

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

B283568257

FACILITY: J. H. Campbell Plant		SRN / ID: B2835
LOCATION: 17000 Croswell, WEST OLIVE		DISTRICT: Grand Rapids
CITY: WEST OLIVE		COUNTY: OTTAWA
CONTACT: Kevin Starken , Senior Engineer II		ACTIVITY DATE: 06/20/2023
STAFF: Michael Cox	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Unannounced Inspection		
RESOLVED COMPLAINTS:		

At 8:30 A.M. on June 20, 2023, Air Quality Division (AQD) staff Michael Cox (MTC) conducted an unannounced on-site inspection of the Consumers Energy, JH Campbell Coal Fired electric generating facility located at 17000 Croswell, Port Sheldon, Michigan. The purpose of this inspection was to determine compliance with the facility's renewable operating permit (ROP) MI-ROP-B2835-2020b. Accompanying AQD staff on the inspection was Mr. Kevin Starken, Senior Engineer II, who is the primary contact for on-site activities at the facility and who also provided records during and following the inspection. Prior to arriving on site MTC observed the perimeter of the facility for any fugitive emissions or odors; none were noted. During the site visit, the facility's Continuous Emission Monitoring System (CEMS) for EUBOILER3 was undergoing required Relative Accuracy Test Audits (RATA).

Facility Description

Consumers Energy JH Campbell (JHC) plant is a coal-fired electric generating station. There are three (3) boiler units, which use primarily pulverized Western Coal, but have the capability of utilizing Eastern Coal as well. The facility is located adjacent to Lake Michigan, across from Pigeon Lake.

The three (3) boiler units were installed in 1958, 1963, and 1974. The following table outlines the design capacities and the control equipment associated with each of the three (3) boilers. All three (3) boiler units were noted to be operating at low load during the inspection. Mr. Starken explained that they have been operating the units at low load due to the reduced amount of coal being received each day.

JHC Boiler Design and Specifications:

	Unit 1	Unit 2	Unit 3
Capacity and Description	2490 MMBtu per hour dry bottom tangential fired	3560 MMBtu per hour wall-fired boiler with fuel oil startup capability	8420 MMBtu per hour dry bottom, wallfired boiler with

	boiler with fuel oil startup capabilities		fuel startup capability.
Coal Type Capability	100% Western Coal	0 – 100% Western Coal 0-100% Eastern Coal	100% Western Coal
Pollution Control Equipment	Activated Carbon Injection	Activated Carbon Injection	Activated Carbon Injection
	Dry Sorbent Injection	Dry Sorbent Injection	Dry Sorbent Injection
	Pulse Jet Fabric Filter	Pulse Jet Fabric Filter	Pulse Jet Fabric Filter
	Low NOx Burners	Selective Catalytic Reduction Low NOx Burners	Selective Catalytic Reduction Low NOx Burners

***Units 1 and 2 exhaust through a common stack**

Regulatory Analysis

JHC is currently operating under Title V permit MI-ROP-B2835-2020b. The most recent modification to the permit, in May 2021, was to address the termination of the Consent Decree that was formerly held with USEPA; the consent decree was terminated as of September 2, 2020. The provisions of the Consent Decree had been incorporated into the ROP via PTI’s and with the termination of that decree some items could be updated and were done so via a PTI and modification of the ROP.

JHC is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart UUUUU, for Coal – and – Oil – Fired Electric Utility Steam Generating Units, 40 CFR Part 63 Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines, and 40 CFR Part 63 Subpart DDDDD, for Industrial, Commercial, and Institutional Boilers and Process Heaters at Major Sources. JHC is also subject to the New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart Y for Coal Preparation and Processing Plants, 40 CFR Part 60 Subpart JJJJ for Stationary Reciprocating Spark Ignition Internal Combustion Engines and 40 CFR Part 60 Subpart IIII for Stationary Reciprocating Internal Compression Ignition Engines. JHC is also subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM), 40 CFR Part 96 for NOx trading, the provisions of the Cross-State Air Pollution Rules (CSAPR) as well as to the Title IV (Acid Rain) program.

Compliance Evaluation

EUBOILER1:

EUBOILER1 is a 2490 MMBTU tangential fired boiler with fuel oil startup capabilities. The emissions from this unit are controlled by low-NOx burners, Activated Carbon Injection (ACI), Dry Sorbent Injection (DSI), and a Pulse Jet Fabric Filter (PJFF) baghouse. All control equipment was noted properly operating during the time of the inspection. This unit is subject to the provisions of 40 CFR Part 63 Subpart UUUUU for Coal and Oil-fired Electric Utility Steam Generating Units, also known as the Mercury and Air Toxics Standards (MATS), and 40 CFR Part 64, Compliance Assurance Monitoring (CAM). The CAM requirements are located in FGBOILER12, and the MATS requirements are located in FGMATS_U12 below.

PM emissions are limited to 0.16 pounds per 1,000 pounds exhaust gas, corrected to 50% excess air and to 0.015 pounds per MMBtu heat input. The most recent stack testing, conducted in May 2022 resulted in a three (3) run average PM emission rate of 0.0006 lb./MMBtu and 0.0005 lb./1000 lbs. corrected to 50% exhaust gas.

The following tables outline emission limitations, operational parameters and observations made during the inspection for the EUBOILER1.

Emissions data for EUBOILER1

Unit Number	Pollutant	Limit	Observed Value	Averaging time
1	PM	0.16 pound per 1,000 pounds exhaust gas, corrected to 50% excess air	Verifiable through stack testing	Hourly
1	NO_x	0.220 lbs./MMBtu	0.167lbs/MMBtu	365 Day Rolling Average
1	SO₂	0.350 lbs./MMBtu	0.249 lbs./MMBtu	30 Day Rolling Average
1	SO₂	0.290 lbs./MMBtu	0.268 lbs./MMBtu	90 Day Rolling Average
1	PM	0.015 lbs./MMBTU	0.0006 lbs./MMBtu	

				Hourly Based on stack testing
1	Opacity	20%	4%	Per 6-minute period except for one 6-minute period per hour of not more than 27%
1	SO ₂	1.67 lbs./MMBTU	0.256 lbs./MMBTU	Monthly average based on the average of the 31 previous operating days
1	Hg	1.2 lbs./TBTU	0.809 lbs./TBTU	30 Day Rolling Average

* The Mercury (Hg) limit is a MATS limit.

JHC uses CEMS to continuously monitor SO₂, NO_x, and Hg emissions as well as a Continuous Opacity Monitoring System (COMS) unit to measure stack opacity.

EUBOILER1 Operating Parameters

Process Parameter	Observed Information	Operating Time
Load	250 mW	N/A
Coal Type	100% Western Bituminous Coal	N/A
DSI	4229 pph	Pounds per Hour (pph) of Lime Injected
ACI	84 pph	Pounds per Hour (pph) of carbon injected

Opacity **4 %** **6-Minute Average**

***EUBOILER1 and EUBOILER2 share a common stack, however each boiler has their own COMS unit.**

JHC is limited to the sulfur content of the coal that is fired to 1.0% by weight at a heat content of 12,000 BTU/lb based upon a monthly average of the 31 previous operating days. Records of the sulfur content of the coal was reviewed on site and was noted to be within the limit.

Pulse Jet Fabric Filter Baghouse Operating Parameters

Process Parameter/Description	Observed Information
Fields in Service	8 Out of 8 fields
Differential Pressure	Ranging between 4.4 and 4.7 Inches of Water Column (WC)
Temperature Drop	1°F
Opacity	4% - 6-minute average
Cleaning Air Pressure	8.2 Pounds per Square Inch (PSI)

JHC is required to have a malfunction abatement plan (MAP) for this unit, which has been implemented and maintained. EUBOILER1 is also subject to 40 CFR Part 64 – Compliance Assurance Monitoring (CAM), for which the provisions are addressed in FGBOILER12 for both boilers 1 and 2. See FGBOILER12 below for further evaluation of CAM.

This unit is subject to the Cross-State Air Pollution Rules (CSAPR) and Acid Rain programs. Compliance demonstrations for both are reported directly to USEPA. The facility also has system-wide Annual NO_x tonnage limitations and System-Wide Annual SO₂ tonnage limitations. These limits are combined with other fleetwide emissions and were not evaluated as part of this inspection.

One stack is listed in association with EUBOILER1, which is shared with EUBOILER2. The stack was observed venting unobstructed vertically. The stacks appeared to be consistent with the dimensions listed in MI-ROP-B2835-2020b.

EUBOILER2:

EUBOILER2 is a 3560 MMBTU wall-fired boiler with fuel start-up capability. The emissions from this unit are controlled by low-NOx burners, Activated Carbon Injection (ACI), Dry Sorbent Injection (DSI), and a Pulse Jet Fabric Filter (PJFF) baghouse. All control equipment was noted properly operating during the time of the inspection. This unit is subject to the provisions of 40 CFR Part 63 Subpart UUUUU for Coal and Oil-fired Electric Utility Steam Generating Units, also known as the Mercury and Air Toxics Standards (MATS), and 40 CFR Part 64, Compliance Assurance Monitoring (CAM). The CAM requirements are located in FGBOILER12, and the MATS requirements are located in FGMATS_U12 below.

EUBOILER2 was operating at low load at the time of the inspection. The following tables outline emission limitations, operational parameters and observations made during the inspection for the EUBOILER2.

Emissions data for EUBOILER2

Unit Number	Pollutant	Limit	Observed Value	Averaging time
2	PM	0.15 lb./1,000 lb. exhaust gas, corrected to 50% excess air	Verifiable through stack testing	Hourly
2	NO _x	0.100 lbs./MMBtu	0.053 lbs./ MMBtu	30 Day Rolling Average
2	NO _x	0.080 lbs./MMBtu	0.049 lbs./ MMBtu	90 Day Rolling Average

2	SO ₂	0.320 lbs./MMBtu	0.269 lbs./ MMBtu	365 Day Rolling Average
2	PM	0.015 lbs./MMBTU	Verifiable through stack testing	Hourly
2	SO ₂	1.67 lbs./MMBTU	0.256 lbs./MMBTU	Monthly average based on the average of the 31 previous operating days
2	Opacity	20%	0%	Per 6-minute period except for one 6-minute period per hour of not more than 27%
2	Mercury (Hg)	1.2 lbs./TBTU	0.718 lbs./TBTU	30 Day Rolling Average

* The Mercury (Hg) limit is a MATS limit.

JHC uses a continuous emissions monitoring system (CEMS) to continuously monitor SO₂, NO_x, and Hg emissions, as required by the ROP. A Continuous Opacity Monitoring System (COMS) unit is used to measure stack opacity.

EUBOILER2 Operating Parameters

Process Parameter	Observed Information	Operating Time
Load	183 Mw	N/A
Coal Type	100% Western Coal	N/A
DSI	2554 pph	Pounds per Hour (pph) of lime injected
ACI	29 pph	Pounds per Hour (pph) of carbon injected
Opacity	0.0%	6-Minute Average

***EUBOILER1 and EUBOILER2 share a common stack, however each boiler has their own COMS unit.**

The sulfur content of the coal is limited to 1.0% by weight at a heat content of 12,000 BTU/lb based on a monthly average of the 31 previous operating days. Records of the sulfur content of the coal was reviewed on site and was noted to be within the limit.

Pulse Jet Fabric Filter Baghouse Operating Parameters

Process Parameter/Description	Observed Information
Differential Pressure	Ranging from 4 – 4.5 Inches of Water Column (WC)
Fields in Service	10 of 10 fields
Opacity	0%
Cleaning Air Pressure	2.9 pounds per square inch
Temperature Drop	9°F

JHC is required to have a malfunction abatement plan (MAP) for this unit, which has been implemented and maintained. EUBOILER2 is also subject to 40 CFR Part 64 – Compliance Assurance Monitoring (CAM), for which the provisions are addressed in FGBOILER12 for both boilers 1 and 2. See FGBOILER12 below for further evaluation of CAM.

This unit is subject to the Cross-State Air Pollution Rules (CSAPR) and Acid Rain programs. Compliance demonstrations for both are reported directly to USEPA. The facility also has system-wide Annual NO_x tonnage limitations and System-Wide Annual SO₂ tonnage limitations. These limits are combined with other fleetwide emissions and were not evaluated as part of this inspection.

One stack is listed in association with EUBOILER2, which is shared with EUBOILER1. The stack was observed venting unobstructed vertically. The stacks appeared to be consistent with the dimensions listed in MI-ROP-B2835-2020b.

EUBOILER3:

EUBOILER3 is an 8240 MMBtu/hr. dry bottom, wall-fired boiler with fuel oil startup capability. The emissions from this unit are controlled by low-NO_x burners, Activated Carbon Injection (ACI), Dry Sorbent Injection (DSI), and a Pulse Jet Fabric Filter (PJFF) baghouse. All control equipment was noted properly operating during the time of the inspection. This unit is subject to the provisions of 40 CFR Part 63 Subpart UUUUU for Coal and Oil-fired Electric Utility Steam Generating Units, also known as the Mercury and Air Toxics Standards (MATS), and 40 CFR Part 64, Compliance Assurance Monitoring (CAM). The CAM requirements are located in FGBOILER12, and the MATS requirements are located in FGMATS_U12 below. This unit is also subject to the requirements of 40 CFR Part 63 Subpart UUUUU, and the MATS requirements can be found in FGMATS_U3 below.

PM emissions are limited to 0.030 lbs./ MMBtu heat input, 0.10 lbs./MMBtu heat input, and 0.015 lbs./MMBtu heat input. JHC uses a PM CEMS to demonstrate compliance with PM limitations. Additionally, in a letter dated January 30, 2020, USEPA granted the permission of the use of the PM CEMS to demonstrate compliance with the filterable PM emission limits on a 3-hour rolling average basis in lieu of stack testing for filterable and condensable PM. This change was subsequently updated in the ROP through a PTI and rolled into the ROP during the most recent ROP modification in May 2021.

The CEMS for SO₂ is used to demonstrate compliance with the HCl limit, as allowed under the MATS regulation. EUBOILER3 has a rolling 30-day SO₂ limit of 0.20 lb./MMBtu. During the inspection it was noted that the 30-day rolling average for SO₂ was 0.058 lbs./ MMBtu.

The following table lists the remaining emission limitations for EUBOILER3:

Emissions data for EUBOILER3

Unit Number	Pollutant	Limit	Observed Value	Averaging time
3	NO _x	0.70 lb./MMBtu	0.061 lbs/MMBtu	3 Hour Rolling Average

3	NO _x	6,130 pph	471.9 pph	Daily Average
3	NO _x	18,750 tpy	1,615 tpy (June 2022)	Highest 12 Month Rolling Average
3	NO _x	0.100 lbs./MMBtu	0.045 lbs./MMBtu	30 Day Rolling Average
3	NO _x	0.080 lbs./MMBtu	0.051 lbs./MMBtu	90 Day Rolling Average
3	SO ₂	1.2 lbs./MMBtu	0.042 lbs./MMBtu	Continuous
3	SO ₂	31,650 tpy	1,587 tpy (July 2022)	12 Month Rolling Average
3	SO ₂	10,500 pph	273.5 pph	Daily Average
3	SO ₂	1.00 lbs./MMBTU	0.058 lbs./MMBtu	30 Day Rolling Average
3	SO ₂	0.085 lbs./MMBtu	0.058 lbs/MMBtu	30 Day Rolling Average
3	SO ₂	0.070 lbs./MMBtu	0.052 lbs./MMBtu	365 Day Rolling Average
3	Opacity	20 %	0 %	6 Minute Average
3	PM	0.10 lbs./MMBTU	Verifiable through stack testing*	Hourly*
3	PM	0.015 lbs./MMBTU	0.0058	3 Hour Rolling Average
3	PM	1,080 tpy	27 tpy (June 2022)	Highest 12 Month Rolling Average
3	PM	370 pph	3.092 pph	Hourly
3	Hg	1.2 lbs./TBTU	0.837 lbs./TBTU	

30 Day Rolling Average

* USEPA granted the permission of the use of the PM CEMS to demonstrate compliance with the filterable PM emission limits on a 3-hour rolling average basis in lieu of stack testing for filterable and condensable PM.

The 12-month rolling data records were reviewed for the time period of June 2022 through May 2023.

JHC uses a Continuous Emissions Monitoring System (CEMS) to continuously monitor NO_x, CO₂, and SO₂ emissions.

EUBOILER3 Operating Parameters

Process Parameter	Observed Information	Operating Time
Load	491 mW	N/A
Coal Type	100% Western Coal	N/A
Coal Flow	535 kpph	N/A
DSI	71-91	Gpm of lime
ACI	3 pph for Side A 1 pph for Side B	pph of Carbon Injected
Opacity	0%	6-Minute Average

Pulse Jet Fabric Filter Baghouse Parameters

Process Parameter/Description	Observed Information
<i>Pulse Jet Fabric Filter</i>	
Fields in Service	12 Out of 12 fields
Differential Pressure	Ranging from 6-6.5 Inches of Water Column (WC) for Side A Ranging from 6.1 – 6.4 Inches of WC for Side B
Opacity	1.7 % - 6-minute average

JHC is required to have a malfunction abatement plan (MAP) for this unit, which has been implemented and maintained. EUBOILER3 is also subject to 40 CFR Part 64 – Compliance Assurance Monitoring (CAM).

This unit is subject to the Cross-State Air Pollution Rules (CSAPR) and Acid Rain programs. Compliance demonstrations for both are reported directly to USEPA. The facility also has system-wide Annual NO_x tonnage limitations and System-Wide Annual SO₂ tonnage limitations. These limits are combined with other fleetwide emissions and were not evaluated as part of this inspection.

One stack is listed in association with EUBOILER3. The stack was observed venting unobstructed vertically. The stacks appeared to be consistent with the dimensions listed in MI-ROP-B2835-2020b.

EUCOALHAND:

This emission unit consists of all the coal handling operations throughout the facility and is comprised of two (2) dumper buildings, transfer conveyors, a transfer building, a breaker house, bunker rooms, and the coal pile storage area itself.

JHC uses various enclosures, baghouses, and dust suppression measures to control emissions. The dust collectors serving the breaker house, bunker houses, and the reclaim hopper (DC #4, #5, #6, #7, and #9) are subject to New Source Performance Standards 40 CF Part 60 Subpart Y for Coal Preparation and Processing Plants. Initial Performance testing for these baghouses has already been completed.

JHC had historically been receiving at least one (1) train full of coal per day, however, Mr. Starken informed MTC that they have not been receiving as many trains of coal as they would like, thus they have been operating all three (3) boilers at low load. JHC regularly grooms the coal pile and implements their fugitive dust plan to minimize dust. JHC has been submitting fugitive dust reports indicating the control measures that have taken by the facility. JHC has also implemented a MAP for this emission unit.

PM emissions are limited to 0.10 pounds per 1,000 pounds exhaust gas, on a dry basis from each discharge point, as verifiable through any requested stack testing. No testing is being requested at this time. Each discharge point also has an opacity limit of 20%. All baghouses were properly operating during the inspection, and no opacity was observed during the inspection. JHC is monitoring visible emissions from the dust collectors once per day, when operating. Records of the daily visible emissions observations were reviewed on site. No issues were noted. Each baghouse is equipped with pressure drop indicators and were operating within the specified range of 1-7" WC during the inspection.

Dust Collectors #1, #10, and #11 which serve the dumper houses, the coal yard hopper, and EUBOILER1-2 are also subject to the provisions of 40 CFR Part 64 for Compliance Assurance Monitoring (CAM). All CAM compliance documentation has successfully been submitted.

EUSDA_U3:

This emission unit covers the lime preparation operations that support the Spray Dry absorber (SDA) for EUBOILER3, and include the storage silos, vertical ball mills, and lime slurry transfer and product tanks. The storage silos are controlled by bin vent filters, the ball mill emissions are controlled by spray scrubbers, and the recycle mix tank emissions are controlled by a spray scrubber. The two (2) recycle silos are subject to the provisions of 40 CFR Part 64 for CAM.

There is a 5% opacity limit for each of the bin vent filters and each spray scrubber in EUSDA_U3. PM emissions are limited to 0.004 gr/dscf of exhaust gas from the bin vent filters and 0.01 gr/dscf of exhaust gas for the spray scrubber. Additional PM₁₀ limits for EUSDA_U3 are 0.021 pph and 0.024 pph for various spray scrubber emission points, and 0.02 pph or 0.03 pph for the bin vent filter emission points. The PM_{2.5} limit for the bin vent filters is 0.02 pph or 0.03 pph; while the PM_{2.5} limits for the various spray scrubber emission points are 0.024 pph, and 0.021 pph. Testing may be requested to verify emission rates from this emission unit. Testing is not being requested at this time.

The recycle silos are subject to CAM, with opacity being used as the indicator for compliance with the PM limits. JHC conducts non-certified visible emissions observations to demonstrate compliance. Records of the visible emissions observations were observed on site. No issues were noted.

JHC has implemented a MAP for this unit to ensure proper operation. Indicators from the MAP include monitoring differential pressure for the lime storage silos, recycle ash silos, and the filter separators. JHC is also monitoring and recording visible emissions from the appropriate points for this emission unit. The above-mentioned Campbell Complex Fugitive Dust Plan also helps ensure minimal fugitive dust.

EUSDI_U12:

This emission unit is for the dry sorbent injection (DSI) material handling for EUBOILER1 and EUBOILER2. The emission unit includes the sorbent silos (hydrated lime or other sorbent) and pneumatic transfer. No visible emissions were noted from this equipment during the inspection.

Each bin vent filter in EUSDI_U12 has an opacity limit of 5%. The bin vent filters also have a PM limit of 0.004 gr/dscf of exhaust gases, a PM₁₀ limit of 0.08 pph, and a PM_{2.5} limit of 0.08 pph. JHC has implemented a MAP to ensure proper operation. Indicators from the MAP include monitoring the differential pressure and the lime injection rate. JHC is also monitoring visible emissions from the appropriate bin vent filters by conducting non-certified visible emissions observations. Records of the visible emissions observations were observed on site. No issues were noted.

JHC also uses the Campbell Complex Fugitive Dust Plan for this emission unit to minimize fugitive emissions. JHC appears to be taking appropriate measures to minimize fugitive dust.

EUACI_U123:

EUBOILER1-3 have activated carbon (or other sorbent) material handling, including the silos, that are covered under this emission unit. Each bin vent filter has a PM emission limit of 0.004 gr/dscf of exhaust gas. Other bin vent filters as part of this emission unit have additional PM emission limits, including PM₁₀ limits of 0.45 pph and 0.41 pph, and PM_{2.5} limits of 0.045 pph and 0.041 pph, depending on the emission point.

The Campbell Complex Fugitive Dust Plan and the MAP have been implemented and maintained to minimize fugitive emissions and ensure proper operation of the bin vent filters. Indicators in the MAP include monitoring the differential pressure, the injection rates, and the fill level. JHC is also monitoring and recording the visible emissions from the appropriate bin vent filters. Records of the visible emissions observations were observed on site. No issues were noted.

EUBYPRODUCT:

This emission unit covers the ash and byproduct handling system that transports ash and byproduct from the plant to the disposal silos. Equipment included in this emission unit are transfer tanks, (2 for the EUBOILER3 system and 2 for the EUBOILER1-2 system) with associated vacuum exhausters, and common disposal silos and truck loading. Some of the transfer tanks, and the landfill silos in this emission unit are subject to CAM requirements.

There is an opacity limit of 5% from various bin vent filter emission points, as well as a PM limit of 0.004 gr/dscf of exhaust gas. The transfer tanks also have the PM emission limit of 0.004 gr/dscf of exhaust gases. Additional emission limits for the transfer tank vacuum exhausters include PM₁₀ limits of 0.03 pph and PM_{2.5} limits of 0.03 pph. The various bin vent filters have PM₁₀ limits of 0.03 pph, 0.55 pph or 0.05 pph and PM_{2.5} limits of 0.03 pph or 0.55 pph or 0.05 pph, depending on the vent.

Each byproduct transfer tanks vacuum exhaust is discharged to a Pulse Jet Fabric Filter (PJFF) baghouse for one of the three (3) boilers except when EUBOILER1 is not operating. In that instance, the exhaust from the filter/separator associated with EUBOILER2 may be exhausted to atmosphere. JHC is tracking where the exhaust and when it is being exhausted to atmosphere. JHC is also noting if there are any visible emissions during the time the transfer tanks are being exhausted to atmosphere. Visible emissions are used as the indicator of the proper functioning of the PM control devices, for the CAM subject emission points. Records of the visible emissions observations were observed on site. No issues were noted.

JHC has implemented a MAP for this emission unit as well as utilizing fugitive dust control measures as outlined in the Campbell Complex Fugitive Dust Plan. JHC has been submitting fugitive dust reports indicating the actions taken to minimize fugitive dust from this emission unit.

EUAUXBLR12:

This emission unit is one (1) common auxiliary boiler for EUBOILER1- 2, which is a 17 MMBtu/hr limited use oil-fired tube boiler. This boiler is subject to 40 CFR Part 63 Subpart DDDDD for Industrial, Commercial, and Institutional Boilers and Process Heaters. Since this is a limited use boiler, the oil used in this boiler has a 10% annual capacity factor on the oil. This annual capacity factor means the ratio between the actual heat input to a boiler from the fuels burned during a calendar year to the potential heat input to the boiler had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity. The fuel burned in this boiler is limited to a sulfur content of 0.5% sulfur by weight based on a higher heating value of 18,000 btu/lb. Fuel records were reviewed on-site and indicated the sulfur content is within the permitted limit.

Tune-ups are required ever five years, and records indicate the most recent tune-up was done on September 8, 2022. The annual compliance report was properly submitted. No issues were noted.

EUCAT3DIESEL

This emission unit is a 9.4 MMBTU emergency diesel-fired stationary internal combustion engine subject to 40 CFR Part 63 Subpart ZZZZ for Reciprocating Internal Combustion Engines. This engine burns diesel fuel only, and the sulfur content of the fuel is limited to 1.0% allowed by weight at 18,000 btu/lb. Vendor diesel fuel certifications were reviewed on-site, and the sulfur content was noted to be within permitted limits. The fuel used for this engine has a sulfur content of less than 0.0015 % by weight and is categorized as Ultra Low Sulfur Diesel (ULSD) fuel. The engine was not in use during the time of the inspection and is equipped with a non-resettable hour meter. Operating Hours records were reviewed on site which indicated a total of 14.5 hours of operation in the previous 12-month time period for maintenance and readiness testing. EUCAT3DIESEL is on an annual preventative maintenance schedule. Preventative Maintenance records were requested and reviewed following the inspection. It was noted that the last preventative maintenance was conducted on November 18, 2022.

EUCATDIESEL12:

This emission unit is a 2,000-kilowatt (kW) diesel-fueled emergency generator installed in 2012. This unit is subject to NSPS Subpart 40 CFR Part 60 Subpart IIII for Reciprocating Compression Ignition Internal Combustion Engines as well as 40 CFR Part 63 Subpart ZZZZ for Reciprocating Internal Combustion Engines. Compliance with Subpart ZZZZ is demonstrated by complying with Subpart IIII. This engine is a certified engine, which meets the emission limits of 6.4 g/kW-hr for NMHC+ NOx, 3.5 g/kW-hr for CO, and 0.2 g/kW-hr for PM. Vendor diesel fuel certifications were

reviewed on-site. The fuel used for this engine has a sulfur content of less than 0.0015 % by weight and is categorized as Ultra Low Sulfur Diesel (ULSD) fuel. The engine was not in use during the time of the inspection and is equipped with a non-resettable hour meter. Operating hours records were reviewed on site which indicated a total of 19 hours of operation in the previous 12-month time period for maintenance and readiness testing. EUCATDIESEL12 is on an annual preventative maintenance schedule. Preventative Maintenance records were requested and reviewed following the inspection. It was noted that the last preventative maintenance was conducted on November 17, 2022.

EUGUARDSHK_ENG:

This emission unit is for one (1) natural gas internal combustion engine rated at 40 HP that is exempt from Rule 201 permitting under Rule 285(2)(g) but is subject to 40 CFR Part 63 Subpart ZZZZ and 40 CFR Part 60 Subpart JJJJ. Compliance with 40 CFR Part 63 Subpart ZZZZ is demonstrated by complying with 40 CFR Part 60 Subpart JJJ. This engine is a Certified engine, which meets the emission limits of 10 g/hp-hr. for NOx+Hc and 387 g/hp-hr. for CO. The engine was not in use during the time of the inspection and is equipped with a non-resettable hour meter. Operating hours records were reviewed on site which indicated a total of 13.8 hours of operation in the previous 12-month time period for maintenance and readiness testing. EUGUARDSHK_ENG is on an annual preventative maintenance schedule. Preventative Maintenance records were requested and reviewed following the inspection. It was noted that the last preventative maintenance was conducted on November 15, 2022.

FGBOILER12:

This flexible group covers the common Compliance Assurance Monitoring (CAM) requirements for EUBOILER1 and EUBOILER2 pursuant to 40 CFR Part 64. These boilers exhaust through a common stack, however, each boiler has its own CEMS and COMS units.

Both units utilize separate continuous opacity monitoring system (COMS) that are used as the indicator for compliance with the PM limits. The PM emission limits are described in EUBOILER1 and EUBOILER2. JHC continually monitors the opacity of the units and conducts daily calibrations, maintenance for the monitors, and annual monitor audits. JHC has been properly submitting all required CAM reports to the AQD.

FGMATS_U12:

This flexible group houses the requirements of 40 CFR Part 63 Subpart UUUUU (Mercury and Air Toxics Standard or MATS) for EUBOILER1-2.

The MATS requirements have emission limits of 0.030 lb./MMBTU for filterable PM, 0.0020 lb./MMBTU for HCl (both based upon stack testing), and 1.2 lb./TBTU, based upon a 30-day boiler operating day arithmetic average, for Mercury. Low Emitting EGU (LEE) status for any pollutant, except for mercury, requires the performance testing data to be less than 50% of the applicable standard.

In a letter dated July 11, 2019, Consumers Energy submitted an updated Notice of Compliance Status (NOCS) pursuant to the MATS rules for Boiler 1. In a letter dated August 8, 2019, Consumers Energy submitted an updated Notice of Compliance Status (NOCS) pursuant to the MATS rules for Boiler 2. These units have successfully completed the three (3) years of consecutive quarterly testing for PM and HCl, as required, and meets the LEE criteria as defined in 63.1005(h)(1)(i). Therefore, future stack testing is now required every three (3) years to demonstrate compliance with the MATS regulation. The most recent stack test was conducted on May 16, 2023 through May 18, 2023.

Tune-ups of EUBOILER1-2 were most recently conducted in August and June 2021. All notifications and reports have been submitted to both the AQD and to CEDRI, as required. No emergency bypass has been used for either unit and there has not been any deviations from work practice standards.

Tune-ups for the three units were conducted in August 2021, June 2021, and September 2021, respectively. No excess emission or deviations in work practice standards were reported for any of the units.

FGMATS_U3:

This flexible group covers the requirements of 40 CFR Part 63 Subpart UUUUU (Mercury and Air Toxics Standard or MATS) for EUBOILER3. EUBOILER3 relies on the use of a Continuous Emission Monitoring System (CEMS) to demonstrate compliance with the emission limits for PM, SO₂, and Hg. These limits are: 0.030 lb./MMBTU for PM, 0.20 lb./MMBTU for SO₂, and 1.2 lb./TBTU for Hg. Semi-Annual and Annual reports have been submitted as required, including the demonstration of compliance with these emission limits at 0.000546 lb./MMBTU for PM, 0.896 lb./MMBTU for Hg, and 0.057 lb./MMBTU for SO₂.

The most recent tune-up of the boiler was conducted in September 2021. No emergency bypass has been used, and there have been no deviations from work practice standards. JHC is submitting semi-annual compliance reports as required.

FGEXISTINGRICE:

This flexible group is comprised of four (4) diesel fired emergency reciprocating internal combustion engines that are subject to the provisions of 40 CFR Part 63 Subpart ZZZZ for reciprocating internal combustion engines. Vendor diesel fuel certifications were reviewed on-site. The fuel used for this engine has a sulfur content of less than 0.0015 % by weight and is categorized as Ultra Low Sulfur Diesel (ULSD) fuel. All engines included in this flexible group are equipped with a non-resettable hour meter. Operating hours records were reviewed on site. The following table identifies the hours of operation from each engine:

Engine:	Hours of Operation	Time Period
EUCATFIREPUMP3	17.2	12-month rolling
EUHPHSWP15001	3.6	12-month rolling
EUHPHSWP15002	7.2	12-month rolling
EUHPHSWP3000	3.8	12-month rolling

***Hours of operation for each engine is categorized as operation for maintenance/readiness testing**

These engines are on an annual preventative maintenance schedule. Preventative Maintenance records were requested and reviewed following the inspection. It was noted that the last preventative maintenance conducted on the engines occurred on November 15, 2022, December 6, 2022, November 28, 2022, and November 26, 2022, respectively.

FGNEWCIRICE:

This flexible group covers two (2) compression ignition reciprocating internal combustion engines. Both of these engines are diesel fired. Both of these engines are subject to NSPS 40 CFR Part 60 Subpart IIII and to the MACT standard 40 CFR

Part 63, Subpart ZZZZ. Compliance with the requirements of 40 CFR Part 63 Subpart ZZZZ is demonstrated by compliance with 40 CFR Part 60 Subpart IIII.

One of the engines, EUWPDIESEL is a 130 Horsepower (HP) emergency water pump for fire suppression that is certified to the Tier 3 requirements. Since this is a certified engine, it is compliant with the NMHC+ NOx limit of 4.0 g/kW-hr, CO limit of 5.0 g/kW-hr, and the PM limit of 0.30 g/kW-hr. The other emission unit, EUTRNCNTRDIESEL, is an emergency generator at the training center, rated at 1,193 bhp. This emission unit, is also certified, but has slightly different emission limits at 6.4 g/kW-hr for NMHC+NOx, 3.5 g/kW for CO and 0.2 g/kW-hr.

Vendor diesel fuel certifications were reviewed on-site. The fuel used for this engine has a sulfur content of less than 0.0015 % by weight and is categorized as Ultra Low Sulfur Diesel (ULSD) fuel. All engines included in this flexible group are equipped with a non-resettable hour meter. Operating hours records were reviewed on site. The following table identifies the hours of operation from each engine:

Engine:	Hours of Operation	Time Period
EUWPDIESEL	8	12-month rolling
EUTRNCNTRDIESEL	45.3	12-month rolling

***Hours of operation for each engine is categorized as operation for maintenance/readiness testing**

These engines are on an annual preventative maintenance schedule. Preventative Maintenance records were requested and reviewed following the inspection. It was noted that the last preventative maintenance conducted on the engines occurred on December 6, 2022, and May 10, 2022, respectively.

FGAUXBLRS3:

There are two (2) 9.8 MMBtu distillate oil fired boilers that provide heat to building 3 in this flexible group. The boilers are used primarily for comfort heat. These boilers are exempt from rule 201 permitting under Rule 282(2)(b)(ii) but are subject to the provisions of 40 CFR Part 63 Subpart DDDDD. The boilers burn ULSD fuel oil with a sulfur content of less than 0.4% by weight, at 18,000 btu/lb. All required notifications

have been submitted, and tune-ups completed. These boilers most recently had tune-ups conducted on September 8, 2022, and September 22, 2022. The tune ups included inspections of the burners, flame pattern, air-to fuel ration control system, changing out a motor, and others. The tune-up also certifies that the boiler is complying with all provisions of 40 CFR Part 63, Subpart DDDDD.

FGPARTSCLEANERS:

This flexible group covers all existing or future cold cleaners exempt from Rule 201 permitting under Rules 281(2)(h) and 285(2)(r)(iv). All parts observed on-site were noted to be labeled and closed.

Compliance Determination

Based on the observations made during the inspection and review of the required records and reports, JHC appears to be in compliance with MI-ROP-B2835-2020b and all other State and Federal Air Pollution rules and regulations.

NAME Michael T. Cox

DATE 7/20/2023

SUPERVISOR HH