

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

P102867290

FACILITY: Corteva Agriscience LLC		SRN / ID: P1028
LOCATION: 701 Washington Street, MIDLAND		DISTRICT: Bay City
CITY: MIDLAND		COUNTY: MIDLAND
CONTACT: Patty Worden , Senior Environmental Specialist		ACTIVITY DATE: 04/27/2023
STAFF: Kathy Brewer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: FGBOILERS21&22 on site inspection and records review portion of FCE		
RESOLVED COMPLAINTS:		

FGBOILERS21&22 and FGBOILERMACT Corteva SRN P1028

On site inspection April 27, 2023

Corteva contact: Patty Worden

FGBOILERS21&22 consists of backup package boilers No. 21 and 22 each with a maximum design capacity of 357 MMBtu/hr. Both boilers were built in 1970. The boilers burn natural gas and are used to supply steam to Dow iPark processes.

FGBOILERS21&22 flexible group was permitted in PTI # 916-84. The boilers are subject to the requirements of 40 CFR Part 63, Subparts A and DDDDD (Industrial, Commercial and Institutional Boilers and Process Heaters- Major Source).

The FGBOILERS21&22 are also subject to the monitoring, recordkeeping, and reporting requirements of the NOx SIP Call during the ozone season (May 1 through September 30) in 40 CFR Part 96, Subpart H.

Per Corteva documentation the FGBOILERS21&22 qualify as low-mass NOx emitters under State and Federal NOx rules.

Emissions reported for 2022 in MAERs from FGBOILERS21&22 were 895 NOx, 405 lbs CO, 37 lbs PM, 11 lbs SO2, 26 lbs VOC, lbs and 2 lbs NH3.

During the April 27, 2023 on site visit the ROP required metering devices, vents, and real time process screens were viewed. On site records were provided for NOx and SO2 emissions. Operating parameters records were also provided .

At the time of the inspection the facility appeared to be in compliance with the requirements of the FGBOILERS21&22 ROP conditions.

On Site Review

Instantaneous natural gas feed rate (scf/hr)

Instantaneous % oxygen

Instantaneous steam flow rate (lbs/hr)

Boiler manufacturer plates

Instrumentation calibration dates

NOx and SO2 emissions and emission calculations for September 2022

AQD File Review

ROP Semi annual Deviation report March 2022, Sept 2022, March 2023

Quarterly NOx report/EPA’s ECMPs reports Q2 and Q3 2022 for Ozone Season

Emission Limits

Consumer’s provides the fuel heating value of 1050 BTUs/SCF . The February 28, 2023 annual fuel supplier sulfur analysis reported a concentration of non-detectable at 1 ppmv. Calculations for emissions use the highest sulfur concentration reported between 2020 and 2022.

The calculated SO2 emission factor is 0.0023 lb SO2/MMBTU. The 24 hour SO2 permit limit is 1.11 lbs SO2/MMBTU.

Supporting documentation for 2022 PM emissions reported to MAERS use a EPA AP-42 Table 1.4-2 emission factor of 7.6 lb/MMSCF. The PM permit emission limit is the same as the AP-42 value.

Material Limits

The FGBOILERS21&22 ROP special conditions contain no specific Material Limits.

Process/Operational Restrictions

The permittee is required to use only pipeline quality natural gas. The FGBOILERS21&22 use natural gas currently provided by Consumers and the facility is in compliance with this requirement.

Design/Equipment Parameters

The FGBOILERS21&22 ROP special conditions contain no specific design or equipment parameters.

Testing/Sampling

The FGBOILERS21&22 ROP special conditions contain no specific testing or sampling requirements.

Monitoring /Recordkeeping

The FGBOILERS21&22 ROP special conditions contain no specific monitoring or recordkeeping except as required by 40 CFR Part 96, Subpart H (see SC IX requirements).

Operations monitoring during the inspection for following operating parameters were noted:

Boiler	Gas flow (MSCFH)	oxygen %	
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			Steam out (Mlb/hr)
EUBOILER21	67.7	8.6	45.5
EUBOILER22	72.1	8.8	51.4

(see attached April 27, 2023 operating data screen captures)

Operations data for June 24 and September 23, 2022 (EUBOILER21), and July 1 September 2, 2022 (EUBOILER22) are attached

Reporting

Review of ROP Deviation Semi-annual reports found no deviations reported for FGBOILERS21&22. The facility submitted additional reporting required by 40 CFR Part 96, Subpart H (see SC IX requirements).

Stack/Vent Restrictions

The exhaust gases from the stacks listed in the table below were confirmed to be discharged unobstructed vertically upwards.

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)
1. SVBOIL21&22-001	84 ²	100 ²
2. SVBOIL21&22-002	84 ²	100 ²

Other Requirements

During the ozone season the permittee is required to monitor, record, and report per NOx SIP Call requirements. The facility submits quarterly reports via the EPA Emission Collection and Monitoring Plan System (ECMPS). Second and third quarterly ECMPS reports were provided and reviewed.

FGBOILERS21&22 operated a combined 8 hours during the second quarter and 15 hours during the third quarter of 2022.

NOx emissions reported are calculated based on NOx emission factors from the last performance test. The emission factors from the March 2021 performance test are 0.182 lb NOx/MMBTU for each unit.

Calculated emissions for June and September of 2022 are below.

Boiler	June 2022 NOx emission	Sept 2022 NOx emission
EUBOILER21	0.01 ton	0.02 tom
EUBOILER22	0.002 ton	0.04 ton

FGBOILERMACT

FGBOILERMACT is comprised of backup package boilers No. 21 and 22 that are subject to 40 CFR Part 63, Subpart DDDDD (Boiler MACT).

Emission Limits

The FGBOILERMACT ROP special conditions contain no specific Emission Limits.

Material Limits

The FGBOILERSMSCT ROP special conditions contain no specific Material Limits.

Process/Operational Restrictions

The table below contains dates and tune-up activity for FGBOILERS21&22

Requirement	21B		22B	
	Last done	Due	Last done	Due
Burner inspection	June 2022	2024	June 2022	2024
Air/fuel ratio control inspection	10/28/20	2025	10/29/20	2025
CO & O2 measurement	10/28/20	2025	10/29/20	2025

Flame pattern inspection	10/28/20	2025	10/29/20	2025
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A copy of the burner inspection record for EUBOILER21 conducted on June 17, 2022 is attached.

Design/Equipment Parameters

The FGBOLLERMACT ROP special conditions contain no specific design or equipment parameters.

Testing/Sampling

The FGBOLLERMACT ROP special conditions contain no specific testing or sampling requirements.

Monitoring/Recordkeeping

The facility uses natural gas for fuel.

Required records have been maintained and are available for review.

A copy of the burner inspection record for EUBOILER21 conducted on June 17, 2022 is attached.

Reporting

Review of ROP Deviation Semi-annual reports found no deviations reported for FGBOLLERMACT.

Stack/Vent Restrictions

The FGBOLLERMACT ROP special conditions contain no specific stack or vent restrictions.

Other Requirements

At the time of the inspection the permittee appeared to be in compliance with all applicable provisions of 40 CFR Part 63 Subparts A and DDDDD (Boiler MACT)

NAME



DATE 6/30/2023

SUPERVISOR

