SIMCOE took over operations) though the date of this inspection, portable analyzer results have shown compliance with emission

limits. SIMCOE continues to conduct semiannual monitoring of the permitted engines. On some instances, the semiannual monitoring is satisfied by the annual performance test. Performance test results are shown in Table 4 above. Semiannual monitoring results are shown in Table 5 below. C-400 was replaced in August 2021 and therefore is on a quarterly monitoring schedule at the time of this inspection report.

Table 5: Semiannual Monitoring Results

Unit ID	Test Date	CO (lb/hr)	CO Limit (lb/hr)	NOx (g/hp-hr)	NOx Limit (g/hp-hr)
C-100	3/15/2021	0.07	0.96	0.49	NA
C-200	3/15/2021	0.08	0.96	0.60	1.0
C-300	3/15/2021	0.11	0.96	1.3	NA
C-300	6/4/2021	0.06	0.96	1.2	NA
C-100	9/8/2021	0.20	0.96	0.86	NA
C-200	9/8/2021	0.03	0.96	0.81	1.0
C-300	9/8/2021	0.04	0.96	1.7	NA
C-400	2/14/2022	0.03	0.96	0.57	3.0

6. 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 that are sufficient to demonstrate that the fuel used for each engine is pipeline quality natural gas in all respects, with the exception of the CO₂ concentrations.
- (d) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken 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 pursuant to this permit.
- (f) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:
 - i. The date, place, and time of sampling or measurements;
 - ii. The date(s) analyses were performed;
 - iii. The company or entity that performed the analyses;
 - iv. The analytical techniques or methods used;
 - v. The results of such analyses or measurements; and
 - vi. The operating conditions as existing at the time of sampling or measurement.
- (g) Records shall be kept of all catalyst replacements, engine rebuilds and engine replacements.
- (h) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where an existing engine that has been rebuilt or replaced

resumes operation without the catalytic 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 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.

Observation: Following the onsite inspection, Mr. Schwartz requested multiple records regarding vendor specific emissions control maintenance, fuel records, engine maintenance plans and maintenance conducted including catalyst replacement, and engine replacement or rebuilds. Ms. Dunman provided the information as requested via email on July 26, 2022.

C. Requirements for 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 in the vicinity of the facility, such as at the facility, the location that has day-to-day operational control over the facility or the location that has day-to-day responsibility for compliance of the facility.

Observation: Following the onsite inspection, Mr. Schwartz requested multiple records regarding vendor specific emissions control maintenance, fuel records, engine maintenance plans and maintenance conducted including catalyst replacement, and engine replacement or rebuilds. Ms. Dunman provided the information as requested via email on July 26, 2022.

D. Requirements for Reporting

1. Annual Emission Reports

- (a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility covered under this permit, including emissions from startups, shutdowns and malfunctions, 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 Clean Air Act compliance for the Permittee.
- (b) The report shall include CO, and CH₂O emissions.
- (c) The report shall be submitted to:

U.S. Environmental Protection Agency, Region 8
Air and Radiation Division
Tribal Air Permitting Program, 8ARD-PM
1595 Wynkoop Street
Denver, Colorado 80202

The report may be submitted via electronic mail to r8airpermitting@epa.gov.

Observation: Annual emissions reports have been submitted, shown below in Table 6.

Table 6: Annual Emissions Inventory

Year	Emission Unit ID	CO (tpy)	CH2O (tpy)
2019	C-100	1.33	1.15
2019	C-200	1.3	1.3
2019	C-300	0.81	0.95
2019	C-400	0.33	0.7
2020	C-100	1.55	1.34
2020	C-200	1.52	1.52
2020	C-300	0.94	1.11
2020	C-400	0.39	0.82
2021	C-100	0.16	0.49
2021	C-200	0.83	0.05
2021	C-300	0.33	1.02
2021	C-400	0.49	0.57

2. All other documents required to be submitted under this permit, with the exception of the **Annual Emission Reports**, shall be submitted to:

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

Documents may be submitted electronically to r8airreportenforcement@epa.gov.

3. The Permittee shall promptly submit to the EPA a written report of any deviations of permit requirements, a description of the probable cause of such deviations and 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 any deviation of the emission limits or operational limits that is left un-corrected for more than 5 days after discovering the deviation;
 - (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 emission limits.

Observation: The operator has submitted annual deviation reports, shown below in Table 7. During the records review, Mr. Dunman informed the EPA that a 2021 deviation report was not submitted because no deviations occurred during the calendar year. The EPA would like to suggest that a deviation report still be submitted in those circumstances noting that no deviations occurred for recordkeeping purposes.

Table 7: Deviation Reports

Calendar Year	Report receive date	Deviation
2018	3/8/2019	Engines C-200, C-300 and C-400 all recorded hourly continuous monitoring of the catalyst to be 0 Degrees F on 9/24/2019 for 1 hour. Appears to be due to a data communications issue.
2019	3/27/2020	Engines C-200, C-300 and C-400 all recorded hourly continuous monitoring of the catalyst to be 0 Degrees F. Reported as a data communications issue. (5 total hours on 2/13/2019, 3/10/2019 and 4/30/2019).
2019	3/27/2020	Engine C-100 on 6/2/2019 and 9/6/2019 for a total of 7 hours, the catalyst temperature was recorded outside of the operating range of 450-1,350 F
2020	3/30/2021	Note: SIMCOE, LLC purchased Miera from BP on 2/29/2020.
2020	3/30/2021	Engines C-100, C-200, C-300 and C-400 all recorded hourly continuous monitoring of the catalyst to be 0 Degrees F on 1/10/2020 for 1 hour. Reported as a data communications issue.
2020	3/30/2021	Engines C-100,C-200, C-300 and C-400 all had no monitoring of the catalyst on 2/26/ 2020 for 2 hours. Reported as a data communications issue.
2020	3/30/2021	Engines C-100, C-200, C-300 and C-400 all recorded hourly continuous monitoring of the catalyst to be 0 Degrees F on 3/6/2020, 8/21/2020, 8/24/2020, 9/30/2020, 10/16/2020, 10/29/2020, 11/16/2020 and 12/3/2020 for a total of 8 hours. Reported as a data communications issue.
2020	3/30/2021	Engine C-100 and C-300 on 8/22/2020, 8/28/2020 and 10/21/2020 for a total of 5 hours, the catalyst temperature was recorded outside of the operating range of 450-1,350 F
2021	No submittal	No deviations to report.

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.

Observation: SIMCOE submitted reports as required.

5. The Permittee shall submit any record or report required by this permit upon EPA request.

Observation: Following the onsite inspection, Mr. Schwartz requested multiple records. Ms. Dunman provided the information as requested.

E. NSPS JJJJ

1. 40 CFR § 60.4230 Am I subject to this subpart?

Engine C-400 is subject to § 60.4230(a)(5) and (6) because it is an engine modified or reconstructed after June 12, 2006, therefore NSPS JJJJ applies to C-400.

Engine C-200 is subject to § 60.4230(a)(4) and (6) because it is an engine that commenced construction after June 12, 2006, and manufactured after July 1, 2007 with a maximum engine power greater than or equal to 500 HP, therefore NSPS JJJJ applies to C-200.

Applicable regulations: § 60.4230(a)(5) and (6) for C-400

Applicable regulations: § 60.4230(a)(4)(i) and (6) for C-400

2. 40 CFR § 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

Engine C-400 is subject to the emissions limits of § 60.4233(f)(4)(i) because the original date of manufacture is prior to July 1, 2007 but was modified or reconstructed after June 12, 2006. Therefore the emissions limits of must meet a nitrogen oxides (NOX) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for nonemergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NOX emission standard of 250 ppmvd at 15 percent oxygen (O₂), a CO emission standard 540 ppmvd at 15 percent O₂ (675 ppmvd at 15 percent O₂ for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O₂.

Applicable regulations for C-400: § 60.4233(f)(4)(i). See Table 4, p11 for performance tests showing compliance with these emissions standards.

Engine C-200 is subject to the emissions limits of § 60.4233(e)(4) because it is a stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.

Table 1 of NSPS JJJJ

Engine type and fuel	NOx Emissions Standards (g/hp-hr)	CO Emissions Standards (g/hp-hr)	VOC Emissions Standards (g/hp-hr)
Non-Emergency SI Natural Gas and Non- Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350) Manufactured after July 1, 2010	1.0	2.0	0.7

Applicable regulations for C-200: § 60.4233(e) and Table 1 of NSPS JJJJ. See Table 4, p11 for performance tests showing compliance with these emissions standards.

3. 40 CFR § 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

Engine C-400 is subject to § 60.4243(c). SIMCOE complies with this requirement by conducting performance testing annually (every 8,760 hours of operation) according to § 60.4243(b)(2)(ii). Additionally, previous inspection reports discuss that ARF controllers are used as specified in § 60.4243(g) and demonstrated initial compliance according to § 60.4243(i)(2).

Engine C-200 is subject to § 60.4243(b)(2)(ii). SIMCOE complies with this requirement by conducting performance testing annually (every 8,760 hours of operation). Additionally, previous inspection reports discuss that ARF controllers are used as specified in § 60.4243(g) and demonstrated initial compliance according by conducting a performance test within 1 year of startup. According to information provided by SIMCOE, C-200 was installed in May, 2020. A performance test showing compliance with Table 1 of NSPS JJJJ was conducted April 14, 2021.

Applicable regulations for C-400: § 60.4243(c), and thus § 60.4243(b) incorporated by reference, § 60.4243(g) and § 60.4243(i).

Applicable regulations for C-200: § 60.4243(b)(2)(ii).

4. 40 CFR § 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

SIMCOE conducts performance tests annually on C-200 and C-400 according to information provided in Table 4, p 11.

Applicable regulations § 60.4244(a)-(g)

5. 40 CFR § 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Mr. Schwartz reviewed information provided by SIMCOE in this inspection that satisfies the notification, reporting and recordkeeping requirements of NSPS JJJJ for both engines C-200 and C-400.

Applicable regulations: § 60.4245(a), (c), and (d)

F. MACT HH

1. 40 CFR § 63.764 General standards.

As specified by SIMCOE, and upon review of their 2012 GLYCalc runs for each dehydration unit, Miera qualifies as an area source that is exempt from the glycol dehydration standards because their actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in §63.772(b)(2) of this subpart.

Applicable regulations: § 63.764(e)(ii)

2. 40 CFR § 63.772 Test methods, compliance procedures, and compliance demonstrations.

SIMCOE provided GLYCalc model runs for both dehydration units and wet gas analysis from 2012 showing no benzene concentration at the inlet to the facility.

Applicable regulations: § 63.772(b)(2)

3. 40 CFR § 63.774 Recordkeeping requirements.

Mr. Schwartz requested the extended gas analyses used for GLYCalc runs and the last two GLYCalc runs. The information was provided.

Applicable regulations: § 63.774(d)(1)

G. MACT ZZZZ

Mr. Schwartz has reviewed the applicable regulations in MACT ZZZZ and determined that the requirements in the permit, SMNSR-SU-000039-2021.002, are mostly sufficient to maintain compliance with MACT ZZZZ besides the following:

40 CFR 63.6603(a), (f) and Table 2d.8: Mr. Schwartz verified that SIMCOE is retaining the remote stationary status of the engines onsite. Additionally, according to information provided by SIMCOE, the RICE operating onsite have their oil and filter changed, and inspects spark plugs, hoses, and belts according to the hours of operations as specified in Table 2d.

40 CFR 6640(a), (e), and Table 6.9: Mr. Schwartz verified that SIMCOE follows the work or management practices and operates the RICE according to an approved maintenance plan. In an email dated July 26, 2022, Ms. Dunman provided copies of completed checklist for preventative maintenance that occurs approximately every two months however the interval appears to be less than 1000 hours per engine.