

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

MARCH 26, 2021

**PERMIT TO INSTALL
39-15A**

**ISSUED TO
CONSUMERS ENERGY**

**LOCATED AT
17000 CROSWELL
WEST OLIVE, MICHIGAN 49460**

**IN THE COUNTY OF
OTTAWA**

**STATE REGISTRATION NUMBER
B2835**

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: February 12, 2021	
DATE PERMIT TO INSTALL APPROVED: March 26, 2021	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBOILER1	A 2490 MMBTU per hour dry bottom, tangential fired boiler with fuel oil startup capabilities. Emissions are currently controlled by low-NOx burners, sorbent injection (ACI) (activated carbon or other sorbent for mercury control), dry sorbent injection (DSI) (hydrated lime or other sorbent), and a pulse-jet fabric filter (PJFF) baghouse.	01-01-1958/ 04-23-2015	FGMATS_U12 FGBOILER12
EUBOILER2	A 3560 MMBTU per hour wall-fired (converted from cell burner) boiler with fuel oil startup capability. Emissions are controlled by low-NOx burners, selective catalytic reduction (SCR), sorbent injection (ACI) (activated carbon or other sorbent for mercury control), DSI (hydrated lime or other sorbent), and a PJFF baghouse.	01-01-1963/ 04-23-2015	FGMATS_U12 FGBOILER12
EUBOILER3	An 8240 MMBTU per hour dry bottom, wall-fired boiler with fuel oil startup capability. Emissions are controlled by low-NOx burners, SCR, sorbent injection (ACI) (activated carbon or other sorbent for mercury control), spray dry absorber (SDA), and PJFF baghouse.	02-01-1974/ NA 04-23-2015	FGMATS_U3

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBYPRODUCT	<p>There are three separate byproduct handling systems (one for each boiler). The system transfers the byproduct from the fabric filters (ash, spent lime, and sorbent) to the disposal silos. The equipment includes conveyance piping and byproduct transfer tanks, filter separator, vacuum exhausters, and conveying blowers from transfer tanks to flyash storage/disposal silos.</p> <p>Dry flyash handling facility is located at the landfill and is common to Boilers 1, 2, and 3 and consists of three flyash storage/disposal silos; with flyash truck dry load outs.</p> <p>Emissions control: The transfer tanks' byproduct vacuum exhauster filter separators exhaust to the boiler pulse-jet fabric filters (except as noted in the emission unit requirements); bin vent filters on the byproduct transfer tanks and flyash silos. Water added for flyash conditioning before flyash truck loading for disposal.</p>	04-23-2015	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EUBOILER1
EMISSION UNIT CONDITIONS**

DESCRIPTION

A 2490 MMBTU/hr dry bottom, tangential fired boiler with fuel oil startup capability. This emission unit is subject to 40 CFR Part 63, Subpart UUUUU (MATS) and 40 CFR Part 64 (CAM). All CAM requirements are in FGBOILER12 and all MATS requirements are in FGMATS_U12.

Flexible Group ID: FGBOILER12 and FGMATS_U12

POLLUTION CONTROL EQUIPMENT

Low-NOx burners,
Sorbent injection (ACI) (activated carbon or other sorbent for mercury control),
Dry sorbent injection (DSI) (hydrated lime or other sorbent), and
Pulse-jet fabric filter (PJFF) baghouse.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate matter (PM)	0.16 pound per 1,000 pounds exhaust gas, corrected to 50% excess air ²	Hourly	EUBOILER1	SC V.1 (FGBOILER12, SC VI.1, COMS)	R 336.1331(1)(c)
2. NO _x	0.220 pound per MMBTU heat input ^{2,3,4}	Based on a 365-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER1	SC VI.1	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 76; Act 451, Section 324.5503(b)
3. SO ₂	0.350 pounds per MMBTU heat input ^{2,3,4}	Based on a 30-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER1	SC VI.1 SC VI.2	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 113; Act 451, Section 324.5503(b)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
4. SO ₂	0.290 pound per MMBTU heat input ^{2,3,4}	Based on a 90-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER1	SC VI.1 SC VI.2	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 113; Act 451, Section 324.5503(b)
5. PM	0.015 pound per MMBTU heat input ^{2,3,4}	Hourly ^{2,3,4}	EUBOILER1	SC V.2 (FGBOILER12, SC VI.1, COMS)	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 144; Act 451, Section 324.5503(b)
6. Opacity	20% ^{2,3,4}	Per 6-minute period except for one 6-minute period per hour of not more than 27% ^{2,3,4}	EUBOILER1	SC VI.4	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 151; Act 451, Section 324.5503(b)
7. SO ₂	1.67 pounds per MMBTU heat input ²	Monthly average, based on the average of the 31 previous operating days	EUBOILER1	SC VI.3	R 336.1401(3), Table 41

8. The permittee shall comply with the System-Wide Annual NO_x Tonnage Limitations and System-Wide Annual SO₂ Tonnage Limitations specified in Appendix 11-A. Emissions from EUBOILER1 shall be counted toward the system-wide total emissions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 98 & 129, Act 451, Section 324.5503(b))
9. The permittee shall comply with the SO₂ and NO_x allowance surrender and super-compliance allowance provisions listed in Appendix 11-B: Allowance Provisions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 101-109 and 132-140, Act 451, Section 324.5503(b))

See Appendices 11-A and 11-B

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUBOILER1 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the emission control equipment (PJFF baghouse, ACI, DSI) is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² **(R 336.1910, R 336.1911)**

2. The permittee shall continuously operate the PM Control Device for EUBOILER1 and use good air pollution control practices to maximize the PM emission reductions at all times when the unit is in operation. The requirements of Appendix 3-F shall be met.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 141, Act 451, Section 324.5503(b))**
3. The permittee shall not operate the boiler, including startup and shutdown, unless the corresponding PJFF baghouse is installed and operating properly, in accordance with safe operating practices.² **(R 336.1910)**
4. The permittee shall not burn freeze conditioning/dust suppression agents unless PJFF baghouses are installed and operating properly, in accordance with safe operating practices.² **(R 336.1910)**

See Appendix 3-F

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUBOILER1 unless the low-NO_x burners, the DSI, the ACI sorbent injection (for mercury control), and PJFF baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approvable MAP for EUBOILER1 control equipment as required in SC III.1.² **(R 336.1910)**
2. The permittee shall not operate EUBOILER1 unless the low-NO_x burners, including over fire air processes, are Continuously Operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 75, Act 451, Section 324.5503(b))**
3. The permittee shall not operate EUBOILER1 unless the DSI system is Continuously Operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 113, Act 451, Section 324.5503(b))**
4. The permittee shall not operate EUBOILER1 unless the PJFF baghouse unit is Continuously Operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 144, Act 451, Section 324.5503(b))**

5. The permittee shall continuously operate the PM control devices being vented to a combined stack associated with FGBOILER12.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 142, Act 451, Section 324.5503(b)**)

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Every three (3) years, or more frequently upon request of the AQD, the permittee shall verify PM emission rates from EUBOILER1 by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A, Reference Method 17 (Determination of Particulate Emissions from Stationary Sources (In-stack Filtration Method)), Reference Method 5 or "MATS" 5, or other acceptable test method(s). An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall conduct a stack test for PM pursuant to the provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements. Subsequent stack tests for PM shall be conducted pursuant to the schedule and provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 153, Act 451, Section 324.5503(b)**)
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 7 days of the time and place before performance tests are conducted.² **(R 336.2001(3))**
4. The permittee shall assess opacity using USEPA Reference Method 9 - "Visual Determination of the Opacity of Emissions from Stationary Sources," upon the request of AQD. **(R 336.1301)**

See Appendix 5

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. For purposes of determining compliance with the Rolling Average Emission Rates for NO_x and SO₂ as found in SC I.2, I.3, and I.4, the permittee shall install and operate CEMS in accordance with the procedures of 40 CFR Part 75, except that the NO_x and SO₂ emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply. If applicable, diluent capping (i.e., 5% CO₂) will be applied to the NO_x emission rate for any hours where the measured CO₂ concentration is less than 5% following the procedures in 40 CFR Part 75, Appendix F, Section 3.3.4.1.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 99 and 130, Act 451, Section 324.5503(b)**)
2. The permittee shall monitor unit level SO₂ concentrations and gas flow, using CEMS, as installed, maintained, and operated in accordance with 40 CFR Part 75.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 116, Act 451, Section 324.5503(b)**)
3. The permittee shall monitor gas flow, SO₂, CO₂, and NO_x emissions using CEMS, as installed, maintained, and operated in accordance with the provisions of 40 CFR Part 75.² **(R 336.1401, R 336.2101)**
4. The permittee shall monitor and record the opacity from each boiler using a Continuous Opacity Monitoring System (COMS), installed, operated, and maintained in accordance with 40 CFR Part 60, Appendix B.² **(R 336.1301, R 336.2101)**

See Appendices 3-A, 3-B, and 3-D

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBLR12	228 ²	400 ²	R 336.1225 R 336.2803 R 336.2804 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with applicable provisions of Act 451 Part 15 EMISSION LIMITATIONS AND PROHIBITIONS-MERCURY.² **(R 336.2503(1))**
2. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-fired Electric Utility Steam Generating Units, as specified in FGMATS_U12.² **(40 CFR Part 63, Subpart UUUUU)**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³This condition is federally enforceable and was originally established in the consent decree settling, "U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014" and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

**EUBOILER2
EMISSION UNIT CONDITIONS**

DESCRIPTION

A 3560 MMBTU/hr wall-fired boiler with fuel oil startup capability. This emission unit is subject to 40 CFR Part 64 (CAM) and 40 CFR Part 63, Subpart UUUUU (MATS). All CAM requirements are in FGBOILER12, and all MATS requirements are in FGMATS_U12.

Flexible Group ID: FGBOILER12 and FGMATS_U12

POLLUTION CONTROL EQUIPMENT

Low-NOx burners,
Selective catalytic reduction (SCR),
Sorbent injection (ACI) (activated carbon or other sorbent for mercury control),
Dry sorbent injection (DSI) (hydrated lime or other sorbent), and
Pulse-jet fabric filter (PJFF) baghouse.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate matter (PM)	0.15 pound per 1,000 pounds exhaust gas, corrected to 50% excess air ²	Hourly	EUBOILER2	SC V.1 (FGBOILER12, SC VI.1, COMS)	R 336.1331(1)(c)
2. NO _x	0.100 pound per MMBTU heat input ^{2,3,4}	Based on a 30-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER2	SC VI.1	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 78; Act 451, Section 324.5503(b)
3. NO _x	0.080 pound per MMBTU heat input ^{2,3,4}	Based on a 90-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER2	SC VI.1	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 79; Act 451, Section 324.5503(b)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
4. SO ₂	0.320 pound per MMBTU heat input ^{2,3,4}	Based on a 365-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER2	SC VI.1 SC VI.2	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 114; Act 451, Section 324.5503(b)
5. PM	0.015 pound per MMBTU heat input ^{2,3,4}	Hourly ^{2,3,4}	EUBOILER2	SC V.2 (FGBOILER12, SC VI.1, COMS)	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 145; Act 451, Section 324.5503(b)
6. SO ₂	1.67 pounds per MMBTU heat input ²	Monthly average, based on the average of the 31 previous operating days	EUBOILER2	SC VI.3	R 336.1401(3), Table 41
7. Opacity	20% ^{2,3,4}	Per 6-minute period except for one 6-minute period per hour of not more than 27% ^{2,3,4}	EUBOILER2	SC VI.4	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 151; Act 451, Section 324.5503(b)

8. The permittee shall comply with the System-Wide Annual NO_x Tonnage Limitations and System-Wide Annual SO₂ Tonnage Limitations specified in Appendix 11-A. Emissions from EUBOILER2 shall be counted toward the system-wide total emissions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 98 & 129, Act 451, Section 324.5503(b))

9. The permittee shall comply with the SO₂ and NO_x allowance surrender and super-compliance allowance provisions listed in Appendix 11-B: Allowance Provisions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 101-109 and 132-140, Act 451, Section 324.5503(b))

See Appendices 11-A and 11-B

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUBOILER2 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the emission control equipment (PJFF baghouse, ACI, DSI, and SCR) is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² **(R 336.1910, R 336.1911)**

2. The permittee shall continuously operate the PM Control Device for EUBOILER2 and use good air pollution control practices to maximize the PM emission reductions at all times when the unit is in operation. The requirements of Appendix 3-F shall be met.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 141, Act 451, Section 324.5503(b))**
3. The permittee shall not operate the boiler, including startup and shutdown, unless the corresponding PJFF baghouse is installed and operating properly, in accordance with safe operating practices.² **(R 336.1910)**
4. The permittee shall not burn freeze conditioning/dust suppression agents unless PJFF baghouses are installed and operating properly, in accordance with safe operating practices.² **(R 336.1910)**

See Appendix 3-F

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUBOILER2 unless the low-NOx burners, the SCR, DSI, ACI sorbent injection (for mercury control), and PJFF baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approvable MAP for EUBOILER2 as required in SC III.1.² **(R 336.1910)**
2. The permittee shall not operate EUBOILER2 unless the SCR and PJFF baghouse are continuously operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraphs 77 and 145, Act 451, Section 324.5503(b))**
3. The permittee shall not operate EUBOILER2 unless the DSI system is continuously operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 114, Act 451, Section 324.5503(b))**
4. The permittee shall continuously operate the PM control devices being vented to a combined stack associated with FGBOILER12.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 142, Act 451, Section 324.5503(b))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Every three (3) years, or more frequently upon request of the AQD, the permittee shall verify PM emission rates from EUBOILER2 by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A Reference Method 17 (Determination of Particulate Emissions from Stationary Sources (In-stack Filtration Method)), Reference Method 5, "MATS" Reference Method 5, or other acceptable test method(s). An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.1201(3), R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall conduct a stack test for PM pursuant to the provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements. Subsequent stack tests for PM shall be conducted pursuant to the schedule and provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements.^{2,3,4} **("U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014" – paragraph 153, Act 451, Section 324.5503(b))**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.² **(R 336.2001(3))**
4. The permittee shall assess opacity using USEPA Reference Method 9 - "Visual Determination of the Opacity of Emissions from Stationary Sources", upon the request of AQD. **(R 336.1301)**

See Appendix 5

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. For purposes of determining compliance with the Rolling Average Emission Rates for NO_x and SO₂ as found in SC I.2, I.3, and I.4., the permittee shall install and operate CEMS in accordance with the procedures of 40 CFR Part 75, except that the NO_x and SO₂ emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply. If applicable, diluent capping (i.e., 5% CO₂) will be applied to the NO_x emission rate for any hours where the measured CO₂ concentration is less than 5% following the procedures in 40 CFR Part 75, Appendix F, Section 3.3.4.1.^{2,3,4} **("U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014" paragraphs 99 and 130, Act 451, Section 324.5503(b))**
2. The permittee shall monitor SO₂ concentrations and gas flow using CEMS, as installed, maintained, and operated in accordance with 40 CFR Part 75.^{2,3,4} **("U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014" paragraph 116, Act 451, Section 324.5503(b))**
3. The permittee shall monitor gas flow, SO₂, CO₂, and NO_x emissions using CEMS, as installed, maintained, and operated in accordance with the provisions of 40 CFR Part 75.² **(R 336.1401, R 336.2101)**
4. The permittee shall monitor and record the opacity from each boiler using a Continuous Opacity Monitoring System (COMS), installed, operated, and maintained in accordance with 40 CFR Part 60, Appendix B.² **(R 336.1301, R 336.2101)**

See Appendices 3-A, 3-B, and 3-D

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBLR12	228 ²	400 ²	R 336.1225 R 336.2803 R 336.2804 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with applicable provisions of Act 451 Part 15 EMISSION LIMITATIONS AND PROHIBITIONS—MERCURY. **(R 336.2503(1))**
2. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-fired Electric Utility Steam Generating Units, as specified in FGMATS_U12.² **(40 CFR Part 63, Subpart UUUUU)**

See Appendices 11-A and 11-B

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³This condition is federally enforceable and was originally established in the consent decree settling, "U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014" and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

**EUBOILER3
EMISSION UNIT CONDITIONS**

DESCRIPTION

An 8240 MMBTU/hr dry bottom, wall-fired boiler with fuel oil startup capability. This emission unit is subject to 40 CFR Part 63, Subpart UUUUU (MATS). The MATS requirements are in FGMATSU3

Flexible Group ID: FGMATS_U3

POLLUTION CONTROL EQUIPMENT

Low-NOx burners,
Selective catalytic reduction (SCR),
Sorbent injection (ACI) (activated carbon or other sorbent for mercury control),
Spray dry absorber (SDA), and
Pulse-jet fabric filter (PJFF) baghouse.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	20% ²	Per 6-minute period except for one 6-minute period per hour of not more than 27%	EUBOILER3	SC VI.2	40 CFR 60.42(a)(2), R 336.1301
2. Opacity	20% ^{2,3,4}	Per 6-minute period except for one 6-minute period per hour of not more than 27%	EUBOILER3	SC VI.2	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 151; Act 451, Section 324.5503(b)
3. PM	0.10 pound per MMBTU heat input ²	Hourly	EUBOILER3	SC V.1 SC VI.2 SC VI.4	40 CFR 60.42(a)(1)
4. PM	370 pounds per hour ²	Hourly	EUBOILER3	SC V.1 SC VI.2 SC VI.4	R 336.1205(3)
5. PM	1,080 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	EUBOILER3	SC V.1 SC VI.2 SC VI.4	R 336.1205(3)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. PM	0.015 pound per MMBTU heat input ^{2,3,4}	Based on a 3-hr rolling average in accordance with SC V.4 and SC VI.4 ^{2,3,4}	EUBOILER3	SC V.3, SC V.4 (if applicable) SC VI.4	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 146; Act 451, Section 324.5503(b)
7. SO ₂	1.2 pounds per MMBTU heat input ²	Continuous	EUBOILER3	SC VI.1	40 CFR 60.43(a)(2)
8. SO ₂	10,500 pounds per hour ²	Based on a daily average	EUBOILER3	SC VI.1	R 336.1205(3)
9. SO ₂	31,650 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	EUBOILER3	SC VI.1	R 336.1205(3)
10. SO ₂	0.085 pound per MMBTU heat input ^{2,3,4}	Based on a 30-day Rolling Average ^{2,3,4}	EUBOILER3	SC VI.3	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 112; Act 451, Section 324.5503(b)
11. SO ₂	0.070 pound per MMBTU heat input ^{2,3,4}	Based on a 365-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER3	SC VI.3	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 112; Act 451, Section 324.5503(b)
12. NO _x	0.70 pound per MMBTU heat input ²	Per 3-hour rolling time period, as determined each hour the boiler operates	EUBOILER3	SC VI.1	40 CFR 60.44(a)(3)
13. NO _x	6,130 pounds per hour ²	Based on a daily average	EUBOILER3	SC VI.1	R 336.1205(3)
14. NO _x	18,750 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	EUBOILER3	SC VI.1	R 336.1205(3)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
15. NOx	0.100 pound per MMBTU heat input ^{2,3,4}	Based on a 30-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER3	SC VI.3	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 81; Act 451, Section 324.5503(b)
16. NOx	0.080 pound per MMBTU heat input ^{2,3,4}	Based on a 90-day Rolling Average Emission Rate ^{2,3,4}	EUBOILER3	SC VI.3	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 82; Act 451, Section 324.5503(b)

17. The permittee shall comply with the System-Wide Annual NOx Tonnage Limitations and System-Wide Annual SO₂ Tonnage Limitations specified in Appendix 11-A. Emissions from EUBOILER3 shall be counted toward the system-wide total emissions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 98 & 129, Act 451, Section 324.5503(b))
18. The permittee shall comply with the SO₂ and NO_x allowance surrender and super-compliance allowance provisions listed in Appendix 11-B: Allowance Provisions.^{2,3,4} (“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 101-109 and 132-140, Act 451, Section 324.5503(b))

See Appendix 11-A and Appendix 11-B

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not burn freeze conditioning/dust suppression agents unless the boiler and corresponding particulate control device are operating properly.² (R 336.1910)
2. The permittee shall not operate the boiler, including startup and shutdown, unless the corresponding PJFF baghouse is installed and operating properly, in accordance with safe operating practices.² (R 336.1910)
3. The permittee shall not operate EUBOILER3 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for emission control equipment (PJFF baghouse, ACI, SDA, and SCR) is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

- b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
- c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² **(R 336.1910, R 336.1911)**

4. The permittee shall comply with all provisions of the federal Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971, as specified in 40 CFR Part 60, Subparts A and D, as they apply to EUBOILER3.² **(40 CFR Part 60, Subparts A and D)**
5. The permittee shall continuously operate the PM Control Device for EUBOILER3 and use good air pollution control practices to maximize the PM emission reductions at all times when the unit is in operation. The requirements of Appendix 3-F shall be met.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 141, Act 451, Section 324.5503(b))**

See Appendix 3-F

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUBOILER3 unless the low-NOx burners, the SCR, SDA, ACI sorbent injection (for mercury control), and PJFF baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approvable MAP for EUBOILER3 as required in SC III.5.² **(R 336.1910)**
2. The permittee shall not operate EUBOILER3 unless the SCR is Continuously Operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 80, Act 451, Section 324.5503(b))**
3. The permittee shall not operate EUBOILER3 unless the SDA and PJFF baghouse units are Continuously Operated.^{2,3,4} **(“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraphs 112 and 146, Act 451, Section 324.5503(b))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Every three (3) years, or more frequently upon request of the AQD, the permittee shall verify PM emission rates from EUBOILER3 by testing at the owner’s expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A, Reference Method 17 (Determination of Particulate Emissions from Stationary Sources (in-stack Filtration Method) Reference Method 5, “MATS” Reference Method 5, or other acceptable test method(s). An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall notify the AQD no less than 7 days prior to the anticipated test date.² **(R 336.2001(3))**

3. The permittee shall conduct a stack test for PM pursuant to the provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements. Subsequent stack tests for PM shall be conducted pursuant to the schedule and provisions found in Appendix 5: PM Emissions Testing and Monitoring Requirements.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 153, Act 451, Section 324.5503(b)**)
4. As an alternative to the requirements of SC V.3 PM stack testing, the permittee may forego stack testing and instead demonstrate continuous compliance with SC I.7 PM filterable emission limit by using the PM CEMS pursuant to conditions contained in Appendix 5: PM Emissions Testing and Monitoring Requirements, and Appendix 3-E: PM CEMS.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” – paragraph 157, Act 451, Section 324.5503(b)**)

See Appendices 3-E and 5

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall monitor gas flow, SO₂, CO₂, and NO_x emissions using CEMS, as installed, maintained, and operated in accordance with the provisions of 40 CFR Part 75.² (R 336.1205(3), R 336.2101, 40 CFR Part 60)
2. The permittee shall monitor and record the opacity from the boiler using a Continuous Opacity Monitoring System (COMS), installed, operated, and maintained in accordance with 40 CFR Part 60, Appendix B.² (R 336.1301, R 336.2101, 40 CFR 60.42(a)(2))
3. For purposes of determining compliance with the Rolling Average Emission Rates for NO_x and SO₂ as found in SC I.10, I.11, I.15, and I.16, the permittee shall install and operate CEMS in accordance with the procedures of 40 CFR Part 75, except that the NO_x and SO₂ emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply. If applicable, diluent capping (i.e., 5% CO₂) will be applied to the NO_x emission rate for any hours where the measured CO₂ concentration is less than 5% following the procedures in 40 CFR Part 75, Appendix F, Section 3.3.4.1.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 99 and 130, Act 451, Section 324.5503(b)**)
4. The permittee shall install and continuously operate a PM CEMS pursuant to the conditions contained in Appendix 3-E: PM CEMS.^{2,3,4} (**“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraphs 159, 163, Act 451, Section 324.5503(b)**)

See Appendices 3-A through 3-F

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBLR3	327 ²	642 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with applicable provisions of Act 451 Part 15 EMISSION LIMITATIONS AND PROHIBITIONS—MERCURY. **(R 336.2503(1))**
2. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-fired Electric Utility Steam Generating Units as specified in FGMATS_U3. **(40 CFR Part 63, Subpart UUUUU)**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³This condition is federally enforceable and was originally established in the consent decree settling, “U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

EUBYPRODUCT EMISSION UNIT CONDITIONS

DESCRIPTION

Flyash and byproduct handling system that transports flyash and byproduct from the plant to the disposal silos. The Unit 3 Transfer Tanks A and B (SVTT-BV3A and SVTT-BV3B) as well as Landfill Silo's A, B, and C (SVDCASS-BVA, SVDCASS-BVB, and SVDCASS-BVC) are subject to 40 CFR Part 64 (CAM).

Unit 3 System

- A large portion of PJFF flyash/byproduct is recycled back to the SDA via the SDA Recycle Flyash System and the remainder is conveyed to the Unit 3 Dry Flyash Byproduct System (for resale or landfill). The SDA Byproduct System consists of the following major equipment: two transfer towers [TT3A and TT3B], three vacuum exhausters [two in operation and one spare], and three disposal silos [Flyash Silos A, B, and C]. Each transfer tower includes two filter separators (F/S) and a single transfer tank. Each transfer tank and each disposal silo are equipped with a bin vent filter. TT3A, TT3B and the three associated vacuum exhausters located at Boiler 3 are regulated under EUBYPRODUCT.
- The vacuum conveyance system pulls flyash from the PJFF hoppers and transports the flyash in hard piping through a F/S and into a transfer tank where the conveyance air is then discharged through a vacuum exhauster (two F/S's per transfer tank. Transfer tank displacement air is released through a bin vent filter to atmosphere. Flyash and byproduct materials collected in the transfer tanks are periodically conveyed to disposal silos A, B, or C where the material is loaded onto trucks for shipment as either byproduct or waste.

Unit 1 and 2 System

- The Dry Flyash Handling System services both Unit 1 and Unit 2 and consists of the following major equipment: three transfer towers [TT1, TT2 and TT3], five vacuum exhausters [three in operation and two spares], and two disposal silos [DSA, DSB]. Each transfer tower includes a filter separator and transfer tank. Each transfer tank and each disposal silo are equipped with a bin vent filter.
- TT1 and TT2 and the three associated vacuum exhausters located at Boiler 1&2 are regulated under EUBYPRODUCT. TT3 and the remaining two associated vacuum exhausters that solely support Unit 2 are not regulated by EUBYPRODUCT and are exempt from permitting under Michigan Rule 284(k).
- The vacuum conveyance system pulls flyash from each Boiler Unit's PJFF hoppers and transports the flyash in hard piping through a filter separator and into a transfer tank where the conveyance air is then discharged through a vacuum exhauster. The three vacuum exhausters that serve TT1 and TT2 normally discharge to the Unit 1 PJFF inlet ductwork. The two vacuum exhausters that serve TT3 can only discharge to the Unit 2 PJFF inlet duct. Transfer tank displacement air is released through a bin vent filter to atmosphere. Flyash and byproduct materials collected in the transfer tanks are periodically conveyed to disposal silos DSA and DSB where the material is loaded onto trucks for shipment as either byproduct or waste.
- When Boiler 1 and its associated PJFF are not in operation, then the vacuum exhausters associated with TT1 and TT2 will be redirected, and one vacuum exhauster may intermittently discharge controlled emissions to atmosphere through a dedicated stack (bypassing the Boiler 1 PJFF). The operation of TT3 and its associated vacuum exhausters would remain unchanged, discharging into the Unit 2 inlet PJFF ductwork.

Common

- 3 Disposal Silos (A, B, & C) – located at the landfill, and store the byproduct/flyash until disposed in licensed landfill.
- Truck loading – each disposal silo has a loading bay under the silo where trucks are loaded with byproduct/flyash for transport to the landfill or for beneficial re-use. “B” silo also employs an exterior load-out chute.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Transfer tank: Each tank has as a filter separator that breaks the vacuum of the conveyance air to separate the transported material (the flyash byproduct) from the conveyance air. The filter separator is the fabric filter control for the conveyance air. The displacement air from the byproduct dropping into the tank is controlled by a bin vent filter.

Vacuum exhausters: Although the conveyance air from the vacuum exhausters is already controlled by the filter separator (with 0.004 gr/dscf PM emission guarantee), the normal vacuum exhauster discharge configuration is to the PJFF inlet breeching ducts (for either Unit 1, 2, or 3). There are limited times when the Unit 1 PJFF is offline for maintenance or other purposes, at which time the filter separator serving Unit 2 and/or in-plant dust systems will discharge to atmosphere through a vacuum exhauster. Emissions are still controlled via the filter separator (upgraded in PTI No. 18-15) and will be monitored through bag leak dust detectors and visible emission observations under this limited operating scenario.

Disposal Silos: The Disposal Silos A, B and C are controlled by bin vent filter dust collectors.

Truck Loading: Each disposal silo has a dust collector and/or dust suppressant system in the truck loading bay under the silos to control particulate matter during truck loading. The byproduct headed for landfill disposal is sufficiently wetted/conditioned through a pin-paddle mixer prior to loading and transport. The dry load-out chutes minimize fugitive emissions by proper seating of the telescopic chute to or over the truck hatch. Emissions during transfer activity are vacuumed to discharge back into the storage silo, which is controlled by the bin vent filters.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	5% ²	6- Minute Average	Each of the following bin vent filter emission points: SVTT12-BV1 SVTT12-BV2 SVTT12-FSVE SVTT3-BV3A SVTT3-BV3B SVDCASS-BVA SVDCASS-BVB SVDCASS-BVC	SC VI.1 SC VI.2	R 336.1301(1)(c)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
2. PM	0.004 gr / dscf of exhaust gases ²	Hourly	Each of the following bin vent filter emission points: SVTT12-BV1 SVTT12-BV2 SVTT3-BV3A SVTT3-BV3B SVD CASS-BVA SVD CASS-BVB SVD CASS-BVC	SC III.2 SC VI.2	R 336.1331(1)(c)
3. PM	0.004 gr / dscf of exhaust gases ²	Hourly	Byproduct transfer tank vacuum exhauster SVTT12-FSVE	SC III.2 SC VI.2	R 336.1331(1)(c)
4. PM10	0.03 pph ²	Hourly	Each of the following bin vent filter emission points: SVTT12-BV1 SVTT12-BV2	SC III.2 SC VI.2	R 336.2803 R 336.2804
5. PM2.5	0.03 pph ²	Hourly	Each of the following bin vent filter emission points: SVTT12-BV1 SVTT12-BV2	SC III.2 SC VI.2	R 336.2803 R 336.2804
6. PM10	0.05 pph ²	Hourly	Each of the following bin vent filter emission points: SVTT3-BV3A SVTT3-BV2B (CAM Subject)	SC III.2 SC VI.1 SC VI.2	R 336.2803 R 336.2804
7. PM2.5	0.05 pph ²	Hourly	Each of the following bin vent filter emission points: SVTT3-BV3A SVTT3-BV3B (CAM Subject)	SC III.2 SC VI.1 SC VI.2	R 336.2803 R 336.2804
8. PM10	0.55 pph ²	Hourly	Each of the following bin vent filter emission points: SVD CASS-BVA SVD CASS-BVB SVD CASS-BVC (CAM Subject)	SC III.2 SC VI.1 SC VI.2	R 336.2803 R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. PM2.5	0.55 pph ²	Hourly	Each of the following bin vent filter emission points: SVMDCASS-BVA SVMDCASS-BVB SVMDCASS-BVC (CAM Subject)	SC III.2 SC VI.1 SC VI.2	R 336.2803 R 336.2804
10. PM10	0.10 pph ²	Hourly	Byproduct transfer tank vacuum exhauster: SVTT12-FSVE	SC III.2 SC VI.2	40 CFR 52.21(c) and (d)
11. PM2.5	0.10 pph ²	Hourly	Byproduct transfer tank vacuum exhauster: SVTT12-FSVE	SC III.2 SC VI.2	40 CFR 52.21(c) and (d)
12. PM	0.10 lbs per 1,000 lbs. exhaust gas	Hourly	Unit 2 dry flyash transfer tower – including the transfer tank, hoppers, and vacuum exhauster	SC III.2 SC VI.2	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The Campbell Complex fugitive dust plan shall be updated as necessary and kept at the facility. If at any time the fugitive dust control program fails to address or inadequately addresses a dusting event, the permittee shall amend the fugitive dust control program within 45 days after such an event occurs. The permittee shall also amend the fugitive dust control program within 45 days if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the fugitive dust control program and any amendments to the fugitive dust control program to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the fugitive dust control program or amended fugitive dust control program shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² **(R 336.1372, R 336.2803, R 336.2804, Act 451, Section 324.5524)**
2. The permittee shall not operate EUBYPRODUCT unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the process and emission control equipment, is implemented updated as necessary, and kept at the facility. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any portion of EUBYPRODUCT unless the associated enclosures and bin vent filters and filter separators are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBYPRODUCT as required in SC III.2.² **(R 336.1910, R 336.1911, R 336.2803, R 336.2804)**
2. The permittee shall not operate each byproduct transfer tank vacuum exhauster unless the associated filter separator exhaust gases discharge to an associated PJFF baghouse on either EUBOILER1, EUBOILER2, or EUBOILER3, except as allowed in SC IV.3.² **(R 336.1205, R 336.1331, R 336.2803, R 336.2804)**
3. The exhaust from the filter/separator associated with EUBOILER2 shall be routed back to the PJFF for EUBOILER1, except at times when the PJFF for EUBOILER1 is not operating.² **(R 336.1205, R 336.1331, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform, and document non-certified visible emissions observations on all exhausts to the atmosphere as required in SC I.1 on a daily basis when EUBYPRODUCT is operating. If during the observation there are any visible emissions detected from an emission point, then corrective procedures as defined in the MAP shall be implemented. Records of the non-certified visible emissions observations, USEPA Method 9 observations that are performed, the reason for any visible emissions observed, and any corrective actions taken, shall be kept on file and in a format acceptable to the AQD.² **(R 336.1301(1)(c))**
2. The permittee shall conduct and record non-certified visible emissions observations from the bin vent filters servicing the EUBOILER3 Transfer Tanks (SVTT-BV3A, SVTT-BV3B) and the Landfill Silos (SVDCASS-BVA, SVDCASS-BVB, and SVCASSS-BVC) once per day when operating, as the primary indicator of the proper functioning of each bin vent filter for EUBYPRODUCT. If visible emissions are observed, the permittee shall document the visible emissions, including duration, and continue to observe the source of the visible emissions until no visible emissions are observed. The permittee shall initiate corrective actions as quickly as possible upon the detection of visible emissions. If there is a break in the visible emissions observations, it will be assumed that visible emissions continue to occur during any break in observations. The appropriate range of visible emissions defining proper functioning of each bin vent filter is no visible emissions. **(40 CFR 64.6(c)(1)(i), (ii), and (iii))**
3. The permittee shall utilize visible emissions as the primary indicator of the proper functioning of each PM control device. The appropriate range of visible emissions defining proper functioning of the PM Control Device is no visible emissions.² **(R 336.1201(3), 40 CFR 64.6(c)(1)(i) and (ii))**
4. The permittee shall keep, in a satisfactory manner, all records necessary to show that the Campbell Complex fugitive dust plan required by SC III.1 is being implemented.² **(R 336.1372, R 336.2803, R 336.2804, Act 451, Section 324.5524)**
5. The permittee shall keep, in a satisfactory manner, all records necessary to show that the MAP required by SC III.2 is being implemented.² **(R 336.1910, R 336.1911)**
6. The permittee shall keep, in a satisfactory manner, visible emissions records for the times that the filter/separator associated with EUBOILER2 is routed to SVTT12-FSVE instead of the PJFF for EUBOILER1.² **(R 336.1205, R 336.1331, 40 CFR 52.21(c) and (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack and Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVTT12-BV1	9 ²	32 ²	R 336.2803 R 336.2804
2. SVTT12-BV2	9 ²	32 ²	R 336.2803 R 336.2804
3. SVTT12-FSVE	20 ²	40 ²	R 336.2803 R 336.2804
4. SVTT3-BV3A	14 ²	70 ²	R 336.2803 R 336.2804
5. SVTT3-BV3B	14 ²	70 ²	R 336.2803 R 336.2804
6. SVDCASS-BVA	24x60 ²	141 ²	R 336.2803 R 336.2804
7. SVDCASS-BVB	24x60 ²	141 ²	R 336.2803 R 336.2804
8. SVDCASS-BVC	24x60 ²	136 ²	R 336.2803 R 336.2804
9. SVBLR12	228 ²	400 ²	R 336.2803 R 336.2804
10. SVBLR3	327 ²	642 ²	R 336.2803 R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGBOILER12	Common applicable requirements for EUBOILER1 and EUBOILER2.	EUBOILER1 EUBOILER2

**FGBOILER12
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Common applicable requirements for EUBOILER1 and EUBOILER2.

Emission Unit: EUBOILER1, EUBOILER2

POLLUTION CONTROL EQUIPMENT

Pollution control equipment is described for each unit in EUBOILER1 and EUBOILER2.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. SO ₂	1.67 pounds per MMBtu heat input ²	Monthly average, based on the average of the 31 previous operating days	EUBOILER1 EUBOILER2 (This limit is applicable to each individual boiler.)	SC VI.1 CEMS	R 336.1401(3), Table 41
2. SO ₂	1.00 pound per MMBtu heat input ³	30-day Rolling Average Emission Rate. This limit applies beginning 60 Operating Days after November 4, 2014 (i.e., January 3, 2015) and continues until June 30, 2016. Post June 30, 2016, this emission limit is not applicable ^{3,4}	EUBOILER1 EUBOILER2 (This limit is a combined average emission rate from the two boilers.)	SC VI.4, SC VI.5	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 110, 115, Act 451 324.5503(b)
3. PM	0.030 pound per MMBtu heat input ³	At all times, as verifiable through required stack testing This limit applies beginning 60 Operating Days after November 4, 2014 (i.e., January 3, 2015) and continues through May 1, 2016. Post May 1, 2016, this emission limit is not applicable ^{3,4}	EUBOILER1 EUBOILER2 (This limit is a combined average emission rate from the two boilers.)	SC V.2 (Appendix 2-C)	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 142, Act 451 324.5503(b)
4. Opacity	20% ^{3,4}	Per 6-minute period except for one 6-minute period per hour of not more than 27%	EUBOILER1 EUBOILER2 (This limit is a combined average emission rate from the two boilers.)	SC VI.2 COMS;	“U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” paragraph 151,

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Coal – sulfur content	1.0% by weight, at a heat content of 12,000 Btu/lb	Monthly average, based on the average of the 31 previous operating days	EUBOILER1 EUBOILER2 (This limit is applicable to each individual boiler.)	SC VI.1 CEMS	R 336.1401(3), Table 41

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate the boiler, including startup and shutdown, unless all provisions of Rule 330 are met and the corresponding precipitator is installed and operating properly, in accordance with safe operating practices. **(R 336.1330, R 336.1910)**
2. The permittee shall not operate the boilers unless a program describing preventative maintenance (Precipitator Operation and Preventative Maintenance Plan) for each electrostatic precipitator is maintained. **(R 336.1910, R 336.1911)**
3. The permittee shall not burn freeze conditioning/dust suppression agents unless the electrostatic precipitators are installed and operating properly, in accordance with safe operating practices. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall continuously operate the PM control devices being vented to a combined stack associated with FGBOILER12.^{3,4} (“**U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014**” – paragraph 142, Act 451 324.5503(b))

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall assess opacity using USEPA Reference Method 9 - “Visual Determination of the Opacity of Emissions from Stationary Sources”, upon the request of AQD. **(R 336.1301)**
2. No later than November 4, 2015, the permittee shall conduct a stack test for PM pursuant to the provisions found in Appendix 2-C: PM Emissions Testing and Monitoring Requirements. Thereafter, subsequent stack tests for PM shall be conducted pursuant to the schedule and provisions found in Appendix 2-C: PM Emissions Testing and Monitoring Requirements.^{3,4} (“**U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014**” – paragraph 153, Act 451 324.5503(b))

See Appendix 2-C

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor gas flow, SO₂, CO₂, and NO_x emissions using CEMS, as installed, maintained, and operated in accordance with the provisions of 40 CFR Part 75.² **(R 336.1401, R 336.2101)**
2. The permittee shall monitor and record the opacity from each boiler using a Continuous Opacity Monitoring System (COMS), installed, operated, and maintained in accordance with 40 CFR Part 60, Appendix B.² **(R 336.1301, R 336.2101)**

3. Prior to June 30, 2016, the permittee shall demonstrate compliance with the combined SO₂ emission rate in SC I.2 above via an emissions rate calculation based on the total SO₂ emissions and heat input for the two Units together as if they were a single unit.^{3, 4} (“**U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014**” – **paragraph 115, Act 451 324.5503(b)**)
4. For purposes of determining compliance with the 30-Day Rolling Average Emission Rate for SO₂ as found in SC I.2, the permittee shall install and operate CEMS in accordance with the procedures of 40 CFR Part 75, except that the SO₂ emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply.^{3, 4} (“**U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014**” **paragraph 130, Act 451 324.5503(b)**)

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBLR12	228 ²	400 ²	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

1. shall comply with applicable provisions of Part 15 EMISSION LIMITATIONS AND PROHIBITIONS—MERCURY. (**R 336.2503(1)**)
2. The permittee shall comply with the applicable requirements of 40 CFR Part 63 Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-fired Electric Utility Steam Generating Units. (**40 CFR Part 63 Subpart UUUUU**)

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³ This condition is federally enforceable and was established pursuant to the “U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014” and will remain in effect after termination of the referenced document.

⁴ Definitions specific to this condition may be found in Appendix 2-A: Definitions associated with the Consent Decree

APPENDIX 2

Appendix 2-A. Definitions Related to the Consent Agreement

The following definitions apply to permit conditions originally established in the consent decree settling, “U.S. v Consumers Energy Company, Civil Action No. 14-13580, E.D. Mich., 2014.” This Appendix is also federally enforceable pursuant to Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, Rule 201(1)(a), and Rule 214a, and will remain in effect after termination of the consent decree. **(Act 451, Section 324.5503(b))**

- For the purposes of the Consent Decree, every term expressly defined by this Appendix shall have the meaning given that term herein. Every other term used in the Consent Decree that is also a term used under the Act or in a federal regulation implementing the Act shall mean in the Consent Decree what such term means under the Act or those regulations. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 4)**
- A “30-Day Rolling Average Emission Rate” for a Unit shall be expressed in lb/MMBTU and calculated in accordance with the following procedure: first, sum the total pounds of NO_x or SO₂ emitted from the Unit during the current Unit Operating Day and the previous 29 Unit Operating Days; second, sum the total heat input to the Unit in MMBTU during the current Unit Operating Day and the previous 29 Unit Operating Days; and third, divide the total number of pounds of NO_x or SO₂ emitted during the 30 Unit Operating Days by the total heat input during the 30 Unit Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 30-Day Rolling Average Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and malfunction. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 5)**
- A “90-Day Rolling Average Emission Rate” for a Unit shall be expressed in lb/MMBTU and calculated in accordance with the following procedure: first, sum the total pounds of NO_x or SO₂ emitted from the Unit during the current Unit Operating Day and the previous 89 Unit Operating Days; second, sum the total heat input to the Unit in MMBTU during the current Unit Operating Day and the previous 89 Unit Operating Days; and third, divide the total number of pounds of NO_x or SO₂ emitted during the 90 Unit Operating Days by the total heat input during the 90 Unit Operating Days. A new 90-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 90-Day Rolling Average Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and malfunction. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 6)**
- A “365-Day Rolling Average Emission Rate” for a Unit shall be expressed in lb/MMBTU and calculated in accordance with the following procedure: first, sum the pounds of the pollutant in question emitted from the Unit during the most recent Unit Operating Day and the previous 364 Unit Operating Days; second, sum the total heat input to the Unit in MMBTU during the most recent Unit Operating Day and the previous 364 Unit Operating Days; and third, divide the total number of pounds of the pollutant emitted during the 365 Unit Operating Days by the total heat input during the 365 Unit Operating Days. A new 365-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 365-Day Rolling Average Emission Rate shall include all emissions that occur during all periods of operation, including startup, shutdown, and malfunction. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 7)**
- “Baghouse” means a full stream (fabric filter or membrane) particulate emissions control device. Full stream is defined as capturing the entire stream of exhaust gas with no concurrent by-pass. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 8)**
- “Campbell” means Consumers’ J.H. Campbell Generating Plant consisting of three electric utility steam-generating units designated as Unit 1 (260 MW), Unit 2 (360 MW), and Unit 3 (835 MW) and related equipment, located in West Olive, Ottawa County, Michigan. Campbell Unit 3 is co-owned by Consumers (approximately 93%) along with Wolverine Power Supply Cooperative and the Michigan Public Power Association. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 10)**
- “CEMS” or “Continuous Emission Monitoring System,” means, for obligations involving the monitoring of

NO_x and SO₂ emissions under the Consent Decree, the devices defined in 40 CFR 72.2 and installed and maintained as required by 40 CFR Part 75. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 12**)

- “Clean Air Act” or “CAA” or “Act” means the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, and its implementing regulations. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 13**).
- “Cobb” means, for purposes of the Consent Decree, Consumers’ B.C. Cobb Generating Plant consisting of two electric utility steam-generating units designated as Unit 4 (160 MW) and Unit 5 (160 MW) and related equipment, located in Muskegon, Muskegon County, Michigan. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 14**)
- “Consent Decree” means Consent Decree (“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014”) and its Appendices. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 15**)
- “Consumers” means Consumers Energy Company. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 16**)
- “Consumers System” means the Campbell, Cobb, Karn, Weadock, and Whiting facilities as defined herein. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 17**)
- “Continuously Operate” or “Continuous Operation” means that when a pollution control technology or combustion control is required to be used at a Unit pursuant to the Consent Decree (including, but not limited to, SCR, FGD, DSI, ESP, Baghouse, or Low NO_x Combustion System), it shall be operated at all times that the Unit it serves is in operation, except the SCRs on Campbell Units 2 and 3 need not be operated during scheduled maintenance on the applicable Unit’s Urea Based Ammonia System and consistent with the technological limitations, manufacturers’ specifications, good engineering and maintenance practices (including Campbell Unit 2 and Unit 3 scheduled Urea Based Ammonia System outages), and good air pollution control practices for minimizing emissions (as defined in 40 CFR 60.11(d)), as applicable, for such equipment and the Unit. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 18**)
- “Date of Entry” means the date the Consent Decree was signed by the United States District Court Judge (i.e. November 4, 2014). (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 19**)
- “Day” means calendar day unless otherwise specified in the Consent Decree. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 21**)
- “Dry Sorbent Injection” or “DSI” means a process in which a sorbent is pneumatically injected into the ducting downstream of where the coal is combusted and flue gas is produced, and upstream of the PM Control Device. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 22**)
- “Electrostatic Precipitator” or “ESP” means a device for removing particulate matter from combustion gases by imparting an electric charge to the particles and then attracting them to a metal plate or screen of opposite charge before the combustion gases are exhausted to the atmosphere. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 23**)
- “Emission Rate” for a given pollutant means the number of pounds of that pollutant emitted per million British Thermal Units of heat input (lb/MMBTU), calculated in accordance with each applicable 30, 90 or 365-Day Rolling Average Emission Rate definition. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 24**)
- “Flue Gas Desulfurization System” or “FGD” means a pollution control device that employs flue gas desulfurization technology, including an absorber or absorbers utilizing lime or limestone, or a sodium based material, for the reduction of SO₂ emissions. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 27**)
- “Fossil Fuel” means any hydrocarbon fuel, including coal, petroleum coke, petroleum oil, or natural gas. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 29**)

- "Full Stream Operation" is defined as the design configuration of a control device such that it captures the entire stream of exhaust gas with no concurrent by-pass. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 30**)
- "Karn," for purposes of the Consent Decree, means Consumers' D.E. Karn Generating Plant consisting of two electric utility steam-generating units designated as Unit 1 (255 MW) and Unit 2 (260 MW) and related equipment, located in Essexville, Bay County, Michigan. Karn does not include the oil-fired electricity generating units designated as Karn Units 3 and 4, also located in Essexville, Bay County, Michigan. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 34**)
- "Karn Units 3 and 4" means Consumers' oil-fired Units 3 and 4, in Essexville, Bay County, Michigan. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 35**)
- "KW" means Kilowatt or one thousand watts net. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 36**)
- "lb/MMBTU" means one pound per million British Thermal Units. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 37**)
- "Low NO_x Combustion System" means burners and associated combustion air control equipment, including Over Fire Air if specified, which control mixing characteristics of Fossil Fuel and oxygen, thus restraining the formation of NO_x during combustion of fuel in the boiler. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 38**)
- "Malfunction" means a failure to operate in a normal or usual manner by any air pollution control equipment, process equipment, or a process, which is sudden, infrequent, and not reasonably preventable. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 39**)
- "Michigan SIP" means the Michigan State Implementation Plan, and any amendments thereto, as approved by USEPA pursuant to Section 110 of the Act, 42 U.S.C. § 7410. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 40**)
- "MW" means a megawatt or one million watts net. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 41**)
- "NO_x" means oxides of nitrogen, measured in accordance with the provisions of the Consent Decree. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 45**)
- "NO_x Allowance" means an authorization to emit a specified amount of NO_x that is allocated or issued under an emissions trading or marketable permit program of any kind established under the Clean Air Act or the Michigan SIP; provided, however, that with respect to any such program that first applies to emissions occurring after December 31, 2011, a "NO_x Allowance" shall include an allowance created and allocated to a Consumers System Unit under such program only for control periods starting on or after November 4, 2018. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 46**)
- "Operating Day" means any calendar day on which a Unit fires Fossil Fuel. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 49**)
- "Over Fire Air" or "OFA" mean an in-furnace staged combustion control to reduce NO_x emissions. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 51**)
- "PM" means total filterable particulate matter, measured in accordance with the provisions of the Consent Decree. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 53**)
- "PM Continuous Emission Monitoring System" or "PM CEMS" means, for obligations involving the monitoring of PM emissions under the Consent Decree, the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic and/or paper record of PM emissions. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 54**)

- "PM Control Device" means any device, including an ESP or Baghouse, which reduces emissions of PM. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 55**)
- "PM Emission Rate" means the number of pounds of PM emitted per million BTU of heat input (lb/MMBTU). (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 56**)
- "Selective Catalytic Reduction" or "SCR" means an air pollution control device for reducing NO_x emissions in which ammonia ("NH₃") is added to the flue gas and then passed through layers of a catalyst material. The ammonia and NO_x in the flue gas stream react on the surface of the catalyst, forming nitrogen ("N₂") and water vapor. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 61**)
- "SO₂" means sulfur dioxide, measured in accordance with the provisions of the Consent Decree. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 62**)
- "SO₂ Allowance" means an authorization to emit a specified amount of SO₂ that is allocated or issued under an emissions trading or marketable permit program of any kind established under the Clean Air Act or the Michigan SIP; provided, however, that with respect to any such program that first applies to emissions occurring after December 31, 2011, an "SO₂ Allowance" shall include an allowance created and allocated to a Consumers System Unit under such program only for control periods starting on or after November 4, 2018. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 63**)
- "State" means the State of Michigan. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 64**)
- "State Implementation Plan" or "SIP" means regulations and other materials promulgated by a state for purposes of meeting the requirements of the Act that have been approved by USEPA pursuant to Section 110 of the Act, 42 U.S.C. § 7410. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 65**)
- "Surrender" or "Surrender of Allowances" means, for purposes of SO₂ or NO_x allowances, permanently surrendering allowances from the accounts administered by USEPA and Michigan for all Units in the Consumers System, so that such allowances can never be used thereafter to meet any compliance requirements under the Act, a SIP, or the Consent Decree. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 66**)
- "System-Wide Annual NO_x Tonnage Limitation" means the limitations, as specified in the Consent Decree, on the number of tons of NO_x that may be emitted from Campbell, Cobb, Kam, Weadock, and Whiting, collectively, during the relevant calendar year (i.e., January 1 through December 31), and shall include all emissions of NO_x during all periods of operations, including startup, shutdown, and malfunction. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 67**)
- "System-Wide Annual SO₂ Tonnage Limitation" means the limitations, as specified in the Consent Decree, on the number of tons of SO₂ that may be emitted from Campbell, Cobb, Kam, Weadock, and Whiting, collectively, during the relevant calendar year (i.e., January 1 through December 31), and shall include all emissions of SO₂ during all periods of operations, including startup, shutdown, and malfunction. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 68**)
- "Title V Permit" means the permit required of Consumers' major sources pursuant to Subchapter V of the Act, 42 U.S.C. §§ 7661-7661e. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 69**)
- "Unit" means collectively, the coal pulverizer, stationary equipment that feeds coal to the boiler, the boiler that produces steam for the steam turbine, the steam turbine, the generator, the equipment necessary to operate the generator, steam turbine, and boiler, and all ancillary equipment, including pollution control equipment and systems necessary for production of electricity. An electric steam generating station may comprise one or more Units. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 70**)
- "Urea Based Ammonia System" or "UBAS" means a type of ammonia feed system for SCRs where solid urea pellets are stored in a silo. Upon use, the solid urea is heated to liquid, thermally decomposed to ammonia, and injected into the SCR as the reagent for the NO_x reduction reaction. (**"U.S. v Consumers**

Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 71)

- "Weadock" means, for purposes of the Consent Decree, Consumers' J.C. Weadock Generating Plant consisting of two electric utility steam-generating Units designated as Unit 7 (155 MW) and Unit 8 (155 MW) and related equipment, located in Essexville, Bay County, Michigan. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 72)**
- "Whiting" means, for purposes of the Consent Decree, Consumers' Whiting Generation Station consisting of three electric utility steam-generating Units designated as Unit 1 (102 MW), Unit 2 (102 MW), and Unit 3 (124 MW) and related equipment, located in Luna Pier, Monroe County, Michigan. (**"U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 73)**

APPENDIX 3

Appendix 3-A. Continuous Opacity Monitoring Systems

(This section applies to each boiler.)

The Continuous Opacity Monitoring System (COMS) performance specifications defined in 40 CFR Part 60, Appendix B, are adopted.

Cycling time for opacity: complete a minimum of one cycle of sampling/analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period. **(R 336.2152)**

Zero and Drift: The COMS must be subject to the manufacturer's zero and span check at least once daily. **(R 336.2153)**

Location: The location of the COMS or the monitoring devices must be such that representative measurement of emissions or process parameters are obtained. **(R 336.2155)**

Alternative Systems: AQD may approve the use of an alternative monitoring system if one is available that meets COMS objectives and if, because of physical limitations or other reasons, COMS cannot be installed or give accurate measurements. **(R 336.2159)**

Monitoring and reporting requirements shall not apply during any period of monitoring system malfunction if it can be demonstrated to the satisfaction of AQD that: the cause of the malfunction could not have been avoided by any reasonable action and necessary repairs are being made as expeditiously as practicable. **(R 336.2190)**

Appendix 3-B. Continuous Emissions Monitoring System (Title IV; Gas Flow, SO₂, CO₂, NO_x)

(This section applies to each boiler.)

The CEMS performance specifications defined in 40 CFR Part 75, Appendix B, are adopted.

Methods of measurement, frequency of measurement and recordkeeping methods for CEMS required under 40 CFR 75 are outlined in the most recent version of the Acid Rain Program - J. H. Campbell Plant Monitoring Plan, originally dated July 19, 1993.

Data Reporting: The AQD may approve alternative data reporting or reduction procedures if it can be demonstrated that such procedures are at least as accurate as the procedures identified in R 336.2175.

Appendix 3-C. Fuel Oil Sulfur Monitoring

Maintain a complete record of fuel oil specifications and/or a fuel analysis for each delivery, or storage tank, of fuel oil. These records may include purchase records for ASTM specification fuel oil, specifications or analyses provided by the vendor at the time of delivery, analytical results from laboratory testing, or any other records adequate to demonstrate compliance with the percent sulfur limit in fuel oil.

Appendix 3-D. Continuous Emission Monitoring Systems (SO₂/CO₂)

(This section applies to Units 1 and 2.)

The Continuous Emissions Monitoring Systems (CEMS) performance specifications defined in 40 CFR Part 75, Appendix B, are adopted. The Certified SO₂ and CO₂ monitors will be used to determine sulfur dioxide emissions. The data reduction procedures defined in R 336.2175 will be used to determine SO₂ lbs/MMBTU. On the last day of each calendar month, the CEMS data recording system will generate and record an "operating monthly average" as the average of the previous 31 operating days.

Appendix 3-E. PM CEMS

This Appendix is federally enforceable and was established pursuant to Rule 201(1)(a). This Appendix was originally established in the consent decree settling, "U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" and also pursuant Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, and will remain in effect after termination of the consent decree. Definitions specific to this Appendix may be found in Appendix 1-B: Definitions. **(Act 451, Section 324.5503(b))**

- Consumers shall install, correlate, maintain, and operate a PM CEMS on Campbell Unit 3 as specified below. The PM CEMS shall comprise a continuous particle mass monitor measuring particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units expressed in lb/MMBTU. The PM CEMS installed must be appropriate for the anticipated stack conditions and capable of measuring PM concentrations on an hourly average basis. Consumers shall maintain, in an electronic database, the hourly average emission values of the PM CEMS in lb/MMBTU. Except for periods of monitor malfunction, maintenance, calibration, or repair, Consumers shall continuously operate the PM CEMS at all times when the Unit it serves is operating. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 159)**
- In developing both the plan for installation and correlation of the PM CEMS and the QA/QC protocol, Consumers shall use the criteria set forth in 40 CFR Part 60, Appendix B, Performance Specification 11, and Appendix F, Procedure 2. Following USEPA's approval of the plan described in Paragraph 160 of the Consent Decree and the QA/QC protocol described in Paragraph 161 of the Consent Decree, Consumers shall thereafter operate the PM CEMS in accordance with the approved plan and QA/QC protocol. Notwithstanding any other provision of the Consent Decree, exceedances of the PM Emission Rate that occur as a result of de-optimizing emission controls and/or spiking the exhaust gas with excess particulate required to achieve the high level PM test runs during the correlation testing shall not be a violation of the requirements of the Consent Decree (or credible evidence thereof); provided, however, that Consumers shall make best efforts to keep the high level PM test runs during such correlation testing below the applicable PM Emission Rate. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 162)**
- Consumers shall, correlate, maintain, and commence Continuous Operation of the PM CEMS approved by USEPA at Campbell Unit 3, conduct performance specification tests on the PM CEMS, and demonstrate compliance with the PM CEMS installation and correlation plans submitted to and approved by USEPA. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 163)**
- Except as approved pursuant to Paragraph 157 of the Consent Decree, stack testing shall be used to determine compliance with the PM Emission Rates established by the Consent Decree. Data from PM CEMS shall be used, at a minimum, to provide information to operators on PM emissions rate trends on a continuous basis. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 164)**
- The data recorded by the PM CEMS shall be expressed in lb/MMBtu on a rolling average 3-hour basis to identify any PM emission rates in excess of the applicable PM Emission Rate and shall be available in electronic format. (U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 163)

Appendix 3-F. Optimization of Baghouses

This Appendix is federally enforceable and was established pursuant to Rule 201(1)(a). This Appendix was originally established in the consent decree settling, "U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" and also pursuant Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, and will remain in effect after termination of the consent decree. Definitions specific to this Appendix may be found in Appendix 1-B: Definitions. **(Act 451, Section 324.5503(b))**

Consumers shall:

- a) At a minimum, to the extent practicable: (i) operate each compartment of the Baghouse as designed for Full Stream Operation for each Unit, where applicable (regardless of whether those actions are needed to comply with opacity limits); (ii) maintain and replace bags on each Baghouse as needed to maximize collection efficiency, where applicable; and
- b) During the next planned Unit outage (or unplanned outage of sufficient length), optimize the PM controls on that Unit by inspecting for and repairing any failed Baghouse compartment.

The above requirements are found in **“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 141.**

APPENDIX 5

This Appendix is federally enforceable and was established pursuant to Rule 201(1)(a). This Appendix was originally established in the consent decree settling, "U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" and also pursuant Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, and will remain in effect after termination of the consent decree. Definitions specific to this Appendix may be found in Appendix 1-B: Definitions. **(Act 451, Section 324.5503(b))**

Specific testing requirement plans, procedures and averaging times are detailed in the appropriate Requirement Tables. Moreover, the permittee shall use the following approved test plans, procedures, and averaging times to measure the pollutant emissions for the applicable requirements referenced in Table EUBOILER3 (see below). Alternative test plans, procedures, or averaging must be approved by the AQD District Supervisor.

Test Methods and Procedures for Boiler #3

In conducting the performance test as required in 40 CFR 60.8, the owner or operator shall use the reference methods, procedures, and test methods in 40 CFR Part 60, Appendix A or other methods and procedures specified in Section 60.46(d), except as provided in Section 60.8(b).

1. Particulate Matter: Method 17 at a facility without wet flue gas desulfurization system and Method 5B shall be used after flue gas desulfurization system. Method 5 and MATS method 5 shall also be used.
2. Opacity: Method 9.
3. SO₂: Method 6C shall be in the same sample site selected for particulate sample. The emission rate correction factor, integrated sampling, and analysis procedure of Method 3A shall be used to determine the O₂ or CO₂ concentration, and shall be taken simultaneously and in the same point as the SO₂ sample.
4. NO_x: Method 7E shall be in the same sample site selected for particulate sample. The emission rate correction factor, integrated sampling, and analysis procedure of Method 3A shall be used to determine the O₂ or CO₂ concentration, and shall be taken simultaneously and in the same point as the NO_x sample.

PM Emissions Testing and Monitoring Requirements

- Annually unless a Unit is Retired or Refueled to Natural Gas, Consumers shall conduct a stack test for PM pursuant to Paragraph 154 of the Consent Decree. The annual performance test requirement imposed on Consumers by this paragraph may be satisfied by stack tests conducted by Consumers as may be required by other conditions in its ROP for any year that such stack tests are required. Consumers may perform testing every other year, rather than every year, provided that two of the most recently completed test results from tests conducted in accordance with the methods and procedures specified above demonstrate that the PM emissions are equal to or less than 0.010 lb/MMBTU. Consumers shall perform testing every year, rather than every other year, beginning in the year immediately following any test result demonstrating that the PM emissions are greater than 0.010 lb/MMBTU. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 153)**

To determine compliance with the PM Emission Rate established in Subsections VI.B (Unit-Specific PM Requirements at Campbell Units 1 and 2; beginning at paragraph 142 of the Consent Decree), Consumers shall use the applicable reference methods and procedures (filterable portion only) specified in its ROP and the Michigan SIP for Campbell Units 1 and 2. Each test shall consist of three separate runs performed under representative operating conditions not including periods of startup, shutdown, or malfunction. The sampling time for each run associated with a Unit controlled by a Baghouse shall be at least 120 minutes and the volume of each run shall be at least 1.70 dry standard cubic meters (60 dry standard cubic feet). Consumers shall calculate the PM Emission Rate from the stack test results in accordance with 40 CFR 60.8(f). The results of each PM stack test shall be submitted to EGLE within 60 Days of completion of each test. **("U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" paragraph 154)**

- As an alternative to the PM testing required in this Appendix (PM Emissions Testing and Monitoring Requirements; beginning at paragraph 153) of the Consent Decree, following the installation and operation of PM CEMS as required by Appendix 3-E (PM CEMS), Consumers, at its sole discretion, may seek USEPA approval pursuant to Section XIII (Review and Approval of Submittals; beginning at paragraph 193) of the Consent Decree to forego stack testing and instead demonstrate continuous compliance with an applicable filterable PM Emission Rate by using the PM CEMS data on a 3-hour rolling average basis. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 157**)

Note: JHC EUBOILER3 was approved by USEPA to use the PM CEMS alternative to testing per letter dated January 20, 2020 and mailed on February 3, 2020 this PM CEMS approval letter is available upon request.

APPENDIX 11

Appendix 11-A. System Wide Tonnage Limitations

This Appendix is federally enforceable and was established pursuant to Rule 201(1)(a). Appendix 11-A and Appendix 11-B were originally established in the consent decree settling, "U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" and also pursuant Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, and will remain in effect after termination of the consent decree. Definitions specific to this Appendix may be found in Appendix 1-B: Definitions. **(Act 451, Section 324.5503(b))**

System-Wide Annual NO_x Tonnage Limitations

The Consumers System, collectively, shall operate so as not to exceed the following System-Wide Annual NO_x Tonnage Limitations:

For the Calendar Year Specified Below:	System-Wide Annual NO_x Tonnage Limitation:
2017 and continuing each calendar year thereafter	6,600

(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 98)

- For purposes of calculating the System-Wide Annual NO_x Tonnage Limitations, Consumers shall use CEMS in accordance with the procedures specified in 40 CFR Part 75, which includes the requirements associated with the concepts of bias adjustments and missing data substitution. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 100)**

System-Wide Annual SO₂ Tonnage Limitations

The Consumers System, collectively, shall operate so as not to exceed the following System-Wide Annual SO₂ Tonnage Limitations:

For the Calendar Year Specified Below:	System-Wide Annual SO₂ Tonnage Limitation:
2017 and continuing each calendar year thereafter	10,900

(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 129)

- For purposes of calculating the System-Wide Annual SO₂ Tonnage Limitations, Consumers shall use CEMS in accordance with the procedures specified in 40 CFR Part 75, which includes the requirements associated with the concepts of bias adjustments and missing data substitution. **(“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 131)**

Appendix 11-B. Allowance Provisions

This Appendix is federally enforceable and was established pursuant to Rule 201(1)(a). This Appendix was originally established in the consent decree settling, "U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014" and also pursuant Section 324.5503(b) of the Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, and will remain in effect after termination of the consent decree. Definitions specific to this Appendix may be found in Appendix 1-B: Definitions. **(Act 451, Section 324.5503(b))**

Use and Surrender of NOx Allowances

- Consumers shall not use NOx Allowances to comply with any requirement of the Consent Decree, as enumerated in this permit, including by claiming compliance with any emission limitation required by the Consent Decree, as provided in this permit, by using, tendering, or otherwise applying NOx Allowances to offset any excess emissions. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 101**)
- Except as provided by Appendix 11-B: Allowance Provisions, Consumers shall not sell, bank, trade, or transfer any NOx Allowances allocated to the Consumers System Units. Nothing in the Consent Decree shall restrict Consumers’ ability to transfer NOx Allowances among its own facility or general accounts. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 102**)
- Beginning with the year 2014 compliance period, and continuing each year thereafter, Consumers shall Surrender all NOx Allowances allocated to the Consumers System for that year’s compliance period that Consumers does not need in order to meet its own federal and/or state CAA regulatory requirements for the Consumers System Units. However, NOx Allowances allocated to the Consumers System may be used by Consumers to meet its own federal and/or state CAA regulatory requirements for such Units. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 103**)
- Nothing in Appendix 11-B: Allowance Provisions, shall prevent Consumers from purchasing or otherwise obtaining NOx Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 104**)

Super-Compliant NOx Allowances

- Beginning with the year 2014 and continuing in each calendar year thereafter, Consumers may sell, bank, use, trade, or transfer NOx Allowances made available in that year’s compliance period solely as a result of:
 - a. the installation and operation of any NOx pollution control that is not otherwise required by, or necessary to maintain compliance with, any provision of the Consent Decree as provided in this permit, and is not otherwise required by law;
 - b. the use of SCR prior to the date established by the Consent Decree; or
 - c. achievement and maintenance of an Emission Rate below a 365-Day Rolling Average Emission Rate for NO_x at the following Units: (i) at Campbell Unit 1: 0.200 lb/MMBTU; (ii) at Campbell Unit 2: 0.070 lb/MMBTU; (iii) at Campbell Unit 3: 0.070 lb/MMBTU;provided that Consumers is also in compliance for that calendar year with all emission limitations for NO_x set forth in the Consent Decree as provided in this permit. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 106**)

Method for Surrender of NOx Allowances

- Consumers shall Surrender, or transfer to a non-profit third-party selected by Consumers for Surrender, all NOx Allowances required to be Surrendered pursuant to Appendix 11-B: Allowance Provisions by June 30 of the immediately following calendar year. Such Surrender need not include the specific NOx Allowances that were allocated to Consumers System Units, so long as Consumers Surrenders NOx Allowances that are from the same year or an earlier year and that are equal to the number required to be Surrendered under the Consent Decree as provided in this permit. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 107**)
- If any NOx Allowances required to be Surrendered under Appendix 11-B: Allowance Provisions are transferred directly to a non-profit third-party, Consumers shall include a description of such transfer in the next report submitted to USEPA pursuant to the Periodic Reporting provisions of the Consent Decree (beginning at paragraph 188 of the Consent Decree). Such report shall: (a) identify the non-profit third-party recipient(s) of the NOx Allowances and list the serial numbers of the transferred NOx Allowances; and (b) include a certification by the third-party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NOx Allowances and will not use any of the NOx Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NOx Allowances, Consumers shall include a statement that the third-party recipient(s) Surrendered the NOx Allowances for permanent Surrender to USEPA in accordance with the provisions of Appendix 11-B, “Method for Surrender of NOx Allowances,” within one year after Consumers transferred the NOx Allowances to them. Consumers shall not have complied with the NOx Allowance Surrender requirements of Appendix 11-B, “Method for Surrender of NOx Allowances,” until all third-party recipient(s) have actually Surrendered the

transferred NO_x Allowances to USEPA. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 108**)

- For all NO_x Allowances required to be Surrendered, Consumers or the third-party recipient(s) (as the case may be) shall first submit a NO_x Allowance transfer request to USEPA’s Office of Air and Radiation’s Clean Air Markets Division directing the transfer of such NO_x Allowances to the USEPA Enforcement Surrender Account or to any other USEPA account that USEPA may direct in writing. Such NO_x Allowance transfer requests may be made in an electronic manner using USEPA’s Clean Air Markets Division Business System or similar system provided by USEPA. As part of submitting these transfer requests, Consumers or the third-party recipient(s) shall irrevocably authorize the transfer of these NO_x Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the NO_x Allowances being Surrendered. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 109**)

Use and Surrender of SO₂ Allowances

- Consumers shall not use SO₂ Allowances to comply with any requirement of the Consent Decree, as enumerated in this permit, including by claiming compliance with any emission limitation required by the Consent Decree, as enumerated in this permit, by using, tendering, or otherwise applying SO₂ Allowances to offset any excess emissions. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 132**)
- Except as provided in Appendix 11-B: Allowance Provisions, Consumers shall not sell, bank, trade, or transfer any SO₂ Allowances allocated to the Consumers System Units. Nothing in Appendix 11-B: Allowance Provisions, shall restrict Consumers’ ability to transfer SO₂ Allowances among its own facility or general accounts. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 133**)
- Beginning with the year 2014 compliance period, and continuing each year thereafter, Consumers shall Surrender all SO₂ Allowances allocated to the Consumers System for that year’s compliance period that Consumers does not need in order to meet its own federal and/or state CAA regulatory requirements for the Consumers System Units. However, SO₂ Allowances allocated to the Consumers System Units may be used by Consumers to meet its own federal and/or state CAA regulatory requirements for such Units. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 134**)
- Nothing in Appendix 11-B: Allowance Provisions, shall prevent Consumers from purchasing or otherwise obtaining SO₂ Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 135**)

Super-Compliant SO₂ Allowances

- Beginning with the year 2014 and continuing in each calendar year thereafter, Consumers may sell, bank, use, trade, or transfer SO₂ Allowances made available in that year’s compliance period solely as a result of:
 - a. the installation and operation of any SO₂ pollution control that is not otherwise required by, or necessary to maintain compliance with, any provision of the Consent Decree, and is not otherwise required by law;
 - b. the use of FGD or DSI prior to the date established by the Consent Decree; or
 - c. achievement and maintenance of an Emission Rate below a 365-Day Rolling Average Emission Rate for SO₂ at the following Units: (i) at Campbell Units 1 and 2: 0.260 lb/MMBTU; (ii) at Campbell Unit 3: 0.060 lb/MMBTUprovided that Consumers is also in compliance for that calendar year with all emission limitations for SO₂ set forth in the Consent Decree as provided in this permit. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 137**)

Method for Surrender of SO₂ Allowances

- Consumers shall Surrender, or transfer to a non-profit third party selected by Consumers for Surrender, all SO₂ Allowances required to be Surrendered pursuant to Appendix 11-B: Allowance Provisions, by June 30 of the immediately following calendar year. Such Surrender need not include the specific SO₂ Allowances that were allocated to Consumers System Units, so long as Consumers Surrenders SO₂ Allowances that are from the same year or an earlier year and that are equal to the number required to be Surrendered under Appendix

11-B: Allowance Provisions. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 138**)

- If any SO₂ Allowances required to be Surrendered under Appendix 11-B, “Use and Surrender of SO₂ Allowances,” are transferred directly to a non-profit third party, Consumers shall include a description of such transfer in the next report submitted to USEPA pursuant to the Periodic Reporting provisions of the Consent Decree (beginning at paragraph 188 of the Consent Decree). Such report shall: (a) identify the non-profit third-party recipient(s) of the SO₂ Allowances and list the serial numbers of the transferred SO₂ Allowances; and (b) include a certification by the non-profit third-party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the allowances and will not use any of the SO₂ Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any SO₂ Allowances, Consumers shall include a statement that the non-profit third-party recipient(s) Surrendered the SO₂ Allowances for permanent Surrender to USEPA in accordance with the provisions of the following Paragraph 140 Appendix 11-B, “Method for Surrender of SO₂ Allowances,” within one year after Consumers transferred the SO₂ Allowances to them. Consumers shall not have complied with the SO₂ Allowance Surrender requirements of this Appendix 11-B, “Method for Surrender of SO₂ Allowances,” until all third-party recipient(s) have actually Surrendered the transferred SO₂ Allowances to USEPA. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 139**)
- For all SO₂ Allowances required to be Surrendered, Consumers or the third-party recipient(s) (as the case may be) shall first submit an SO₂ Allowance transfer request to USEPA’s Office of Air and Radiation’s Clean Air Markets Division directing the transfer of such SO₂ Allowances to the USEPA Enforcement Surrender Account or to any other USEPA account that USEPA may direct in writing. Such SO₂ Allowance transfer requests may be made in an electronic manner using USEPA’s Clean Air Markets Division Business System or similar system provided by USEPA. As part of submitting these transfer requests, Consumers or the third-party recipient(s) shall irrevocably authorize the transfer of these SO₂ Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the SO₂ Allowances being Surrendered. (**“U.S. v Consumers Energy Company, Civil Action 14-13580, E.D. Mich., 2014” paragraph 140**)