

DEPARTMENT OF ENVIRONMENTAL QUALITY  
 AIR QUALITY DIVISION  
**ACTIVITY REPORT: Scheduled Inspection**

B283555596

<b>FACILITY:</b> J. H. Campbell Plant		<b>SRN / ID:</b> B2835
<b>LOCATION:</b> 17000 Croswell, WEST OLIVE		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> WEST OLIVE		<b>COUNTY:</b> OTTAWA
<b>CONTACT:</b> Kevin Starken , Senior Engineer II		<b>ACTIVITY DATE:</b> 09/17/2020
<b>STAFF:</b> Kaitlyn DeVries	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> The purpose of this inspection was to determine compliance with the facility's renewable operating permit (ROP) MI-ROP-B2835-2020a.		
<b>RESOLVED COMPLAINTS:</b>		

On September 17, 2020, Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff Kaitlyn DeVries (KD) conducted a virtual inspection of the Consumers Energy, JH Campbell Coal Fired electric generating facility located at 17000 Croswell, Port Sheldon, Michigan. Additional observations of the plant were made, from off site, on various days throughout the 2020 fiscal year. The purpose of this inspection was to determine compliance with the facility's renewable operating permit (ROP) MI-ROP-B2835-2020a. The inspection was conducted virtually because of additional restrictions that were in place due to the COVID-19 Pandemic. Specifically, JH Campbell was limiting access to the control room area where the operational parameters of the boilers could be obtained. The virtual inspection consisted primarily of screen sharing to view the operational parameters of the boilers that were in operation and reviewing of the associated records.

For the virtual inspection, KD met with Mr. Kevin Starken, Senior Engineer II, who is the primary contact for on-site activities at the facility.

**Facility Description**

Consumers Energy JH Campbell (JHC) plant is a coal fired electric generating station. There are three (3) units, which use primarily pulverized Western Coal, with Unit 2 having the capability to use Eastern Coal. The facility is located adjacent to Lake Michigan, across from Pigeon Lake.

The three (3) units were installed in 1958, 1963, and 1974. Table 1 outlines each of the three (3) boiler designs and the control equipment associated with each respective unit.

**Table 1: JHC Boiler Design and Specifications as of August 2018**

	<b>Unit 1<sup>A</sup></b>	<b>Unit 2<sup>A</sup></b>	<b>Unit 3</b>
<b>Capacity and Description</b>	2490 MMBtu per hour dry bottom tangential fired boiler with fuel oil startup capabilities	3560 MMBtu per hour wall-fired boiler with fuel oil startup capability	8420 MMBtu per hour dry bottom, wall-fired boiler with fuel startup capability.
<b>Coal Type Capability</b>	100% Western Coal	0 – 100% Western Coal 0-100% Eastern Coal	100% Western Coal
<b>Pollution Control Equipment</b>	ACI <sup>B</sup> DSI <sup>C</sup> PJFF <sup>E</sup> Low NOx Burners	ACI <sup>B</sup> DSI <sup>C</sup> PJFF <sup>E</sup> SCR <sup>F</sup> Low NOx Burners	ACI <sup>B</sup> SDA <sup>D</sup> PJFF <sup>E</sup> SCR <sup>F</sup> Low NOx Burners

<sup>A</sup> Units 1 and 2 exhaust through a common stack

<sup>B</sup> ACI – Activated Carbon Injection

<sup>C</sup> DSI – Dry Sorbent Injection

<sup>D</sup> SDA – Spray Dry Absorption

<sup>E</sup> PJFF – Pulse Jet Fabric Filter

<sup>F</sup> SCR – Selective Catalytic Reduction

## Regulatory Analysis

JHC is currently operating under Title V permit MI-ROP-B2835-2020a. JHC recently rolled in PTI No. 50-20 into the ROP to correct erroneous emission limits for the water pump, EUWPDIESL. Incorrect emission limits cited from 40 CFR Part 60 Subpart IIII were listed in the previous permit, and this permit was issued to correct that limit.

JHC is also subject to Title IV (Acid Rain). In addition to the applicable Michigan air quality rules, JHC is subject to the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subparts UUUUU, for Coal – and – Oil – Fired Electric Utility Steam Generating Units, ZZZZ, for Stationary Reciprocating Internal Combustion Engines, DDDDD, for Industrial, Commercial, and Institutional Boilers and Process Heaters at Major Sources, and Subpart YYYYY for Stationary Combustion Turbines. JHC is also subject to the provisions of the New Source Performance Standards (NSPS) 40 CFR Part 60 Subparts Y for Coal Preparation and Processing Plants, IIII for Stationary Reciprocating Internal Compression Ignition Engines. Additional applicable Federal Regulations include: 40 CFR Part 64, Compliance Assurance Monitoring (CAM), and 40 CFR Part 96 for NOx trading. Each of the three (3) units are also subject to the provisions of the Cross-State Air Pollution Rules (CSAPR).

JHC also entered into a Consent Decree with USEPA; the provisions of the Consent Decree have been incorporated into the ROP via PTI's. There are fleetwide emission limitations established under the Consent Decree, but these will not be evaluated as part of this report. As of September 2, 2020, the Consent Decree with USEPA was terminated. However, since the provisions of the Consent Decree were incorporated through Michigan's Permit to Install

Process first, the requirements of the Consent Decree remain and are permanently in place.

## **Compliance Evaluation**

### *EUBOILER1*

Unit 1 is a 2490 MMBTU tangential fired boiler with fuel oil startup capabilities. The emissions from this unit are controlled by low-NOx burners, ACI, DSI, and a PJFF baghouse. All control equipment was installed and properly operating. 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 the ROP in FGBOILER12, and the MATS requirements are located in FGMATS\_U12.

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 resulted in a three (3) run average PM emission rate of 0.0025 lb/MMBtu. JHC will be conducting the required stack testing again in October of 2020.

Table 2, below, outlines emission limitations for the unit; Table 3 and 4 outline operational parameters of the boilers, and the observations made during the September 17, 2020 virtual inspection.

**Table 2: 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 <sub>x</sub>	0.220 lbs/MMBtu	0.182lbs/MMBtu	365 Day Rolling Average
1	SO <sub>2</sub>	0.350 lbs/MMBtu	0.270 lbs/MMBtu	30 Day Rolling Average
1	SO <sub>2</sub>	0.290 lbs/MMBtu	0.265 lbs/MMBtu	90 Day Rolling Average
1	PM	0.015 lbs/MMBTU	0.0025 lbs/MMBtu	Based upon stack testing
1	Opacity	20%	2.0%	Per 6-minute period except for one 6-minute period per hour of not more than 27%
1	SO <sub>2</sub>	1.67 lbs/MMBTU	0.271 lbs/MMBTU	Monthly average based on the average of the 31 previous operating days
1	Hg	1.2 lbs/TBTU <sup>A</sup>	0.768 lbs/TBTU	30 Day Rolling Average

<sup>A</sup>This limit is a MATS limit

JHC uses a Part 75 Certified CEMS to continuously monitor SO<sub>2</sub> emissions. In addition to the SO<sub>2</sub> CEMS, JHC also has a NO<sub>x</sub>, and a mercury CEMS along with a COMS unit. Additionally, JHC is planning on conducting stack testing for PM again in October of 2020.

**Table 3: Boiler 1 Operating Parameters**

Process Parameter	Observed Information	Operating Time <sup>A</sup>
Gross MW	240	
Net MW	225	
Total Coal Flow	245,000 pph <sup>B</sup>	
Coal Type	100% Western Coal	
DSI	2565 pph	pph of Lime Injected
ACI	93 pph	pph of carbon injected
Opacity <sup>C</sup>	2.0 %	6-Minute Average
SO <sub>2</sub>	0.265 lbs/ MMBtu	1 Hour Rolling Average
Hg	1.0255 lbs/TBTU	Instantaneous

<sup>A</sup> Operating time for appropriate parameters only

<sup>B</sup> pph – pounds per hour

<sup>C</sup> EUBOILER1 and EUBOILER2 share a common stack, however each boiler has their own COMS unit.

JHC burns western coal, as mentioned in Table 3, and 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 based on the average of the 31 previous operating days. Records indicate the sulfur content of the coal is compliant with the limit.

**Table 4: Pulse Jet Fabric Filter Baghouse Operating Parameters**

Process Parameter/Description	Observed Information
Fields in Service	8 Out of 8 fields
Differential Pressure	6.4 Inches of Water Column (WC)
Temperature Drop	4°F
Opacity	2.0% - 6-minute average
Cleaning Air Pressure	2.4 Pounds per Square Inch (PSI)
System Drag	2.05

JHC is required to have a malfunction abatement plan (MAP) for this unit, which has been successfully implemented. This unit 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. Please reference FGBOILER12 for further evaluation of CAM.

This unit is subject to Acid Rain and the Cross-State Air Pollution Rules (CSAPR) programs. Compliance demonstrations for both are reported directly to USEPA. The facility also has system-wide Annual NO<sub>x</sub> tonnage limitations and System-Wide Annual SO<sub>2</sub> tonnage limitations; however, these limits are combined with other fleetwide emissions and are not evaluated as part of this Full Compliance Evaluation.

The stack dimensions were not explicitly measured, but there was no evidence of change, and the dimensions appeared to be correct; EUBOILER1 shares a stack with EUBOILER2.

*EUBOILER2*

Unit 2 is a 3560 MMBTU wall-fired boiler with fuel start-up capability. Emissions are controlled by low-NOx burners, a SCR, ACI, DSI, and a PFJJ baghouse. This unit is also subject to MATS and to CAM. Cam requirements can be found in FGBOILER12 and MATS requirements can be found in FGMATS\_U12.

Unit 2 was down on the date of the virtual inspection. Per Mr. Starken, the unit was taken down and went into early schedule outage due to a primary fan that went out and due to economic reason because of low energy demand related to the COVID-19 pandemic. Testing for PM emissions had been scheduled for later in calendar year 2020, however, per Mr. Starken due the unit being in outage and likely to stay in outage for a while, JHC will test the unit upon startup. The AQD is not requiring JHC to put the unit back online solely to test, thus JHC will be reporting the missed testing as a deviation and will test the unit upon re-start.

Emission limitations are outlined in Table 5, and operational parameters are outlined in Table 6 and 7.

**Table 5: Emissions data for Boiler 2**

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 <sub>x</sub>	0.100 lbs/ MMBtu	0.047 lbs/ MMBtu	30 Day Rolling Average
2	NO <sub>x</sub>	0.080 lbs/ MMBtu	0.047 lbs/ MMBtu	90 Day Rolling Average
2	SO <sub>2</sub>	0.320 lbs/ MMBtu	0.262 lbs/ MMBtu	365 Day Rolling Average
2	PM	0.015 lb./MMBTU	0.0015 lb./ MMBtu	Hourly
2	SO <sub>2</sub>	1.67 lbs/MMBTU	0.262 lbs/ MMBtu	Monthly average based on the average of the 31 previous boiler operating days
2	Opacity	20%	0.0%	Per 6-minute period except for one 6-minute period per hour of not more than 27%
2	Mercury (Hg)	1.2 lbs/TBTU <sup>A</sup>	0.758 lbs/TBTU	30 Day Rolling Average

<sup>A</sup> This limit is a MATS limit

JHC uses a Part 75 Certified continuous emissions monitoring system (CEMS) to continuously monitor SO<sub>2</sub> emissions, as required by the Consent Decree. In addition to the SO<sub>2</sub> CEMS, JHC also has a NO<sub>x</sub>, and a mercury CEMS along with a COMS unit.

Due to the Covid-19 Pandemic and the limited access to the facility, Unit 2 was not in operation at the time of the virtual inspection, thus the operational parameters of the Boiler

and the Baghouse, as described in Tables 6 and 7, are limited and are based upon the last day that the unit operated before coming down for scheduled maintenance.

**Table 6: Boiler 2 Operating Parameters**

Process Parameter	Observed Information	Operating Time <sup>A</sup>
Gross Mw	330 Mw	
Net Mw	310 Mw	
Coal Type	1000% Western Coal <sup>B</sup>	
DSI	2,250 pph	pph of lime Injected
ACI	42 pph	pph of carbon injected
Opacity <sup>C</sup>	0.0%	6-Minute Average
Hg	0.911 lbs/TBTU	Instantaneous

<sup>A</sup> Operating time for appropriate parameters only

<sup>B</sup> This unit has the capability to burn a blend of eastern and western coal.

<sup>C</sup> EUBOILER1 and EUBOILER2 share a common stack; each unit has their own COMS.

As mentioned in footnote B of Table 6, Unit 2 typically uses 100% Western Coal, but has the capability of using Eastern Coal in a blend. Per Mr. Starken, JHC has not burned any eastern coal in some time. They have, however, burned western bituminous coal and subbituminous coal that contained a different chlorine, heat content and moisture content compared to the western subbituminous or mixtures of subbituminous and eastern bituminous coals that are normally combusted. The sulfur content of the coal is limited to 1.0% by weight at a heat content of 12,000 BTU/lb based upon a monthly average based on the average of the 31 previous operating days. Records indicate the sulfur content of the coal is compliant with the limit.

**Table 7: Pulse Jet Fabric Filter Baghouse Operating Parameters**

Process Parameter/Description	Observed Information
Differential Pressure	4.5 Inches of Water Column (WC)
Fields in Service	10 of 10 fields

JHC is required to have a malfunction abatement plan (MAP) for this unit, which the facility has implemented. This unit 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. Please reference FGBOILER12 for further evaluation of CAM.

This unit is subject to Acid Rain and the CSAPR programs. Compliance demonstrations for both are reported directly to USEPA.

The stack dimensions were not explicitly measured, but there was no evidence of change, and the dimensions appeared to be correct; EUBOILER2 shares a stack with EUBOILER1.

### *EUBOILER3*

Boiler 3 is an 8240 MMBtu/hr dry bottom, wall-fired boiler with fuel oil startup capability. Emissions are controlled by low-NOx burners, a SCR, ACI, SDA, and a PJFF baghouse. All equipment was properly operating on the day of the visit. No issues were noted for this unit at

the time of the virtual inspection, or in any of the records. This unit is also subject to the requirements of 40 CFR Part 63 Subpart UUUUU, MATS and the evaluation of that regulation can be found in FGMATS\_U3.

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.

The Part 75 Certified CEMS for SO<sub>2</sub> is used to demonstrate compliance with the HCl limit, as allowed under MATS. The rolling 30-day SO<sub>2</sub> limit is 0.20 lb./MMBtu. On the date of the inspection, the 30-day rolling average for SO<sub>2</sub> was 0.061 lbs/ MMBtu.

Table 8 shows the remaining emission limitations for Boiler 3.

**Table 8: Emissions data for Boiler 3**

Unit Number	Pollutant	Limit	Observed Value	Averaging time
3	NO <sub>x</sub>	0.070 lb/MMBtu	0.050 lbs/MMBtu	3 Hour Rolling Average
3	NO <sub>x</sub>	6,130 pph	413 pph	Daily Average
3	NO <sub>x</sub>	18,750 tpy	1,096 tpy <sup>A</sup>	12 Month Rolling Average
3	NO <sub>x</sub>	0.100 lbs/MMBtu	0.051 lbs/MMBtu	30 Day Rolling Average
3	NO <sub>x</sub>	0.080 lbs/MMBtu	0.048 lbs/MMBtu	90 Day Rolling Average
3	SO <sub>2</sub>	1.2 lbs/MMBtu	0.065 lbs/MMBtu	3 Hour Rolling Average
3	SO <sub>2</sub>	31,650 tpy	1,318 tpy <sup>A</sup>	12 Month Rolling Average
3	SO <sub>2</sub>	10,500 pph	386.5 pph	Daily Average
3	SO <sub>2</sub>	1.00 lbs/MMBTU	0.061 lbs/MMBtu	30 Day Rolling Average
3	SO <sub>2</sub>	0.085 lbs/MMBtu	0.061lbs/MMBtu	30 Day Rolling Average
3	SO <sub>2</sub>	0.070 lbs/MMBtu	0.056 lbs/MMBtu	365 Day Rolling Average
3	Opacity	20 %	0.0 %	6 Minute Average
3	PM	1,080 tpy	14 tpy <sup>A</sup>	12 Month Rolling Average

<sup>A</sup> The 12-month rolling value is through July 2019

JHC uses a Part 75 Certified continuous emissions monitoring system (CEMS) to continuously monitor NO<sub>x</sub>, CO<sub>2</sub>, and SO<sub>2</sub> emissions.



**Table 9: Boiler 3 Operating Parameters**

Process Parameter	Observed Information	Operating Time <sup>A</sup>
Gross MW	906	
Net MW	850	
Coal Type	100% Western Coal	
Opacity	0.0%	6-Minute Average
Hg	0.783 lbs/TBTU	Instantaneous

<sup>A</sup> Operating time for appropriate parameters only

**Table 10: 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	6.6 and 6.9 Inches of Water Column (WC) for both Side A and Side B
Opacity	0.6 % - 6-minute average
Temperature Drop	6° F for Side A 3° F for Side B
Cleaning Air Pressure	7.0 PSI
System Drag	1.29

JHC is required to have a MAP for this unit, which the facility has implemented. This unit is also subject to 40 CFR Part 60 Subpart Da, the NSPS for Electric Utility Steam Generating Units.

This unit is subject to Acid Rain and the CSAPR programs. Acid rain compliance demonstrations are reported directly to USEPA on a quarterly basis.

The stack dimensions were not explicitly measured, but there was no evidence of change, and the dimensions appeared to be correct.

### *EU COALHAND*

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. To control emissions from these processes JHC uses various enclosures, baghouses, and dust suppression measures. The dust collectors serving the breaker house, bunker houses, and the reclaim hopper (DC #4, #5, #6, #7, and #9) are subject to the provisions of the 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 typically receives at least one (1) train full of coal per day. 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 they have taken.

PM emissions are limited to 0.10 pounds per 1,000 pounds exhaust gas, on a dry basis from each discharge point. Each discharge point also has an opacity limit of 20%; all baghouses were properly operating during each visit, as seen through the virtual inspection, and no opacity was observed. Each of the baghouses are equipped with pressure drop indicators and were operating within the specified range of 1-7" WC.

Dust Collectors #1, #10, and #11 which serve the dumper houses, the coal yard hopper, and Units 1 and 2 are also subject to the provisions of 40 CFR Part 64 for Compliance Assurance Monitoring (CAM).

### *EUSDA\_U3*

This emission unit covers the lime preparation operations that support the SDA for Boiler 3, 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 Compliance Assurance Monitoring.

There is a 5% opacity limit for each of the bin vent filters and each spray scrubber. PM emissions are limited to 0.004 gr/dscf of exhaust gas from the bin filters and 0.01 gr/dscf of exhaust gas for the spray scrubber. Additional PM<sub>10</sub> 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<sub>2.5</sub> limit for the bin vent filters is 0.02 pph or 0.03 pph; while the PM<sub>2.5</sub> limits for the various spray scrubber emission points are 0.024 pph, and 0.021 pph.

As previously mentioned, the recycle silos are subject to CAM. JHC uses opacity as the indicator for compliance with the PM limits, in respect to CAM. JHC conducts non-certified visible emissions observations to demonstrate compliance.

Additionally, JHC has properly implemented and maintains 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 aforementioned Campbell Complex fugitive dust plan also helps ensure minimal fugitive dust.

Testing may be requested to verify emission rates from this emission unit; however, testing is not being requested at this time.

### *EUSDI\_U12*

This emission unit is for the dry sorbent injection (DSI) material handling for Boilers 1 and 2. The emission unit includes the sorbent silos (hydrated lime or other sorbent) and pneumatic transfer.

The bin vent filters have an opacity limit of 5%. The bin vent filters also have a PM limit of 0.004 gr/dscf of exhaust gases, a PM<sub>10</sub> limit of 0.08 pph, and a PM<sub>2.5</sub> limit of 0.08 pph. JHC

has implemented and maintains 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.

JHC employs the Campbell Complex Fugitive dust plan for this emission unit to minimize fugitive emissions. Per the most recent quarterly fugitive dust report, appropriate measures have been taken to minimize fugitives.

### *EUACI\_U123*

All three (3) units activated carbon (or other sorbent) material handling, including the silos are covered under this emission unit. Each bin vent filter has a PM emission limit of 0.004 gr/dscf of exhaust gas. Other various bin vent filters have additional PM emission limits, including PM<sub>10</sub> limits of 0.45 pph and 0.41 pph, and PM<sub>2.5</sub> limits of 0.045 pph and 0.041 pph, depending on the emission point.

The Campbell Complex fugitive dust plan and the MAP, both of which been implemented and maintained, help to minimize fugitive emissions and ensure proper operation of the bin vent filters. Indicators in the MAP include monitoring the differential pressure and the injection rates, and the fill level. JHC is also monitoring and recording the visible emissions from the appropriate bin vent filters.

### *EUBYPRODUCT*

The 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 is transfer tanks (2 for the Unit 3 system and 2 for the Unit 1 and 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 40 CFR Part 64, Compliance Assurance Monitoring.

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 PM<sub>10</sub> limits of 0.03 pph and PM<sub>2.5</sub> limits of 0.03 pph. The various bin vent filters have PM<sub>10</sub> limits of 0.03 pph, 0.55 pph or 0.05 pph and PM<sub>2.5</sub> 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 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 is going, 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.

JCH has implemented and maintains a MAP for this emission unit as well has 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 dust.

### *EUAUXBLR12*

This emission unit is one (1) common auxiliary boiler for Units 1 and 2, which is a 17 MMBtu/Hr limited use oil-fired tube boiler and has been identified as a limited use boiler. This boiler is subject to the provisions of 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 indicate the sulfur content is compliant with this limit.

Tune-ups are required ever five years, and records indicate the most recent tune-up was done on August 27, 2020 with all the required item checked and appropriate adjustments made including adjustments made to the high fire to lower the CO emissions.

### *EUCAT3DIESEL*

This emission unit is a 9.4 MMBTU emergency diesel-fired installed in 2012. This unit is subject to the provisions of the new source performance standards (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 via compliance with Subpart IIII. This is a Certified engine, therefore meeting the emission limitations specified in Subpart IIII, unless modified. This engine burns diesel fuel only, and the sulfur content of the fuel is below the 1.0% allowed by weight at 18,000 btu/lb. The engine is equipped with an hour meter and was not in use during the time of the inspection. Records indicate a total of 6.6 hours of operation thus far during 2020.

### *EUCATDIESEL12*

This emission unit is a 2,000-kilowatt (kW) diesel-fueled emergency generator installed in 2012. This unit is subject to the provisions 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 via compliance with Subpart IIII. This is a Certified engine, thus meeting 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. The engine is equipped with an hour meter, and records indicate a total of 18.0 hours of operation during 2018. Additionally, the fuel used for this engine has a sulfur content of less than 0.0015 % by weight. Records indicate this engine has operated for a total of 7.7 hours thus far in calendar year 2020.

### *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 the provisions of 40 CFR Part 63 Subpart ZZZZ and 40 CFR Part 60 Subpart JJJJ. Compliance with 40 CFR Part 63 Subpart ZZZZ is demonstrated via compliance with 40 CFR Part 60 Subpart JJJJ. This is a Certified engine, and has emission limits of 10 g/hp-hr for NOx+Hc and 387 g/hp-hr for CO. JHC is properly tracking the hours of operation of this engine, and it is equipped with an hour

meter. As of August 2020, the engine has operated a total of 17.3 hours for calendar year 2020.

### *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.

Both units utilize a continuous opacity monitoring system (COMS) that is used as the indicator for compliance with the PM limits that are applicable. The PM limits are described in EUBOILER1 and EUBOILER2. JHC continually monitors the opacity of the units and conducts daily calibrations and maintenance for the monitors. JHC also does annual monitor audits. JHC has been properly submitting all required CAM reports to the AQD and has not indicated any deviations or excess emissions, in respect to CAM.

### *FGMATS\_U12*

This flexible group houses the requirements of 40 CFR Part 63 Subpart UUUUU (Mercury and Air Toxics Standard or MATS) for Units 1 and 2.

The MATS requirements have emission limits of 0.030 lb./MMBTU for filterable PM, 0.0020 lb./MMBTU for HCl, and 1.2 lb./TBTU 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.

As mentioned in EUBOILER2, JHC conducted additional testing on EUBOILER2 for HCl emissions due to a change in fuel, as required under the MATS regulation. The change was a different blend of coal than normally combusted, as stated in EUBOILER2. The HCl emissions from this test indicated compliance with both the MATS limit and the LEE limit.

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.

Tune-ups of Units 1 and 2 were most recently conducted in August 2018, and June 2018, and all notifications and reports have been submitted to both the AQD and to CEDRI, as required. No emergency bypass having been used for either unit; there has so not been any deviations from work practice standards.

### *FGMATS\_U3*

This flexible group covers the requirements of 40 CFR Part 63 Subpart UUUUU (Mercury and Air Toxics Standard or MATS) for Unit 3. Unit 3 relies on the use of a Continuous Emission Monitoring System (CEMS) to demonstrate compliance with the emission limits for PM, SO<sub>2</sub>, and Hg. These limits are: 0.030 lb./MMBTU for PM, 0.20 lb./MMBTU for SO<sub>2</sub>, and 1.2 lb./TBTU for Hg. Semi-Annual and Annual reports have been successfully submitted including

the demonstration of compliance with these emission limits at 0.000523 lb./MMBTU for PM, 0.680 lb./MMBTU for Hg, and 0.061 lb./MMBTU for SO<sub>2</sub>.

The most recent tune-up of the boiler was conducted in July 2018, therefore within the required 36-month time frame. No emergency bypass having been used, and there have been no deviations from work practice standards.

#### *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. All engines burn ultra-low sulfur diesel fuel, that has a maximum sulfur content of 0.0015% by weight. Each of the units is equipped with an hour meter, and hours of operation are properly being tracked. JHC is properly complying with all provisions of ZZZZ, including conducting all inspections and changing the oil and filters.

JHC is properly tracking the hours of operation for each of the four (4) engine, all of which having operated under 20 hours thus far in calendar year 2020.

#### *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 the NSPS provisions of 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 are demonstrated through 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+ NO<sub>x</sub> 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. This emission unit recently had a new PTI issued for it in order to correct the emission limits included in the first PTI issuance. This change was administrative, and not subject to New Source Review permitting. The PTI that fixed this error, PTI No. 50-20, was rolled into this ROP through a minor modification. The other emission unit, EUTRNCNTRDIESL, is an emergency generator at the training center, rated at 1,193 bHP. This emission unit, while also certified, has slightly different emission limits at 6.4 g/kW-hr for NMHC+NO<sub>x</sub>, 3.5 g/kW for CO and 0.2 g/kW-hr.

Fuel records indicate both engines are compliant with the maximum sulfur content of less than 15 ppm by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 % by volume. The engines are equipped with an hour meter, and records indicate the fire pump runs less than 3 hours per month, for routine maintenance and readiness testing and the training center engine having run a total of 23.3 hour thus far in 2020. The engine ran 15.5 hours in June 2020, the highest month of use for 2020.

#### *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 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. Per Mr. Starcken, while this boiler is only required to have biennial tune-ups, JHC conducts annual tune-ups. This boiler most recently had maintenance conducted on August 27, 2020, which included inspections of the burners, flame pattern, air-to fuel ration control system, optimization of the CO emission, 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 cleaners were properly labeled and closed.

### **Compliance Determination**

Based on the observations made during the various site visits, and a review of the required records and reports, the facility appears to be in compliance with MI-ROP-B2835b-2020a.

NAME Kaitlyn DeVries

DATE 9/30/2020

SUPERVISOR AH