



REGION 5

CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Detroit Thermal, Detroit, MI

FROM: Aileen Drum, Physical Scientist
AECAB (IL/IN)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Detroit Thermal

Facility Location: 541 Madison Ave., Detroit, MI 48226

Date of Inspection: February 26, 2024

EPA Inspector(s):

1. Aileen Drum, Physical Scientist
2. Emma Leeds, Environmental Engineer
3. Karina Kuc, Environmental Engineer

Other Attendees:

1. Dale Lane, Environment, H & S & Engineering Manager
2. Phil Malara, Plant Manager/ General Manager
3. Sam Liveson, EGLE Air Quality Division Inspector

Contact Email Address: dlane@detroitthermal.com, pmalara@detroitthermal.com

Purpose of Inspection: To determine compliance with the Clean Air Act

Facility Type: Steam Utility

Facility Name: Detroit Thermal
Facility Location: 541 Madison Ave., Detroit, MI 48226
Date of Inspection: February 26, 2024

Regulations Central to Inspection: Emission thresholds for the Registration Operation Permit and the Michigan State Implementation Plan.

Arrival Time: 3:11 PM

Departure Time: 5:21 PM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Provided Small Business Resource Information Sheet
- ☐ Small Business Resource Information Sheet not provided. Reason:
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Dale Lane unless otherwise noted.

Company Ownership: Vauban purchased Detroit Thermal from Basalt Infrastructure Partners (90% ownership) and DCO Energy (10% ownership) in 2022. DCO Energy is still contracted to manage the facility.

Process Description:

Detroit thermal produces steam using pipelined natural gas and city water. City water is treated with a zeolite softener and a sulfuric acid injection to descale. The water moves to degassifiers, which remove carbon dioxide, and then is given a caustic injection. Water is transferred to storage tanks and pumped to top floor head tanks. The head tanks feed the heater deaerator, which removes dissolved oxygen, and then is pumped to Boilers 1, 2, 6, or 7. The steam generated flows through a three-mile-long pipe distribution network located sixty feet below ground and is delivered to customers.

Staff Interview: Detroit Thermal operates 24 hours a day 7 days a week and has 26 employees. Previously, Detroit Renewable Power, a waste to energy facility, was used as the main steam source for the company. The facility shut down in 2019 due to high cost, reliability issues, and odor violations. The steam demand more than doubled for the Detroit Thermal Beacon Heating Plant after Detroit Renewable Power's shutdown. The Facility has six boilers. Boiler capacity is rated in pounds per hour of steam output. Boilers 1 and 2 date to 1926 and have a capacity of 450,000 pounds per hour. These boilers were grandfathered-in and have never been subject to mandatory emissions testing, but there is a plan to test them as the facility works with the state to renew their permit. Boilers 3 and 4 have not operated in over a decade but are functional. Boilers 6 and 7 date to 2006 and have a capacity of 150,000 pounds per hour and are equipped with low NOx burners and flue gas recirculation for NOx

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control. A Predictive Emissions Monitoring System (PEMS) was developed for Boilers 6 and 7 in 2006. In 2016 it was discovered that the facility had over 1,100 NOx violations and AMP-Cherokee was hired to design a new PEMS model and to develop an Alternative Monitoring Plan (AMP).

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:

EPA walked the production process and observed the facility's boilers. The control room showed only Boiler 2 was running during the tour. The load on Boiler 2 was 250,000 pounds per hour with four out of six burners turned on to power the boiler. Staff stated that when demand is low, they do not run all the boilers. EPA was unable to observe PEMS readings because Boilers 6 and 7 were not running.

Photos and/or Videos: were taken during the inspection and are listed in Appendix A.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Plant Schematic
- Boiler Brochure
- Piping and Instrumentation Diagram (P&ID)
- Alternative Monitoring Plan (AMP)
- Last year of Predictive Emissions Monitoring (PEMS) data
- Steam Demand Chart
- Last year of Relative Accuracy Audit (RAA) and Relative Accuracy Test Audit (RATA) results
- 2016 Stack Test

DIGITAL SIGNATURES

Report Author: Drum, Aileen
Digitally signed by Drum, Aileen
Date: 2024.03.19 10:15:34 -05'00'

Section Supervisor: NATHAN FRANK
Digitally signed by NATHAN FRANK
Date: 2024.03.21 13:35:51 -05'00'

APPENDICES

1. Appendix A: Digital Image Log

APPENDIX A: DIGITAL IMAGE LOG

Inspector Name: Emma Leeds Archival Record Location: AECAB Library >
Enf_DetroitThermalBeaconHeatingPlant_MI_24 >
Enf_DetroitThermalBeaconHeatingPlant_MI_24_Inspection

Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	Detroit Thermal 1.JPG	2/26/24 4:52 PM EST	Control Room Boiler 7 Readout