

Inspection Date(s):	09/15/2021		Inspection Announced: No
Time:	Entry: 1:25pm	Exit: approximately 3:01pm	
Media:	Air		
Regulatory Program(s)	CAA Stationary Sources		
Type of Inspection:	Full Compliance Evaluation		
Facility Name:	Emerson Municipal Utilities		
Facility Physical Location:	211 West Front Street		
(city, state, zip code)	Emerson, NE, 68733		
Geographic Coordinates:	N 42.276115 °, W -96.728119 °		
Mailing address: (if different than physical address)	N/A		
(city, state, zip code)	N/A		
County:	Dixon County		
Facility/Site Contact:	Richard McCabe		
	Utilities Supervisor		
	402-695-2662/dmccabe@abbnebraska.com		
FRS ID:	110001507263		
Permit Number and Type:	R7-TMNSR-2019-001; Synthetic Minor		
NAICS:	221118		
SIC:	4911		
Samples Collected:	No		
Facility/Site Personnel Participating in Inspection:			
Richard McCabe	Utilities Supervisor	402-695-2662	dmccabe@abbnebraska.com
Inspector(s) and personnel(s) participating in inspection:			

Avery Bowers (Lead)	Region 7	Enforcement Officer/ Compliance Officer/ Inspector	bowers.avery@epa.gov 913-551-7639
Tyler Salamasick	Region 7	Enforcement Officer/ Compliance Officer/ Inspector	salamasick.tylerepa.gov/ 913-551-5142
Kurt Lyons	Winnebago Tribe	Air Quality Specialist	Kurt.lyons@winnebagotribe.com 775-340-3945

Inspection Report Author:

Avery Bowers			
	Region 7	Enforcement Officer	bowers.avery@epa.gov/ 913-551-7639

Peer Review:

Sean Bergin	Region 7	Enforcement Officer/ TRI Inspector	bergin.sean@epa.gov /913- 551-xxxx
Joe Terriquez	Region 7	Compliance Officer	terriquez.joe@epa.gov /913- 551-7105
Luke Rodriguez	Region 7	Enforcement Officer/ Inspector	rodriguez.luke@epa.gov /913- 551-7499
Tyler Salamasick	Region 7	Enforcement Officer/ Compliance Officer/ Inspector	bergin.sean@epa.gov /913- 551-5142

Supervisor Review:

Tracey Casburn			
	Region 7	Air Branch Chief	casburn.tracey@epa.gov/ 913-551-7016

Facility and Permit Information	Comments
1. Type of facility (e.g., chemical plant, refinery, cement manufacturer, etc.)	Other electric power generation
2. Air permit issuance date	April 19, 2019
3. Air permit expiration date	April 19, 2024
4. Facility classification (major, synthetic minor, conditional minor/major)	Synthetic minor
5. Major source pollutants (if applicable)	NO _x , CO, SO _x , VOC, PM, HAP, GHG
6. Applicable regulations (e.g., State implementation plan, MACT, NSPS, etc.)	40 CFR ZZZZ
7. Type of air emission points (e.g., tanks, process vents, boilers, engines, etc.)	Dual fuel engine generator, diesel engine generator, and diesel storage tank
8. Types of air pollution control equipment (e.g., baghouse, scrubber, afterburner, etc.)	Oxidation catalyst

A. Inspection Purpose

The purpose of this inspection was to determine Emerson Municipal Utilities' (Emerson Municipal) compliance with applicable stationary source regulatory requirements and prohibited acts promulgated through the Clean Air Act (CAA). 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 regarding compliance with the CAA and applicable regulations or permits.

B. Facility Description

Completed in 1968, Emerson Municipal is a power plant facility that is under contract to serve as a peaking or standby power plant throughout the year and must be available to operate upon demand. The facility operates five days or less per year. There are a total of three employees. Every year the facility must perform an annual Uniform Rating of Generation Equipment (URGE) test to ensure it can fulfill its contract in case of an emergency. The test runs for roughly two hours. The facility is owned and run by the Village of Emerson. Emerson Municipal's permit was issued under authority of the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR) (Attachment 1).

C. Facility Process

Emerson Municipal has one dual-fuel engine-generator and one diesel engine-generator. The diesel engine generator was installed in 1958 and then the dual-fuel engine generator was installed ten years later to help save money, work more efficiently, and be more eco-friendly. The dual-fuel engine is a diesel engine that can run on both gaseous and liquid fuels. When running in gas mode, the engine works according to the Otto process where the lean air fuel mixture is fed to cylinders during the suction stroke. Efficiencies exceeding 47% have been routinely recorded. When running in diesel mode, the engine works according to the Diesel process where the diesel fuel is fed to cylinders at the end of compression stroke. The engine is optimized for running on gaseous fuels and diesel fuel is used for back-up fuel operation. The facility runs the dual-fuel engine and the diesel engine generators parallel. Sometimes the generators take care of the electricity needed by the city and other times they run the generators to take care of the electricity contract requirements.

D. Inspection Procedure

On September 15, 2021 at 10:30 am Mr. Salamasick and I arrived at the Winnebago Tribe environmental office to meet Mr. Lyons, introduce ourselves, and relay how the inspection would be conducted. Once we were acquainted, we drove to the Emerson Municipal facility and arrived at 1:20 pm. Upon arrival we secured our masks for COVID-19 precautions and were greeted by Mr. McCabe. Once Mr. Salamasick, Mr. Lyons, and I introduced ourselves and presented our credentials, Mr. McCabe led us to the conference area to have the opening conference. During the conference, I discussed the purpose of the inspection and the criteria for which I'd inspect. We discussed a brief history of the facility and the general conditions in which it runs. Mr. Salamasick provided a small business resource information sheet to Mr. McCabe and I let Mr. McCabe know that he had the right to claim information as confidential business information (CBI) at any point during the inspection.

Before the facility tour began, I asked Mr. McCabe if there were any safety precautions that needed to be adhered to while touring the inspection, to which he replied there were not. The facility tour consisted of examining the two generators, observing the tanks, and reviewing some records. While on the tour, I took 39 photos (Attachments 2 & 3). Once we concluded the tour, we went back to the office area for the closing conference. I went over preliminary findings, photos taken, and allowed Mr. McCabe to claim anything as CBI but he declined. The CBI form, signed electronically, and receipt of documents form which was signed during the closing conference are attached (Attachments 4 & 5)

Records Review

1. 2020 Operational log that includes: hours operated, K.W.H generated by dual fuel, #2 diesel gallons, natural gas consumed, NOx generated by dual fuel, K.W.H generated for diesel only (photos 25 & 26)
2. 2019 Operation log that includes: hours operated, K.W.H generated by dual fuel, #2 diesel gallons, natural gas consumed, NOx generated by dual fuel, K.W.H generated for diesel only (photos 27 & 28)

3. February 17, 2016 Bill of Lading and Manifest (photo 29)
4. July 21, 2021 Daily Operating Log (photo 30)
5. January 1, 2017 – December 31, 2017 Annual Compliance Report (photo 31)
 - a. There were deviations from any emission supporting or operating limitations during the reporting period.
 - b. There were instances where the continuous parametric monitoring system (CPMS) was out of control during the reporting period.
6. Log of maintenance, repair, rebuild, or replacement activities conducted (photo 37)
7. August 14, 2020 Daily Operating Log (photos 38 & 39)

Observations

During the inspection the facility appeared to be operating normally. The ambient temperature was in the upper 70's to lower 80's fahrenheit (°F). The sky was clear with winds from the north at, five to ten miles per hour.

The following descriptions pertain to requirements in Section II and Section III of the facility's synthetic minor permit.

Per Section II,

The permittee shall not operate the dual-fuel fired engine-generator EU-2-EG exceeding 1,760 hp or 1,254 kWe (110% of the site-rated capacities).

The dual-fuel fired engine has a 1,600 hp limit (photo 11)

The permittee shall not operate the diesel-only engine-generator EU-4-EG exceeding 704 hp or 495 kWe (110% of the site-rated capacities).

The diesel-only engine-generator has a 640 hp limit (photo 5)

The permittee shall operate each engine-generator with a non-resettable, totalizing hour meter for measuring the amount of time each engine-generator is operated.

The engine-generator is being operated with a non-resettable, totalizing hour meter.

The permittee shall operate the diesel-only fired engine-generator EU-4-EG using fuels limited to diesel, biodiesel, and renewable diesel.

#2 fuel oil (diesel) is being used according to the bill of lading (photo 29).

The permittee shall operate each engine-generator using diesel fuel that meets the requirements in 40 CFR 80.510(b) for NonRoad (NR) diesel fuel: Sulfur content is 15 ppm maximum for NR diesel fuel.

The bill of lading shows that the sulfur content does not exceed 15 ppm (photo 29).

The permittee shall operate the engine-generator EU-2-EG with a non-resettable flow meter installed for measuring the amount of natural gas being consumed.

The facility has a non-resettable flow meter installed.

The permittee shall not emit more than 95 tons of nitrogen oxides (NOx) per year from the engine-generators (EU-2-EG and EU-4-EG), as determined on a 12-month rolling sum basis

After reviewing the records (photos 25-28), the facility's rolling NOx emissions stayed below 0.23 tons in any given month from 2019-2020. The values ranged from 0.00 to 0.23 tons.

Per Section III

The permittee must follow the requirements for startup, shutdown, maintenance, and malfunction.

After reviewing the records while on site, the facility appears to be following the procedures for startup, shutdown, maintenance, and malfunction.

The permittee must follow the records retention requirement.

After reviewing the records while on site, the facility appears to be following the procedures records retention.

The permittee must follow the reporting requirements.

After reviewing the records while on site, the facility appears to be following the reporting requirements.

Summary

The facility appeared to be following the requirements for their generators. They also appear to be meeting the requirements necessary for records and maintenance.

Documents Reviewed Prior to Inspection

1. Previous compliance history on Enforcement Compliance History Online (ECHO)
2. Rules for each requirement
3. Draft of the synthetic minor permit

Attachments:

1. Emerson Municipal Synthetic Minor permit (15 pages)
2. Emerson Municipal Photo Log (1 page)
3. Emerson Municipal Photos (6 pages)
4. Emerson signed CBI (1 page)
5. Emerson signed receipt of document (1 page)