



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Corix Cleveland Thermal Generating LP, Cleveland, Ohio

FROM: Charles Hall, Environmental Engineer
AECAB (MN-OH)

THRU: Brian Dickens, Section Chief
AECAB (MN-OH)

TO: File, Corix Cleveland Thermal Generating LP, Cleveland, Ohio

BASIC INFORMATION

Facility Name: Corix Cleveland Thermal Generating LP

Facility Location: 1921 Hamilton Avenue, Cleveland, Ohio

Date of Inspection: April 23, 2024

EPA Inspectors:

1. Charlie Hall, Region 5 Air Enforcement and Compliance Assurance Branch
2. Briana Fenzl, Region 5 Air Enforcement and Compliance Assurance Branch

Other Attendees:

1. William Adams, Health, Safety, and Environmental Manager
2. Joel Bolanos, Senior Manager, Production and Capital Projects
3. Lisa Sparrow, CEO, Corix Group of Companies¹
4. Masen Sudduth, Plant Engineer
5. Seth Whitney, President, Corix Cleveland Thermal

Contact Email Address: Joel.Bolanos@clevelandthermal.com

Purpose of Inspection: To determine Cleveland Thermal's compliance with its Title V permit.

Facility Type: three natural gas boilers

¹ Sparrow and Whitney greeted the inspectors briefly but did not otherwise participate in the inspection.

Regulations Central to Inspection: The Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (ICI SGU NSPS), 40 C.F.R. Part 60, Subpart Db, and the Title V permit.

Arrival Time: 13:00 hrs EDT

Departure Time: 15:15 hrs EDT

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: If this box is checked, you must enter a reason such as "Not a Small Business," here.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Adams, Bolanos, and Sudduth unless otherwise noted.

Process Description: Corix Cleveland Thermal (CCT) operates three natural gas fired boilers that meets the definition of a heat release natural gas-fired steam generating unit in ICI SGU NSPS. Each boiler is rated at 150,000 pounds steam per hour and 182.0 million British Thermal Unit per hour heat input (mmBTU/hour). As required by the Title V permit, each boiler is equipped with an oxygen trim system, low oxides of nitrogen (NO_x) burners (LNBs), and flue gas recirculation. The boilers supply steam for heating for numerous buildings in downtown Cleveland and for one steam chiller. From late spring to early fall, CCT operates only one boiler at a time. CCT also operates two 500-kilowatt generators for on-site electrical use. The two generators do not supply all electricity required at the facility.

Staff Interview: CCT's Title V permit includes visible emissions standards which pertained to six oil-fired boilers. CCT has decommissioned the oil-fired boilers by cutting and capping the fuel supply lines. Thus, CCT has rendered the visible emission standards moot.

The Title V permit requires CCT to maintain records of all maintenance performed on the boiler that follows the manufacturer's recommendations to ensure that the boiler will operate as designed. The weekly inspections of the boilers include a visual inspection of each boiler and its NO_x CEM. CCT conducts a calibration gas audit of each NO_x CEM during three calendar quarters and a relative accuracy test audit during the other calendar quarter. Annual maintenance includes cleaning the mud and upper steam drums of each boiler, repairing refractory as

needed, and rebuilding the site glasses and blow down valves. The LNBs do not need annual maintenance. CCT does tune the boilers biannually. The oxygen trim system, the components of which are not visible from each boiler's exterior, maintains the oxygen concentration at 3 percent, which maximizes combustion efficiency across each boiler's natural gas firing range. The Cleveland Department of Air Quality has not asked CCT to conduct stack tests for carbon monoxide, particulate matter, or visible emissions.

TOUR INFORMATION

EPA Tour of the Facility: Yes.

Data Collected and Observations:

At the time of the inspection, only Boiler 7 was operating. Boiler 8 and Boiler 9 were shut down. The lead inspector took a picture of the screens with the monitored parameters for Boiler 7. However, either the camera did not record the picture with the data for the time of the inspection or the inspector unintentionally deleted the pictures. At the inspector's request, CCT provided the following data for Boiler 8 on May 1, 2024.

Parameter	Value
Low Range NO _x concentration, ppmV	24.2
High Range NO _x concentration, ppmV	24.2
NO _x concentration, ppmV	24.2
Oxygen concentration, percent by volume	3.4
NO _x concentration corrected to 3% oxygen, ppmV	24.75
Natural Gas Flow Rate, thousand cubic feet per hour	94.6
Natural Gas Heat Input, mmBTU/hour	95.5
NO _x Emissions, pounds per hour	2.87
NO _x Emissions, pounds per million British Thermal Unit 30-day rolling average	0.032

Because CCT commenced construction on each boiler in 2016, each boiler is subject to the oxides of nitrogen (NO_x) emission standard for a high heat release natural gas-fired ICI EGU of 0.20 pounds of NO_x per million British Thermal Unit heat input as 30-day rolling average. See 40 C.F.R. §§ 60.44b(a)(1)(ii) and 60.44b(i). On May 1, 2024, the 30-day rolling average NO_x emissions from Boiler 8 was 0.032 lbs/mmBTU. CCT was not operating the other two boilers. The ICI SGU NSPS does not include an emission standard for carbon monoxide, particulate matter, or sulfur dioxide. Therefore, CCT does not have a compliance obligation for carbon monoxide, particulate matter, or sulfur dioxide under the ICI SGU NSPS.

The ICI SGU NSPS requires each ICI SGU subject to an NO_x emission standard to install, calibrate, operate, and maintain a NO_x continuous emission monitor (NO_x CEM) and conduct an annual Relative Accuracy Test Audit. CCT has installed, operates, calibrates, and maintains a NO_x CEM.

As requested during the inspection, CCT provided the reports for the most recent Relative Accuracy Test Audit on each NO_x CEM.

Photos were taken during the inspection.

Field Measurements were not taken during the inspection.

CLOSING CONFERENCE

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

Requested documents:

- A copy of the report from the most recent RATA for each NO_x CEM; and
- A copy of the written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO_x emissions from the continuous monitors, in units of the applicable standards.

DIGITAL SIGNATURES

**CHARLES
HALL**

Report Author:

**BRIAN
DICKENS**

Section Chief:

 Digitally signed by CHARLES
HALL
Date: 2024.05.23 07:36:51
-05'00'

 Digitally signed by BRIAN
DICKENS
Date: 2024.05.24 09:22:08
-05'00'

Facility Name: Corix Cleveland Thermal Generating LP
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APPENDICES AND ATTACHMENTS

1. Digital Image Log

Facility Name: Corix Cleveland Thermal Generating LP
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APPENDIX A: DIGITAL IMAGE LOG

Photographer: Charles Hall Camera: Olympus Tough TG-6 EPA Bar Code: SZ4061

Image Number	File Name	Date and Time	Description of Image
1	P4230238.jpg	04/23/2024 14:23 EDT	Flue gas recirculation duct (horizontal) from exhaust stack (vertical) on Boiler 7
			
2	P4230239.jpg	04/23/2024 14:23 EDT	Combustion Air Inlet on Boiler 7
			

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Image Number	File Name	Date and Time	Description of Image
3	P4230240.jpg	04/23/2024 14:28 EDT	NO _x CEM Cabinet for Boiler 7
			
4	P4230241.jpg	04/23/2024 14:28 EDT	Back of NO _x CEM Cabinet and calibration gas cylinders for Boiler 7
			

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Image Number	File Name	Date and Time	Description of Image
5	P4230242.jpg	04/23/2024 14:32 EDT	Boiler Control Cabinet
			
6	P4230243.jpg	04/23/2024 14:32 EDT	Detail of Boiler Control Cabinet Panel
			

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Image Number	File Name	Date and Time	Description of Image
7	P4230244.jpg	04/23/2024 14:39 EDT	Flue gas recirculation duct (largest horizontal) from exhaust stack (largest vertical) on Boiler 8

