

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

N750663052

FACILITY: ZEELAND BOARD OF PUBLIC WORKS		SRN / ID: N7506
LOCATION: 8943 RILEY STREET, ZEELAND		DISTRICT: Grand Rapids
CITY: ZEELAND		COUNTY: OTTAWA
CONTACT: Robert Mulder , Electric Power Supply & Market Operations Manager		ACTIVITY DATE: 05/10/2022
STAFF: Kaitlyn DeVries	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: The purpose of the inspection was to determine compliance with Permit to Install (PTI) No. 187-05.		
RESOLVED COMPLAINTS:		

On Tuesday May 10, 2022, Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff Kaitlyn DeVries (KD) conducted a scheduled inspection of Zeeland Board of Public Works- Riley Street location, located at 8943 Riley Street, Zeeland Michigan. The purpose of the inspection was to determine compliance with Permit to Install (PTI) No. 187-05.

KD met with Mr. Bob Mulder, Electric Power Supply & Market Operations Manager, at Zeeland Board of Public Works (ZBPW) main facility at 350 E. Washington prior to going to the Riley Street Location. Upon arrival at the Riley Street location, KD observed the area for any odors or opacity; none were noted.

#### Facility Description

The Riley Street location consists of five (5) identical 2,889 bhp natural gas fired lean burn Caterpillar engines. Each of the engines has a catalytic converter to control Carbon Monoxide (CO) emissions. According to Mr. Mulder, these engines are operated based upon the energy demands with all five (5) units being placed into service at the same time. These units were not in operation at the time of the inspection but had most recently run in April 2022.

#### Regulatory Analysis

ZBPW currently operates under PTI No. 187-05 and is a synthetic minor source of Carbon Monoxide (CO) and has taken legally enforceable restrictions to limit the potential to emit for CO. Additionally, the engines are all subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines (RICE), as an Area Source. These engines are not considered to be limited use or emergency engines under this regulation.

#### Compliance Analysis

Collectively the natural gas fired engines are limited to 34.0 tons per year (tpy) of emissions of CO, based upon a 12-month rolling time period, and individually limited to 2.72 pounds per hour (pph) of CO. As of April 2022, the 12-month rolling CO emissions were 0.06 tons and the emission rate of CO was 0.09 pph. Verification of the CO emission rates is required upon the request of the AQD, for which the AQD is not requesting additional testing at this time. However, ZBPW conducts regular testing to ensure compliance with the CO reduction requirements of 40 CFR Part 63 Subpart ZZZZ. Natural gas usage for all five (5) engines is limited to 104.0 million cubic feet (Mmcf) per engine per 12-month rolling time period. As of April 2022, each engine has burned less than 1,500,000 cubic feet (1.5 Mmcf) and having collectively burned a total of 6.5 Mmcf in the previous 12-month time period.

Each of the engines have a catalytic converter that is used to control CO emissions. For proper operation of the catalyst, the catalyst inlet bed temperature is required to be a minimum of 750° F when generating electricity. Per the temperature records, the inlet bed temperature of the catalyst consistently is at 1000 -1100 ° F for each engine. In addition to tracking the inlet and the outlet temperature of the catalyst bed, ZBPW is tracking the hours of engine run time and hours of electrical generation. For the time period of May 2021 through April 2022, each engine has ran for 74 hours or less and a total of 653,316 KWH generated for the five (5) units.

ZBPW is required to implement and maintain a malfunction/preventative maintenance plan, for which they have implemented and are following.

Stack dimensions, while not explicitly measured, appeared to be correct.

**Compliance Determination**

Based upon the observations made during the inspection and a subsequent review of the records the Zeeland Board of Public Works – Riley Street Location is in compliance with PTI No. 187-05.

NAME Kaitlyn Dineen

DATE 05/31/2022

SUPERVISOR 