

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

January 27, 2022

**PERMIT TO INSTALL
8-22**

ISSUED TO
DTE Electric – Monroe Power Plant

LOCATED AT
3500 East Front Street
Monroe, Michigan 48161

IN THE COUNTY OF
Monroe

STATE REGISTRATION NUMBER
B2816

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: July 20, 2021	
DATE PERMIT TO INSTALL APPROVED: January 27, 2022	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
EU-UNIT1	Boiler Unit No. 1 - Coal-fired boiler nominally rated 817 MW (gross) with low-NO _x burners, Reduced Emissions Fuel (REF) sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD). Fires diesel fuel oil for boiler start-up.	01-01-1968 / 03-03-2006 / 12-21-2010	FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS
EU-UNIT2	Boiler Unit No. 2 - Coal-fired boiler nominally rated 823 MW (gross) with low-NO _x burners, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD). Fires diesel fuel oil for boiler start-up.	01-01-1969 / 03-23-2005 / 12-21-2010	FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS
EU-UNIT3	Boiler Unit No. 3 - Coal-fired boiler nominally rated 823 MW (gross) with low-NO _x burners, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD). Fires diesel fuel oil for boiler start-up.	06-01-1969 / 8-28-2006 / 08-02-2010	FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS
EU-UNIT4	Boiler Unit No. 4 – Coal fired boiler nominally rated 817 MW (gross) with low-NO _x burners, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD). Fires diesel fuel oil for boiler start-up.	06-01-1969 / 11-15-2005 / 08-02-2010	FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS

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.

EU-UNIT1
EMISSION UNIT CONDITIONS

DESCRIPTION

Coal-fired cell burner boiler nominally rated at a maximum heat input of 7,624 MMBtu per hour on a fuel input basis. The boiler serves a steam turbine electric generator nominally rated at 817 MW (gross). Fires diesel fuel oil for boiler start-up and flame stabilization.

Flexible Group ID: FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS

POLLUTION CONTROL EQUIPMENT

Low-NO_x burners, overfire air, Reduced Emission Fuel (REF) sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent ²	6-minute average except one 6-minute average per hour of not more than 20 percent	EU-UNIT1	SC V.1, SC V.2, SC VI.2	R 336.1301(1)(c), R 336.2810, 40 CFR 52.21(j)
2. PM	0.011 lb/MMBtu heat input ²	24-hr rolling average as determined each hour the boiler operates	EU-UNIT1	SC V.1, SC V.2, SC VI.2	R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.2810, 40 CFR 52.21(j) Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF- RSW, E.D. Michigan, paragraph 24(a)
3. PM10	0.024 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.2810, 40 CFR 52.21(j)
4. PM10	183.0 pph ²	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
5. SO ₂	0.107 lb/MMBtu heat input ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT1	SC VI.3, SC VI.7	R 336.1401, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S
6. SO ₂	815.8 pph ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT1	SC VI.3, SC VI.5, SC VI.7	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
7. SO ₂	0.100 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT1	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF- RSW, E.D. Michigan, paragraph 9
8. NO _x	0.08 lb/MMBtu heat input ²	12-month rolling average as determined each calendar month	EU-UNIT1	SC VI.3, SC VI.8	R 336.2810, 40 CFR 52.21(j)
9. NO _x	222.6 ton/month ²	12-month rolling average as determined each calendar month	EU-UNIT1	SC VI.3, SC VI.5, SC VI.8	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
10. NO _x	0.090 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT1	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv- 13101-BAF-RSW, E.D. Michigan, paragraph 9
11. CO	0.15 lb/MMBtu heat input excluding periods of start- up and shutdown ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT1	SC VI.3, SC VI.9	R 336.2810, 40 CFR 52.21(j)
12. CO	27,446.4 lb/day ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT1	SC VI.3, SC VI.5, SC VI.9	R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
13. VOC	0.0034 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT1	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)
14. VOC	25.9 pph ²	Test protocol will specify averaging time	EU-UNIT1	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)
15. Lead (Pb)	1.69 x 10 ⁻⁵ lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1901, R 336.2810, 40 CFR 52.21(j)
16. Lead (Pb)	0.13 pph ²	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.1901, R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
17. Sulfuric acid mist (H ₂ SO ₄)	0.005 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT1	SC III.1, SC V.1, SC V.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
18. Hydrogen Chloride (HCl)	0.0024 lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FGMATS SC VI.5	R 336.1224, R 336.1225
19. Hydrogen Fluoride (HF)	0.00023 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FG-COALBLRCAM SC VI.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)
20. Mercury (Hg)	0.02 lb/GW-hr gross energy output ²	12-month rolling average as determined each calendar month	EU-UNIT1	SC V.1, SC V.2, SC VI.4, SC VI.6, SC VI.11	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
21. Mercury (Hg)	143.1 lb/year ²	12-month rolling time period as determined at the end of each calendar month	EU-UNIT1	SC V.1, SC V.2, SC VI.4, SC VI.5, SC VI.6, SC VI.11	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
22. Arsenic (As)	6.3 x 10 ⁻⁶ lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT1	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1224, R 336.1225(2)

23. The permittee shall comply with the System-Wide Annual SO₂ and NO_x Tonnage Limitations specified in Appendix 11-1-A. Emissions from EU-UNIT1 shall be counted toward the system-wide total emissions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 11)**

24. The permittee shall comply with the SO₂ and NO_x use & surrender allowance and super-compliance allowance provisions listed in Appendix 11-1-B: Allowance Provisions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 14-22)**

II. MATERIAL LIMIT(S)

1. The permittee shall only use diesel for the initial start-up fuel, flame stabilization, and overfiring. Start-up is defined in SC III.2. ² **(R 336.1205(1)(a) and (1)(b), R 336.2810, 40 CFR 52.21(j))**
2. The permittee shall only combust bituminous coal, subbituminous coal, and up to 23,652 tons per calendar month of petroleum coke in EU-UNIT1. ² **(R 336.1205(1)(a) and (1)(b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.2810, 40 CFR 52.21(j))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-UNIT1 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the process and emission control equipment, is implemented and maintained. 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 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))

2. Start-up is defined as the period of time from initiation of combustion firing until the unit reaches steady state operation and the SCR is brought into service upon the flue gas reaching a minimum operating temperature for the SCR of 650°F. Shutdown is defined as that period of time beginning when the flue gas temperature entering the SCR drops below the operating temperature of the SCR system.² (R 336.1912, R 336.2810, 40 CFR 52.21(j))
3. The permittee shall not operate EU-UNIT1 unless an emissions minimization plan for all start-ups and shutdowns is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices.² (R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))
4. The permittee shall continuously operate the SCR and FGD systems and each PM control device for EU-UNIT1 and use good air pollution control practices to minimize emission reductions at all times when EU-UNIT1 is in operation.^{2,4,5} (R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 10 & 23)

See Appendix 3-1-C

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input rate of EU-UNIT1 shall not exceed 7,624 million British thermal units per hour (MMBtu/hr) on a fuel heat input basis.² (R 336.1205(1)(a) and (1)(b))
2. The permittee shall not operate EU-UNIT1 unless the low- NO_x burners, overfire air, SCR system, ESP, and wet FGD system 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 EU-UNIT1 as required in SC III.1.² (R 336.1224, R 336.1225, R 336.1901, R 336.1910, R 336.2810, 40 CFR 52.21(j))
3. The permittee shall not operate EU-UNIT1 unless the REF sorbent system is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EU-UNIT1 as required in SC III.1.² (R 336.1225, R 336.1910)
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a process monitor to measure mercury emissions from the unit and provide real time indicators of potential noncompliance. This process monitor, because it does not meet EPA Specification 12A, is in addition to the certified mercury monitoring system which provides quality assured data used in emissions reporting and compliance verification under the Mercury Air Toxics rule. Satisfactory manner includes operating the process monitor on a continuous basis to obtain mercury emission data such that the permittee can initiate corrective actions in the event of elevated mercury emissions. Satisfactory manner includes operating and maintaining the process monitor in accordance with an approved malfunction abatement plan.^{2,3} (R 336.1201, Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 16)
5. The permittee shall install and maintain a halogenated compound application system (e.g. calcium bromide) in a satisfactory manner to promote mercury oxidation and maintain compliance with the unit's mercury emission limits. Satisfactory manner includes operating the application system when the mercury process monitor demonstrates elevated mercury emissions, and as otherwise needed for mercury emissions control in accordance with an approved malfunction abatement plan.^{2,3} (R 336.1201 Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 17)

V. TESTING/SAMPLING

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

1. The permittee shall verify visible emissions, PM, PM10, PM2.5, VOC, Pb, As, H₂SO₄, HCl, HF, and Hg emission rates from EU-UNIT1 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Sulfuric Acid Mist	40 CFR Part 60, Appendix A
Total Fluoride	40 CFR Part 60, Appendix A
Hydrogen Chloride	40 CFR Part 60, Appendix A
Mercury	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
HAPs	40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved EPA 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 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004)

2. The permittee shall verify the visible emissions, PM, PM10, VOC, Pb, As, H₂SO₄, HCl, HF, and Hg emission rates from EU-UNIT1, at a minimum, every five years from the date of the last test. ² (R 336.2001, R 336.2003, R 336.2004)
3. The permittee shall verify the PM2.5 emission rates from EU-UNIT1, and at a minimum, must complete the test once every calendar year for the next ten years of operation after the modification on January 29, 2014.² (R 336.2001, R 336.2003, R 336.2004)
4. 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. (R 336.1205, R 336.2001(4))

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.² (R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1901)
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the PM emissions from EU-UNIT1 on a continuous basis. The permittee shall install and operate the CEM to meet the timelines, requirements and reporting detailed in Appendices 3-1-A and 3-1-B. The permittee shall also meet the following requirements:² (40 CFR 52.21(j), R 336.1201, R 336.1205, R 336.1301, R 336.1303, R 336.1331, R 336.1901, R 336.1911, R 336.2810, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 25 & 26)
 - a. The MAP required in SC III.1 shall include provisions for alternative monitoring in the event that the PM CEM is out of control based upon the results of quality assurance tests conducted in accordance with Procedure 2 of 40 CFR Part 60 (Appendix F). This alternative monitoring shall, unless alternate methods and frequencies are approved in writing by the AQD District Supervisor, require verification of the presence of visible emissions by taking 6-minute visible emission readings for EU-UNIT1 a minimum of once per calendar day when the boiler is operating. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If the permittee observes any visible emissions, the permittee shall immediately implement the following procedures:

- i. The permittee shall perform the 6-minute visible emission readings at least once every 30 minutes until emissions are no longer visible or until emissions have been observed for more than two hours.
 - ii. If visible emissions have been observed for more than two hours, a certified reader shall determine the opacity using federal Reference Test Method 9 (40 CFR Part 60 (Appendix A)).
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner device(s) to monitor and record the SO₂, NO_x, and CO emissions, and oxygen or carbon dioxide (O₂ or CO₂) content of the exhaust gas from EU-UNIT1 on a continuous basis. Satisfactory manner means the permittee should follow the recommendations of the device vendor/system's designer to ensure proper installation, maintenance, and operation. The permittee shall install and operate each CEM to meet the timelines, requirements, and reported detailed in Appendix 3-1-A.² **(40 CFR 52.21(j), 40 CFR Part 51, Appendix S, R 336.2902(2)(c), R 336.1205, R 336.2810)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the mercury emissions from EU-UNIT1 on a continuous basis. The permittee shall install and operate an Hg monitor to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2))**
5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the exhaust gas flow rate from EU-UNIT1 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in Appendix 3-1-A.² **(R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the gross energy output from EU-UNIT1 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in 40 CFR 60.49Da(k).¹ **(R 336.1224)**
7. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average SO₂ emission rate and mass records for EU-UNIT1, as described in emission limits SC I.5 and I.6, respectively. Satisfactory manner means in a manner of that is clear to understand and read. ² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average NO_x emission rate and mass records for EU-UNIT1, as described in emission limits SC I.7, and I.8. ² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
9. The permittee shall keep, in a satisfactory manner, daily and 30-day rolling average CO emission rate and mass records for EU-UNIT1, as described in emission limits SC I.9 and I.10. ² **(R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j))**
10. For purposes of determining compliance with the 30-day rolling average emission rates for SO₂ and NO_x as found in SC I.7 and SC I.10, the permittee shall use emission data obtained from a CEMS in accordance with the procedures of 40 CFR Part 75, except that the emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (i.e., 5% CO₂) shall be applied to the 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.^{2,4,5} **(R 336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 12)**
11. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average mercury emission rate records, expressed on a basis of gross energy output, and monthly and 12-month rolling time period mercury mass emission rate records for EU-UNIT1, as described in emission limits SC I.18 and SC I.19. If the monitoring required by SC VI.4 is only capable of detecting gaseous mercury, the permittee shall use the testing required by SC V.9 to develop a correction factor to adjust the mercury monitoring data to total mercury. Based on the available testing and monitoring data, the correction factor may be adjusted upon review and approval of the AQD District Supervisor. ¹ **(R 336.1224, R 336.1228, R 336.1229(2)(b))**

12. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
- Compliance tests and any testing required under the special conditions of this permit;
 - Monitoring data;
 - Heat input calculations required to show compliance with SC IV.1;
 - Identification, type and the amounts of all fuels combusted in EU-UNIT1 on a calendar month basis;
 - Total gigawatt-hours of energy produced on a monthly basis;
 - Records of the duration of all times EU-UNIT1 is operated under start-up or shutdown conditions as defined in SC III.2;
 - All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and made available to the Department upon request. ² (R 336.1205(1)(a), R 336.1224, R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.1301, R 336.1331, R 336.1401, R 336.1702(a), R 336.1901, R 336.1912, R 336.2802(4), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))

See Appendices 3-1-A and 3-1-B

VII. REPORTING

- The permittee shall submit an excess emission report (EER) and summary report in an acceptable format to the AQD District Supervisor and the TPU Supervisor within 30 days following the end of each calendar quarter as specified in 40 CFR 60.7(c) and (d). The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information: ² (R 336.1205, R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804, R 336.2810, R 336.2902(2)(c), 40 CFR Part 51, Appendix S, 40 CFR 52.21(c), (d), and (j), 40 CFR 60.7(c) and (d))
 - A report of each exceedance above the limits specified in the emission limits of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - A report of all periods of the Continuous Emission Monitoring and Continuous Emission Rate Monitoring System (CEMS/CERMS), and if applicable Predictive Emission Monitoring System (PEMS), downtime and corrective action.
 - A report of the total operating time of the boiler during the reporting period.
 - A report of any periods that the CEMS/CERMS, and if applicable PEMS, exceed the instrument range.
 - If no exceedances or CEMS/CERMS, and if applicable PEMS, downtime occurred during the reporting period, the permittee shall report that fact.
- The permittee shall submit any performance test reports, including RATA reports, to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. ² (R 336.2001(5), R 336.2156(c))
- The permittee shall submit a periodic report, within 60 days after the end of each half of the calendar year (January through June and July through December) to demonstrate compliance with the Consent Decree as specified in Appendix 8-1-B.^{2,4,5} (R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 48)

See Appendix 8-1-B

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. SV016-001	336 ²	579 ²	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

1. An affected existing EGU shall meet the requirements of Part 15 Emission Limitations and Prohibitions – Mercury. **(R 336.2503(1))**

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 DTE Energy Company, Civil Action No. EPA-5-2018-113(a)-MI-07” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

⁴This condition is federally enforceable and was originally established in the consent decree settling “U.S. v. DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of this consent decree.

⁵Definitions specific to this condition may be found in Appendix 1-1-B.

**EU-UNIT2
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Coal-fired cell burner boiler nominally rated at a maximum heat input of 7,624 MMBtu per hour on a fuel input basis. The boiler serves a steam turbine electric generator nominally rated at 823 MW (gross). Fires No. 2 fuel oil for boiler start-up and flame stabilization.

Flexible Group ID: FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS

POLLUTION CONTROL EQUIPMENT

Low-NO_x burners, overfire air, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent ²	6-minute average except one 6-minute average per hour of not more than 20 percent	EU-UNIT2	SC V.1, SC V.2 SC VI.2	R 336.1301(1)(c), R 336.2810, 40 CFR 52.21(j)
2. PM	0.011 lb/MMBtu heat input ²	24-hr rolling average as determined each hour the boiler operates	EU-UNIT2	SC V.1, SC V.2 SC VI.2	R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.2810, 40 CFR 52.21(j), Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 24(a)
3. PM10	0.024 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2810, 40 CFR 52.21(j)
4. PM10	183.0 pph ²	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
5. SO ₂	0.107 lb/MMBtu heat input ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT2	SC VI.3, SC VI.7	R 336.1401, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. SO ₂	815.8 pph ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT2	SC VI.3, SC VI.5, SC VI.7	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S
7. SO ₂	0.100 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT2	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101- BAF-RSW, E.D. Michigan, paragraph 9
8. NO _x	0.08 lb/MMBtu heat input ²	12-month rolling average as determined each calendar month	EU-UNIT2	SC VI.3, SC VI.8	R 336.2810, 40 CFR 52.21(j)
9. NO _x	222.6 ton/month ²	12-month rolling average as determined each calendar month	EU-UNIT2	SC VI.3, SC VI.5, SC VI.8	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
10. NO _x	0.090 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT2	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101- BAF-RSW, E.D. Michigan, paragraph 9
11. CO	0.15 lb/MMBtu heat input excluding periods of start- up and shutdown ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT2	SC VI.3, SC VI.9	R 336.2810, 40 CFR 52.21(j)
12. CO	27,446.4 lb/day ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT2	SC VI.3, SC VI.5, SC VI.9	R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
13. VOC	0.0034 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT2	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)
14. VOC	25.9 pph ²	Test protocol will specify averaging time	EU-UNIT2	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
15. Lead (Pb)	1.69 x 10 ⁻⁵ lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1901, R 336.2810, 40 CFR 52.21(j)
16. Lead (Pb)	0.13 pph ²	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.1901, R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
17. Sulfuric acid mist (H ₂ SO ₄)	0.005 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT2	SC III.1, SC V.1, SC V.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)
18. Hydrogen Chloride (HCl)	0.0024 lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FGMATS SC VI.5	R 336.1224, R 336.1225
19. Hydrogen Fluoride (HF)	0.00023 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FG- COALBLRCAM SC VI.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)
20. Mercury (Hg)	0.02 lb/GW-hr gross energy output ²	12-month rolling average as determined each calendar month	EU-UNIT2	SC V.1, SC V.2, SC VI.4, SC VI.6, SC VI.11	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
21. Mercury (Hg)	144.2 lb/year ²	12-month rolling time period as determined at the end of each calendar month	EU-UNIT2	SC V.1, SC V.2, SC VI.4, SC VI.5, SC VI.6, SC VI.11	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
22. Arsenic (As)	6.3 x 10 ⁻⁶ lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT2	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1224, R 336.1225(2)

23. The permittee shall comply with the System-Wide Annual SO₂ and NO_x Tonnage Limitations specified in Appendix 11-1-A. Emissions from EU-UNIT2 shall be counted toward the system-wide total emissions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 11)**

24. The permittee shall comply with the SO₂ and NO_x use & surrender allowance and super-compliance allowance provisions listed in Appendix 11-1-B: Allowance Provisions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 14-22)**

II. MATERIAL LIMIT(S)

1. The permittee shall only use diesel for the initial start-up fuel, flame stabilization, and overfiring. Start-up is defined in SC III.2.² **(R 336.1205(1)(a) and (1)(b), R 336.2810, 40 CFR 52.21(j))**

2. The permittee shall only combust bituminous coal, subbituminous coal, and up to 23,652 tons per calendar month of petroleum coke in EU-UNIT2.² **(R 336.1205(1)(a) and (1)(b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.2810, 40 CFR 52.21(j))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-UNIT2 unless a MAP as described in Rule 911(2), for operation of the process and emission control equipment, is implemented and maintained. 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 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
2. Start-up is defined as the period of time from initiation of combustion firing until the unit reaches steady state operation and the SCR (after start-up and shakedown) is brought into service upon the flue gas reaching a minimum operating temperature for the SCR of 650°F. Shutdown is defined as that period of time beginning when the flue gas temperature entering the SCR drops below the operating temperature of the SCR system.² **(R 336.1912, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT2 unless an emissions minimization plan for start-ups and shutdowns has been implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices.² **(R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
4. The permittee shall continuously operate the SCR and FGD systems and each PM control device for EU-UNIT2 and use good air pollution control practices to minimize emission reductions at all times when EU-UNIT2 is in operation.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 10 & 23)**

See Appendix 3-1-C

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input rate of EU-UNIT2 shall not exceed 7,624 million British thermal units per hour (MMBtu/hr) on a fuel heat input basis.² **(R 336.1205(1)(a) and (1)(b))**
2. The permittee shall not operate EU-UNIT2 unless the low-NO_x burners, overfire air, SCR system, ESP, and wet FGD system 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 EU-UNIT2 as required in SC III.1.² **(R 336.1224, R 336.1225, R 336.1901, R 336.1910, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT2 unless the REF sorbent system is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EU-UNIT2 as required in SC III.1.² **(R 336.1225, R 336.1910)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a process monitor to measure mercury emissions from the unit and provide real time indicators of potential noncompliance. This process monitor, because it does not meet EPA Specification 12A, is in addition to the certified mercury monitoring system which provides quality assured data used in emissions reporting and compliance verification under the Mercury Air Toxics rule. Satisfactory manner includes operating the process monitor on a continuous basis to obtain mercury emission data such that the permittee can initiate corrective actions in the event of elevated mercury emissions. Satisfactory manner includes operating and maintaining the process

monitor in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201, Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 16)**

- The permittee shall install and maintain a halogenated compound application system (e.g. calcium bromide) in a satisfactory manner to promote mercury oxidation and maintain compliance with the unit's mercury emission limits. Satisfactory manner includes operating the application system when the mercury process monitor demonstrates elevated mercury emissions, and as otherwise needed for mercury emissions control in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201 Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 17)**

V. TESTING/SAMPLING

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

- The permittee shall verify visible emissions, PM, PM10, PM2.5, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT2 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Sulfuric Acid Mist	40 CFR Part 60, Appendix A
Total Fluoride	40 CFR Part 60, Appendix A
Hydrogen Chloride	40 CFR Part 60, Appendix A
Mercury	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
HAPs	40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved EPA 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 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004)**

- The permittee shall verify the visible emissions, PM, PM10, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT2, at a minimum, every five years from the date of the last test. ² **(R 336.2001, R 336.2003, R 336.2004)**
- The permittee shall verify the PM2.5 emission rates from EU-UNIT2, and at a minimum, must complete the test once every calendar year for the next ten years of operation after the modification on November 13, 2014. ² **(R 336.2001, R 336.2003, R 336.2004)**
- 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. **(R 336.1205, R 336.2001(4))**

VI. MONITORING/RECORDKEEPING

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

- The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.² **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1901)**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the PM emissions from EU-UNIT1 on a continuous basis. The permittee shall install and operate the CEM to meet the timelines, requirements and reporting detailed in Appendices 3-1-A and 3-1-B. The permittee shall also meet the following requirements:² **(40 CFR 52.21(j), R 336.1201, R 336.1205, R 336.1301, R 336.1303, R 336.1331, R 336.1901, R 336.1911, R 336.2810, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 25 & 26)**
 - a) The MAP required in SC III.1 shall include provisions for alternative monitoring in the event that the PM CEM is out of control based upon the results of quality assurance tests conducted in accordance with Procedure 2 of 40 CFR Part 60 (Appendix F). This alternative monitoring shall, unless alternate methods and frequencies are approved in writing by the AQD District Supervisor, require verification of the presence of visible emissions by taking 6-minute visible emission readings for EU-UNIT1 a minimum of once per calendar day when the boiler is operating. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If the permittee observes any visible emissions, the permittee shall immediately implement the following procedures:
 - i. The permittee shall perform the 6-minute visible emission readings at least once every 30 minutes until emissions are no longer visible or until emissions have been observed for more than two hours.
 - ii. If visible emissions have been observed for more than two hours, a certified reader shall determine the opacity using federal Reference Test Method 9 (40 CFR Part 60 (Appendix A)).
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner device(s) to monitor and record the SO₂, NO_x, and CO emissions, and oxygen or carbon dioxide (O₂ or CO₂) content of the exhaust gas from EU-UNIT2 on a continuous basis. The permittee shall install and operate each CEM to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1205, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the mercury emissions from EU-UNIT2 on a continuous basis. The permittee shall install and operate an Hg monitor to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2))**
5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the exhaust gas flow rate from EU-UNIT2 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in Appendix 3-1-A.² **(R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the gross energy output from EU-UNIT2 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in 40 CFR 60.49Da(k).¹ **(R 336.1224)**
7. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average SO₂ emission rate and mass records for EU-UNIT2, as described in emission limits SC I.5 and I.6, respectively.² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average NO_x emission rate and mass records for EU-UNIT2, as described in emission limits SC I.7, and I.8.² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
9. The permittee shall keep, in a satisfactory manner, daily and 30-day rolling average CO emission rate and mass records for EU-UNIT2, as described in emission limits SC I.9 and I.10.² **(R 336.2804, R 336.2810, 40 CFR 52.21(d), and (j))**
10. For purposes of determining compliance with the 30-day rolling average emission rates for SO₂ and NO_x as found in SC I.7 and SC I.10, the permittee shall use emission data obtained from a CEMS in accordance with the procedures of 40 CFR Part 75, except that the emissions data need not be bias adjusted and the missing

data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (i.e., 5% CO₂) shall be applied to the 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.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 12)**

11. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average mercury emission rate records, expressed on a basis of gross energy output, and monthly and 12-month rolling time period mercury mass emission rate records for EU-UNIT2, as described in emission limits SC I.18 and SC I.19. If the monitoring required by SC VI.4 is only capable of detecting gaseous mercury, the permittee shall use the testing required by SC V.9 to develop a correction factor to adjust the mercury monitoring data to total mercury. Based on the available testing and monitoring data, the correction factor may be adjusted upon review and approval of the AQD District Supervisor.¹ **(R 336.1224, R 336.1228, R 336.1229(2)(b))**
12. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
 - a) Compliance tests and any testing required under the special conditions of this permit;
 - b) Monitoring data;
 - c) Heat input calculations required to show compliance with SC IV.1;
 - d) Identification, type and the amounts of all fuels combusted in EU-UNIT2 on a calendar month basis;
 - e) Total gigawatt-hours of energy produced on a monthly basis;
 - f) Records of the duration of all times EU-UNIT2 is operated under start-up or shutdown conditions as defined in SC III.2;
 - g) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and made available to the Department upon request.² **(R 336.1205(1)(a), R 336.1224, R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.1301, R 336.1331, R 336.1401, R 336.1702(a), R 336.1901, R 336.1912, R 336.2802(4), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**

See Appendices 3-1-A and 3-1-B

VII. REPORTING

1. The permittee shall submit an excess emission report (EER) and summary report in an acceptable format to the AQD District Supervisor and the TPU Supervisor within 30 days following the end of each calendar quarter as specified in 40 CFR 60.7(c) and (d). The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:² **(R 336.1205, R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804, R 336.2810, R 336.2902(2)(c), 40 CFR Part 51, Appendix S, 40 CFR 52.21(c), (d), and (j), 40 CFR 60.7(c) and (d))**
 - a) A report of each exceedance above the limits specified in the emission limits of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b) A report of all periods of the Continuous Emission Monitoring and Continuous Emission Rate Monitoring System (CEMS/CERMS), and if applicable Predictive Emission Monitoring System (PEMS), downtime and corrective action.
 - c) A report of the total operating time of the boiler during the reporting period.
 - d) A report of any periods that the CEMS/CERMS, and if applicable PEMS, exceed the instrument range.
 - e) If no exceedances or CEMS/CERMS, and if applicable PEMS, downtime occurred during the reporting period, the permittee shall report that fact.

- The permittee shall submit any performance test reports including RATA reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5), R 336.2156(c))**
- The permittee shall submit a periodic report, within 60 days after the end of each half of the calendar year (January through June and July through December) to demonstrate compliance with the Consent Decree as specified in Appendix 8-1-B.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 48)**

See Appendix 8-1

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. SV016-002	336 ²	579 ²	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

- An affected existing EGU shall meet the requirements of Part 15 Emission Limitations and Prohibitions – Mercury. **(R 336.2503(1))**

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 originally established in the consent decree settling, “U.S. v DTE Energy Company, Civil Action No. EPA-5-2018-113(a)-MI-07” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

⁴ This condition is federally enforceable and was originally established in the consent decree settling “U.S. v. DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of this consent decree.

⁵ Definitions specific to this condition may be found in Appendix 1-1-B.

**EU-UNIT3
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Coal-fired cell burner boiler nominally rated at a maximum heat input of 7,624 MMBtu per hour on a fuel input basis. The boiler serves a steam turbine electric generator nominally rated at 823 MW (gross). Fires No. 2 fuel oil for boiler start-up and flame stabilization.

Flexible Group ID: FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS

POLLUTION CONTROL EQUIPMENT

Low-NO_x burners, overfire air, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent ²	6-minute average except one 6-minute average per hour of not more than 20 percent	EU-UNIT3	SC V.1, SC V.2, SC VI.2	R 336.1301(1)(c) R 336.2810 40 CFR 52.21(j)
2. PM	0.011 lb/MMBtu heat input ²	24-hr rolling average as determined each hour the boiler operates	EU-UNIT3	SC V.1, SC V.2, SC VI.2	R 336.1224 R 336.1225 R 336.1331(1)(c) R 336.2810 40 CFR 52.21(j), Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 24(a)
3. PM10	0.024 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2810 40 CFR 52.21(j)
4. PM10	183.0 pph ²	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2803 R 336.2804 R 336.2810, 40 CFR 52.21(c), (d), and (j)
5. SO ₂	0.107 lb/MMBtu heat input ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT3	SC VI.3, SC VI.7	R 336.1401 R 336.2810 40 CFR 52.21(j) R 336.2902(2)(c) 40 CFR Part 51, Appendix S

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. SO ₂	815.8 pph ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT3	SC VI.3, SC VI.5, SC VI.7	R 336.2803 R 336.2804 R 336.2810 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c) 40 CFR Part 51, Appendix S
7. SO ₂	0.100 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT3	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101- BAF-RSW, E.D. Michigan, paragraph 9
8. NO _x	0.08 lb/MMBtu heat input ²	12-month rolling average as determined each calendar month	EU-UNIT3	SC VI.3, SC VI.8	R 336.2810 40 CFR 52.21(j)
9. NO _x	222.6 ton/month ²	12-month rolling average as determined each calendar month	EU-UNIT3	SC VI.3, SC VI.5, SC VI.8	R 336.2803 R 336.2804 R 336.2810 40 CFR 52.21(c), (d), and (j)
10. NO _x	0.090 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT3	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101- BAF-RSW, E.D. Michigan, paragraph 9
11. CO	0.15 lb/MMBtu heat input excluding periods of start- up and shutdown ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT3	SC VI.3, SC VI.9	R 336.2810 40 CFR 52.21(j)
12. CO	27,446.4 lb/day ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT3	SC VI.3, SC VI.5, SC VI.9	R 336.2804 R 336.2810 40 CFR 52.21(d) and (j)
13. VOC	0.0034 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT3	SC III.1, SC V.1, SC V.2	R 336.1122(f) R 336.1224 R 336.1225 R 336.1702(a) R 336.2810 40 CFR 52.21(j)
14. VOC	25.9 pph ²	Test protocol will specify averaging time	EU-UNIT3	SC III.1, SC V.1, SC V.2	R 336.1122(f) R 336.1224 R 336.1225 R 336.1702(a) R 336.2810 40 CFR 52.21(j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
15. Lead (Pb)	1.69 x 10 ⁻⁵ lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1901 R 336.2810 40 CFR 52.21(j)
16. Lead (Pb)	0.13 pph ²	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.1901 R 336.2804 R 336.2810 40 CFR 52.21(d) and (j)
17. Sulfuric acid mist (H ₂ SO ₄)	0.005 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT3	SC III.1, SC V.1, SC V.2	R 336.1224 R 336.1225 R 336.2810 40 CFR 52.21(j)
18. Hydrogen Chloride (HCl)	0.0024 lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FGMATS SC VI.5	R 336.1224 R 336.1225
19. Hydrogen Fluoride (HF)	0.00023 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FG- COALBLRCAM SC VI.2	R 336.1224 R 336.1225 R 336.2810 40 CFR 52.21(j)
20. Mercury (Hg)	0.02 lb/GW-hr gross energy output ²	12-month rolling average as determined each calendar month	EU-UNIT3	SC V.1, SC V.2, SC VI.4, SC VI.6, SC VI.11	R 336.1224 R 336.1228 R 336.1229(2)(b) R 336.2503(2)
21. Mercury (Hg)	144.2 lb/year ²	12-month rolling time period as determined at the end of each calendar month	EU-UNIT3	SC V.1, SC V.2, SC VI.4, SC VI.5, SC VI.6, SC VI.11	R 336.1224 R 336.1228 R 336.1229(2)(b) R 336.2503(2)
22. Arsenic (As)	6.3 x 10 ⁻⁶ lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT3	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1224 R 336.1225(2)

23. The permittee shall comply with the System-Wide Annual SO₂ and NO_x Tonnage Limitations specified in Appendix 11-1-A. Emissions from EU-UNIT3 shall be counted toward the system-wide total emissions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 11)**

24. The permittee shall comply with the SO₂ and NO_x use & surrender allowance and super-compliance allowance provisions listed in Appendix 11-1-B: Allowance Provisions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 14-22)**

II. MATERIAL LIMIT(S)

1. The permittee shall only use diesel for the initial start-up fuel, flame stabilization, and overfiring. Start-up is defined in SC III.2.² **(R 336.1205(1)(a) and (1)(b), R 336.2810, 40 CFR 52.21(j))**

2. The permittee shall only combust bituminous coal, subbituminous coal, and up to 23,652 tons per calendar month of petroleum coke in EU-UNIT3.² **(R 336.1205(1)(a) and (1)(b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.2810, 40 CFR 52.21(j))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-UNIT3 unless a MAP as described in Rule 911(2), for operation of the process and emission control equipment, is implemented and maintained. 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 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
2. Start-up is defined as the period of time from initiation of combustion firing until the unit reaches steady state operation and the SCR is brought into service upon the flue gas reaching a minimum operating temperature for the SCR of 650°F. Shutdown is defined as that period of time beginning when the flue gas temperature entering the SCR drops below the operating temperature of the SCR system.² **(R 336.1912, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT3 unless an emissions minimization plan for start-ups and shutdowns has been implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices.² **(R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
4. The permittee shall continuously operate the SCR and FGD systems and each PM control device for EU-UNIT3 and use good pollution control practices to minimize emission reductions at all times when EU-UNIT3 is in operation.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 10 & 23)**

See Appendix 3-1-C

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input rate of EU-UNIT3 shall not exceed 7,624 million British thermal units per hour (MMBtu/hr) on a fuel heat input basis.² **(R 336.1205(1)(a) and (1)(b))**
2. The permittee shall not operate EU-UNIT3 unless the low- NO_x burners, overfire air, SCR system, ESP, and wet FGD system 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 EU-UNIT3 as required in SC III.1.² **(R 336.1224, R 336.1225, R 336.1901, R 336.1910, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT3 unless the REF sorbent system is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EU-UNIT3 as required in SC III.1.² **(R 336.1225, R 336.1910)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a process monitor to measure mercury emissions from the unit and provide real time indicators of potential noncompliance. This process monitor, because it does not meet EPA Specification 12A, is in addition to the certified mercury monitoring system which provides quality assured data used in emissions reporting and compliance verification under the Mercury Air Toxics rule. Satisfactory manner includes operating the process monitor on a continuous basis to obtain mercury emission data such that the permittee can initiate corrective actions in the event of elevated mercury emissions. Satisfactory manner includes operating and maintaining the process

monitor in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201, Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 16)**

5. The permittee shall install and maintain a halogenated compound application system (e.g. calcium bromide) in a satisfactory manner to promote mercury oxidation and maintain compliance with the unit's mercury emission limits. Satisfactory manner includes operating the application system when the mercury process monitor demonstrates elevated mercury emissions, and as otherwise needed for mercury emissions control in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201 Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 17)**

V. TESTING/SAMPLING

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

1. The permittee shall verify visible emissions, PM, PM10, PM2.5, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT3 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Sulfuric Acid Mist	40 CFR Part 60, Appendix A
Total Fluoride	40 CFR Part 60, Appendix A
Hydrogen Chloride	40 CFR Part 60, Appendix A
Mercury	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
HAPs	40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved EPA 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 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall verify the visible emissions, PM, PM10, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT3, at a minimum, every five years from the date of the last test. ² **(R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall verify the PM2.5 emission rates from EU-UNIT3, and at a minimum, must complete the test once every calendar year for the next ten years of operation after the modification in November 2009. ² **(R 336.2001, R 336.2003, R 336.2004)**
4. 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. **(R 336.1205, R 336.2001(4))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the 30th day of the calendar month, for the previous calendar month, unless

otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1901)**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the PM emissions from EU-UNIT3 on a continuous basis. The permittee shall install and operate the CEM to meet the timelines, requirements and reporting detailed in Appendices 3-1-A and 3-1-B. The permittee shall also meet the following requirements: ² **(40 CFR 52.21(j), R 336.1201, R 336.1205, R 336.1301, R 336.1303, R 336.1331, R 336.1901, R 336.1911, R 336.2810, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 25 & 26)**
 - a) The MAP required in SC III.1 shall include provisions for alternative monitoring in the event that the PM CEM is out of control based upon the results of quality assurance tests conducted in accordance with Procedure 2 of 40 CFR Part 60 (Appendix F). This alternative monitoring shall, unless alternate methods and frequencies are approved in writing by the AQD District Supervisor, require verification of the presence of visible emissions by taking 6-minute visible emission readings for EU-UNIT3 a minimum of once per calendar day when the boiler is operating. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If the permittee observes any visible emissions, the permittee shall immediately implement the following procedures:
 - i. The permittee shall perform the 6-minute visible emission readings at least once every 30 minutes until emissions are no longer visible or until emissions have been observed for more than two hours.
 - ii. If visible emissions have been observed for more than two hours, a certified reader shall determine the opacity using federal Reference Test Method 9 (40 CFR Part 60 (Appendix A)).
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner device(s) to monitor and record the SO₂, NO_x, and CO emissions, and oxygen or carbon dioxide (O₂ or CO₂) content of the exhaust gas from EU-UNIT3 on a continuous basis. The permittee shall install and operate each CEM to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1205, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S, 40 CFR 64.6(c)(1)(iii))**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the mercury emissions from EU-UNIT3 on a continuous basis. The permittee shall install and operate an Hg monitor to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2))**
5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the exhaust gas flow rate from EU-UNIT3 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in Appendix 3-1-A.² **(R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the gross energy output from EU-UNIT3 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in 40 CFR 60.49Da(k).¹ **(R 336.1224)**
7. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average SO₂ emission rate and mass records for EU-UNIT3, as described in emission limits SC I.5 and I.6, respectively.² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average NO_x emission rate and mass records for EU-UNIT3, as described in emission limits SC I.7, and I.8. ² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
9. The permittee shall keep, in a satisfactory manner, daily and 30-day rolling average CO emission rate and mass records for EU-UNIT3, as described in emission limits SC I.9 and I.10. ² **(R 336.2804, R 336.2810, 40 CFR 52.21(d), and (j))**

10. For purposes of determining compliance with the 30-day rolling average emission rates for SO₂ and NO_x as found in SC I.7 and SC I.10, the permittee shall use emission data obtained from a CEMS in accordance with the procedures of 40 CFR Part 75, except that the emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (i.e., 5% CO₂) shall be applied to the 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.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 12)**
11. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average mercury emission rate records, expressed on a basis of gross energy output, and monthly and 12-month rolling time period mercury mass emission rate records for EU-UNIT3, as described in emission limits SC I.18 and SC I.19. If the monitoring required by SC VI.4 is only capable of detecting gaseous mercury, the permittee shall use the testing required by SC V.9 to develop a correction factor to adjust the mercury monitoring data to total mercury. Based on the available testing and monitoring data, the correction factor may be adjusted upon review and approval of the AQD District Supervisor.¹ **(R 336.1224, R 336.1228, R 336.1229(2)(b))**
12. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
 - a) Compliance tests and any testing required under the special conditions of this permit;
 - b) Monitoring data;
 - c) Heat input calculations required to show compliance with SC IV.1;
 - d) Identification, type and the amounts of all fuels combusted in EU-UNIT3 on a calendar month basis;
 - e) Total gigawatt-hours of energy produced on a monthly basis;
 - f) Records of the duration of all times EU-UNIT3 is operated under start-up or shutdown conditions as defined in SC III.2;
 - g) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and made available to the Department upon request.² **(R 336.1205(1)(a), R 336.1224, R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.1301, R 336.1331, R 336.1401, R 336.1702(a), R 336.1901, R 336.1912, R 336.2802(4), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**

See Appendices 3-1-A and 3-1-B

VII. REPORTING

1. The permittee shall submit an excess emission report (EER) and summary report in an acceptable format to the AQD District Supervisor and the TPU Supervisor within 30 days following the end of each calendar quarter as specified in 40 CFR 60.7(c) and (d). The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:² **(R 336.1205, R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804, R 336.2810, R 336.2902(2)(c), 40 CFR Part 51, Appendix S, 40 CFR 52.21(c), (d), and (j), 40 CFR 60.7(c) and (d))**
 - a) A report of each exceedance above the limits specified in the emission limits of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b) A report of all periods of the Continuous Emission Monitoring and Continuous Emission Rate Monitoring System (CEMS/CERMS), and if applicable Predictive Emission Monitoring System (PEMS), downtime and corrective action.
 - c) A report of the total operating time of the boiler during the reporting period.
 - d) A report of any periods that the CEMS/CERMS, and if applicable PEMS, exceed the instrument range.

- e) If no exceedances or CEMS/CERMS, and if applicable PEMS, downtime occurred during the reporting period, the permittee shall report that fact.
- 2. The permittee shall submit any performance test reports including RATA reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5), R 336.2156(c))**
- 3. The permittee shall submit a periodic report, within 60 days after the end of each half of the calendar year (January through June and July through December) to demonstrate compliance with the Consent Decree as specified in Appendix 8-1-B.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 48)**

See Appendix 8-1

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. SV016-003	336 ²	579 ²	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

- 1. An affected existing EGU shall meet the requirements of Part 15 Emission Limitations and Prohibitions – Mercury. **(R 336.2503(1))**

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 originally established in the consent decree settling, “U.S. v DTE Energy Company, Civil Action No. EPA-5-2018-113(a)-MI-07” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.
⁴ This condition is federally enforceable and was originally established in the consent decree settling “U.S. v. DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of this consent decree.
⁵ Definitions specific to this condition may be found in Appendix 1-1-B.

**EU-UNIT4
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Coal-fired cell burner boiler nominally rated at a maximum heat input of 7,624 MMBtu per hour on a fuel input basis. The boiler serves a steam turbine electric generator nominally rated at 817 MW (gross). Fires No. 2 fuel oil for boiler start-up and flame stabilization.

Flexible Group ID: FG-ProjectPC1-4, FG-COALBLRCAM, FG-MATS

POLLUTION CONTROL EQUIPMENT

Low-NO_x burners, overfire air, REF sorbent system, selective catalytic reduction (SCR), dry wire electrostatic precipitators (ESP), and wet flue gas desulfurization (FGD).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	10 percent ²	6-minute average except one 6-minute average per hour of not more than 20 percent	EU-UNIT4	SC V.1, SC V.2, SC VI.2	R 336.1301(1)(c), R 336.2810, 40 CFR 52.21(j)
2. PM	0.011 lb/MMBtu heat input ²	24-hr rolling average as determined each hour the boiler operates	EU-UNIT4	SC V.1, SC V.2, SC VI.2	R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.2810, 40 CFR 52.21(j) , Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 24(a)
3. PM10	0.024 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2810, 40 CFR 52.21(j)
4. PM10	183.0 pph ²	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FG-COALBLRCAM SC VI.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
5. SO ₂	0.107 lb/MMBtu heat input ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT4	SC VI.3, SC VI.7	R 336.1401, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. SO ₂	815.8 pph ²	24-hour rolling average as determined each hour the boiler operates	EU-UNIT4	SC VI.3, SC VI.5, SC VI.7	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S
7. SO ₂	0.100 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT4	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 9
8. NO _x	0.08 lb/MMBtu heat input ²	12-month rolling average as determined each calendar month	EU-UNIT4	SC VI.3, SC VI.8	R 336.2810, 40 CFR 52.21(j)
9. NO _x	222.6 ton/month ²	12-month rolling average as determined each calendar month	EU-UNIT4	SC VI.3, SC VI.5, SC VI.8	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j)
10. NO _x	0.090 lb/MMBtu ^{2,4,5}	30-day rolling average emission rate ^{2,4,5}	EU-UNIT4	SC VI.3, SC VI.10	Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 9
11. CO	0.15 lb/MMBtu heat input excluding periods of start-up and shutdown ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT4	SC VI.3, SC VI.9	R 336.2810, 40 CFR 52.21(j)
12. CO	27,446.4 lb/day ²	30-day rolling average as determined each calendar day the boiler operates	EU-UNIT4	SC VI.3, SC VI.5, SC VI.9	R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
13. VOC	0.0034 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT4	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)
14. VOC	25.9 pph ²	Test protocol will specify averaging time	EU-UNIT4	SC III.1, SC V.1, SC V.2	R 336.1122(f), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
15. Lead (Pb)	1.69 x 10 ⁻⁵ lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1901, R 336.2810, 40 CFR 52.21(j)
16. Lead (Pb)	0.13 pph ²	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FG- COALBLRCAM SC VI.1	R 336.1901, R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j)
17. Sulfuric acid mist (H ₂ SO ₄)	0.005 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT4	SC III.1, SC V.1, SC V.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)
18. Hydrogen Chloride (HCl)	0.0024 lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FGMATS SC VI.5	R 336.1224, R 336.1225
19. Hydrogen Fluoride (HF)	0.00023 lb/MMBtu heat input ²	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FG- COALBLRCAM SC VI.2	R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(j)
20. Mercury (Hg)	0.02 lb/GW-hr gross energy output ²	12-month rolling average as determined each calendar month	EU-UNIT4	SC V.1, SC V.2, SC VI.4, SC VI.6, SC VI.10	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
21. Mercury (Hg)	143.1 lb/year ²	12-month rolling time period as determined at the end of each calendar month	EU-UNIT4	SC V.1, SC V.2, SC VI.4, SC VI.5, SC VI.6, SC VI.10	R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2)
22. Arsenic (As)	6.3 x 10 ⁻⁶ lb/MMBtu heat input ¹	Test protocol will specify averaging time	EU-UNIT4	SC V.1, SC V.2, FGMATS SC VI.3	R 336.1224, R 336.1225(2)

23. The permittee shall comply with the System-Wide Annual SO₂ and NO_x Tonnage Limitations specified in Appendix 11-1-A. Emissions from EU-UNIT4 shall be counted toward the system-wide total emissions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 11)**

24. The permittee shall comply with the SO₂ and NO_x use & surrender allowance and super-compliance allowance provisions listed in Appendix 11-1-B: Allowance Provisions.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 14-22)**

II. MATERIAL LIMIT(S)

1. The permittee shall only use diesel for the initial start-up fuel, flame stabilization, and overfiring. Start-up is defined in SC III.2.² **(R 336.1205(1)(a) and (1)(b), R 336.2810, 40 CFR 52.21(j))**

2. The permittee shall only combust bituminous coal, subbituminous coal, and up to 23,652 tons per calendar month of petroleum coke in EU-UNIT4.² **(R 336.1205(1)(a) and (1)(b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.2810, 40 CFR 52.21(j))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-UNIT4 unless a MAP as described in Rule 911(2), for operation of the process and emission control equipment, is implemented and maintained. 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 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
2. Start-up is defined as the period of time from initiation of combustion firing until the unit reaches steady state operation and the SCR is brought into service upon the flue gas reaching a minimum operating temperature for the SCR of 650°F. Shutdown is defined as that period of time beginning when the flue gas temperature entering the SCR drops below the operating temperature of the SCR system.² **(R 336.1912, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT4 unless an emissions minimization plan for start-ups and shutdowns has been implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices.² **(R 336.1911, R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
4. The permittee shall continuously operate the SCR and FGD systems and each PM control device for EU-UNIT4 and use good air pollution control practices to minimize emission reductions at all times at all times when EU-UNIT4 is in operation.^{2,4,5} **(R336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 10 & 23)**

See Appendix 3-1-C

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input rate of EU-UNIT4 shall not exceed 7,624 million British thermal units per hour (MMBtu/hr) on a fuel heat input basis.² **(R 336.1205(1)(a) and (1)(b))**
2. The permittee shall not operate EU-UNIT4 unless the low-NO_x burners, overfire air, SCR system, ESP, and wet FGD system 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 EU-UNIT4 as required in SC III.1.² **(R 336.1224, R 336.1225, R 336.1901, R 336.1910, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall not operate EU-UNIT4 unless the REF sorbent system is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EU-UNIT4 as required in SC III.1.² **(R 336.1225, R 336.1910)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a process monitor to measure mercury emissions from the unit and provide real time indicators of potential noncompliance. This process monitor, because it does not meet EPA Specification 12A, is in addition to the certified mercury monitoring system which provides quality assured data used in emissions reporting and compliance verification under the Mercury Air Toxics rule. Satisfactory manner includes operating the process monitor on a continuous basis to obtain mercury emission data such that the permittee can initiate corrective actions in the event of elevated mercury emissions. Satisfactory manner includes operating and maintaining the process

monitor in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201, Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 16)**

5. The permittee shall install and maintain a halogenated compound application system (e.g. calcium bromide) in a satisfactory manner to promote mercury oxidation and maintain compliance with the unit's mercury emission limits. Satisfactory manner includes operating the application system when the mercury process monitor demonstrates elevated mercury emissions, and as otherwise needed for mercury emissions control in accordance with an approved malfunction abatement plan. ^{2,3} **(R 336.1201 Act 451 324.5503(b), EPA-5-2018-113(a)-MI-07 paragraph 17)**

V. TESTING/SAMPLING

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

1. The permittee shall verify visible emissions, PM, PM10, PM2.5, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT4 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Sulfuric Acid Mist	40 CFR Part 60, Appendix A
Total Fluoride	40 CFR Part 60, Appendix A
Hydrogen Chloride	40 CFR Part 60, Appendix A
Mercury	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
HAPs	40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved EPA 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 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall verify the visible emissions, PM, PM10, VOC, Pb, As, H2SO4, HCl, HF, and Hg emission rates from EU-UNIT4, at a minimum, every five years from the date of the last test. ² **(R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall verify the PM2.5 emission rates from EU-UNIT4, and at a minimum, must complete the test once every calendar year for the next ten years of operation after the modification on July 12, 2012. ² **(R 336.2001, R 336.2003, R 336.2004)**
4. 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. **(R 336.1205, R 336.2001(4))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the 30th day of the calendar month, for the previous calendar month, unless

otherwise specified in any monitoring/recordkeeping special condition.² **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1901)**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the PM emissions from EU-UNIT1 on a continuous basis. The permittee shall install and operate the CEM to meet the timelines, requirements and reporting detailed in Appendices 3-1-A and 3-1-B. The permittee shall also meet the following requirements:² **(40 CFR 52.21(j), R 336.1201, R 336.1205, R 336.1301, R 336.1303, R 336.1331, R 336.1901, R 336.1911, R 336.2810, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 25 & 26)**
 - a) The MAP required in SC III.1 shall include provisions for alternative monitoring in the event that the PM CEM is out of control based upon the results of quality assurance tests conducted in accordance with Procedure 2 of 40 CFR Part 60 (Appendix F). This alternative monitoring shall, unless alternate methods and frequencies are approved in writing by the AQD District Supervisor, require verification of the presence of visible emissions by taking 6-minute visible emission readings for EU-UNIT1 a minimum of once per calendar day when the boiler is operating. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If the permittee observes any visible emissions, the permittee shall immediately implement the following procedures:
 - i. The permittee shall perform the 6-minute visible emission readings at least once every 30 minutes until emissions are no longer visible or until emissions have been observed for more than two hours.
 - ii. If visible emissions have been observed for more than two hours, a certified reader shall determine the opacity using federal Reference Test Method 9 (40 CFR Part 60 (Appendix A)).
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner device(s) to monitor and record the SO₂, NO_x, and CO emissions, and oxygen or carbon dioxide (O₂ or CO₂) content of the exhaust gas from EU-UNIT4 on a continuous basis. The permittee shall install and operate each CEM to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1205, R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the mercury emissions from EU-UNIT4 on a continuous basis. The permittee shall install and operate an Hg monitor to meet the timelines, requirements and reporting detailed in Appendix 3-1-A.² **(R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2503(2))**
5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the exhaust gas flow rate from EU-UNIT4 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in Appendix 3-1-A.² **(R 336.2810, 40 CFR 52.21(j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the gross energy output from EU-UNIT4 on a continuous basis. The monitor shall be operated in accordance with procedures outlined in 40 CFR 60.49Da(k).¹ **(R 336.1224)**
7. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average SO₂ emission rate and mass records for EU-UNIT4, as described in emission limits SC I.5 and I.6, respectively.² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j), R 336.2902(2)(c), 40 CFR Part 51, Appendix S)**
8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average NO_x emission rate and mass records for EU-UNIT4, as described in emission limits SC I.7, and I.8.² **(R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**
9. The permittee shall keep, in a satisfactory manner, daily and 30-day rolling average CO emission rate and mass records for EU-UNIT4, as described in emission limits SC I.9 and I.10.² **(R 336.2804, R 336.2810, 40 CFR 52.21(d) and (j))**

10. For purposes of determining compliance with the 30-day rolling average emission rates for SO₂ and NO_x as found in SC I.7 and SC I.10, the permittee shall use emission data obtained from a CEMS in accordance with the procedures of 40 CFR Part 75, except that the emissions data need not be bias adjusted and the missing data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (i.e., 5% CO₂) shall be applied to the 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.^{2,4,5} **(R 336.1201, Act 451, Section 324.5503(b); Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 12)**
11. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling average mercury emission rate records, expressed on a basis of gross energy output, and monthly and 12-month rolling time period mercury mass emission rate records for EU-UNIT4, as described in emission limits SC I.18 and SC I.19. If the monitoring required by SC VI.4 is only capable of detecting gaseous mercury, the permittee shall use the testing required by SC V.9 to develop a correction factor to adjust the mercury monitoring data to total mercury. Based on the available testing and monitoring data, the correction factor may be adjusted upon review and approval of the AQD District Supervisor.¹ **(R 336.1224, R 336.1228, R 336.1229(2)(b))**
12. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
 - a) Compliance tests and any testing required under the special conditions of this permit;
 - b) Monitoring data;
 - c) Heat input calculations required to show compliance with SC IV.1;
 - d) Identification, type and the amounts of all fuels combusted in EU-UNIT4 on a calendar month basis;
 - e) Total gigawatt-hours of energy produced on a monthly basis;
 - f) Records of the duration of all times EU-UNIT4 is operated under start-up or shutdown conditions as defined in SC III.2;
 - g) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and made available to the Department upon request.² **(R 336.1205(1)(a), R 336.1224, R 336.1225, R 336.1228, R 336.1229(2)(b), R 336.1301, R 336.1331, R 336.1401, R 336.1702(a), R 336.1901, R 336.1912, R 336.2802(4), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), and (j))**

See Appendices 3-1-A and 3-1-B

VII. REPORTING

1. The permittee shall submit an excess emission report (EER) and summary report in an acceptable format to the AQD District Supervisor and the TPU Supervisor within 30 days following the end of each calendar quarter as specified in 40 CFR 60.7(c) and (d). The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:² **(R 336.1205, R 336.1224, R 336.1228, R 336.1229(2)(b), R 336.2803, R 336.2804, R 336.2810, R 336.2902(2)(c), 40 CFR Part 51, Appendix S, 40 CFR 52.21(c), (d), and (j), 40 CFR 60.7(c) and (d))**
 - a) A report of each exceedance above the limits specified in the emission limits of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b) A report of all periods of the Continuous Emission Monitoring and Continuous Emission Rate Monitoring System (CEMS/CERMS), and if applicable Predictive Emission Monitoring System (PEMS), downtime and corrective action.
 - c) A report of the total operating time of the boiler during the reporting period.
 - d) A report of any periods that the CEMS/CERMS, and if applicable PEMS, exceed the instrument range.
 - e) If no exceedances or CEMS/CERMS, and if applicable PEMS, downtime occurred during the reporting period, the permittee shall report that fact.

- The permittee shall submit any performance test reports including RATA reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5), R 336.2156(c))**

See Appendix 8-1

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. SV016-004	336 ²	579 ²	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

- An affected existing EGU shall meet the requirements of Part 15 Emission Limitations and Prohibitions – Mercury. **(R 336.2503(1))**

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 originally established in the consent decree settling, “U.S. v DTE Energy Company, Civil Action No. EPA-5-2018-113(a)-MI-07” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

⁴ This condition is federally enforceable and was originally established in the consent decree settling “U.S. v. DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of this consent decree.

⁵ Definitions specific to this condition may be found in Appendix 1-1-B.

APPENDICES

Appendix 1 Definitions

1-1-B. Definitions Applicable to Specified Permit Conditions

The following definitions apply to permit conditions originally established in the consent decree settling “U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020.” 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 214(a), and will remain in effect after termination of the consent decree. (Act 451, Section 324.5503(b))

For the purpose of the Consent Decree, every term expressly defined by this Section 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 regulation implementing the Act, including regulations approved as part of the Michigan SIP, shall mean in the Consent Decree what such term means under the Act or those regulations. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4)**

1. A “30-Day Rolling Average Emission Rate” for a Unit shall be expressed as lb/MMBtu and calculated in accordance with the following procedure: First, sum the total pounds of the pollutant in question emitted from the Unit during an Operating Day and the previous 29 Operating Days; second, sum the total heat input to the Unit in MMBtu during the Operating Day and the previous 29 Operating Days; and third, divide the total number of pounds of the pollutant emitted during the 30 Operating Days by the total heat input during the 30 Operating Days. A new 30-Day Rolling Average Emission Rate shall include all emissions of the applicable pollutant that occur during all periods within any Operating Day, including emissions from startup, shutdown, and malfunction. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(a))**
2. A “24-Hour Rolling Average Emission Rate” for a Unit shall be expressed as lb/MMBtu and calculated in accordance with the following procedure: First, sum the total pounds of the pollutant emitted from the Unit during an operating hour and the previous 23 operating hours; second, sum the total heat input to the Unit in MMBtu during the operating hour and the previous 23 operating hours; and third, divide the total number of pounds of the pollutant emitted during the 24 operating hours by the total heat input during the 24 operating hours. A new 24-Hour Rolling Average Emission Rate shall be calculated for each new operating hour. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(b))**
3. “Baghouse” means a full stream (fabric filter or membrane) particulate emissions control device. In this context, full stream means that it captures the entire stream of exhaust gas with no concurrent bypass. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(c))**
4. “Belle River” means DTE’s Belle River Power Plant consisting of two electric utility steam-generating units designated as Unit 1 (638 MW) and Unit 2 (602 MW) and related equipment, located in East China Township, Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(d))**
5. “Boiler Island” means a Unit’s (a) fuel combustion system (including bunker, coal pulverizers, crusher, stoker, and fuel burners); (b) combustion air system; (c) steam generating system (firebox, boiler tubes, and walls); and (d) draft system (excluding the stack), all as further described in “Interpretation of Reconstruction,” by John B. Rasnic, U.S. EPA (November 25, 1986) and attachments thereto. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(e))**
6. “Capital Expenditures” means all capital expenditures, as defined by Generally Accepted Accounting Principles (“GAAP”), as those principles exist at the Date of Entry of this Consent Decree, excluding the cost of installing or upgrading pollution control devices. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(f))**
7. “CEMS” or “Continuous Emission Monitoring System” means, for obligations involving the monitoring of NO_x, SO₂, and PM emissions under the Consent Decree, the devices defined in 40 C.F.R. §72.2 and installed and maintained as required by 40 C.F.R. Part 75. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(g))**

8. "Clean Air Act", "CAA", or "Act" means the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, and its implementing regulations. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(h))**
9. "Complaints" shall mean the amended complaints filed by the United States and Sierra Club in this case on April 9, 2014, and May 22, 2014, respectively. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(i))**
10. "Consent Decree" means Consent Decree ("U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020") and its Appendices. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(j))**
11. "Continuously Operate" or "Continuous Operation" means that when a pollution control technology or combustion control is required to be continuously used at a Unit pursuant to the Consent Decree (including, but not limited to, SCR, FGD, ESP, Baghouse, or Low NO_x Combustion System), it shall be operated at all times such Unit is in operation (except as otherwise provided by Section XII (Force Majeure) of the Consent Decree), consistent with the technological limitations, manufacturers' specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 C.F.R. §60.11(d)) for such equipment and the Unit. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(k))**
12. "Date of Entry" means the date the Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(l))**
13. "Date of Lodging" means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Eastern District of Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(m))**
14. "Day" means calendar day unless otherwise specified in the consent decree. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(n))**
15. "Defendants" or "DTE" mean DTE Energy and Detroit Edison Company. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(o))**
16. "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. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(p))**
17. "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), measured in accordance with the Consent Decree. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(q))**
18. "Environmental Mitigation Project" or "Project" means the project set forth in Section VI (Environmental Mitigation Project) and Appendix A of the Consent Decree, and any other project undertaken for the purpose of fulfilling Defendants' obligations under Section VI and Appendix A and approved for that purpose by EPA pursuant to Section X of the Consent Decree (Review and Approval of Submittals). **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(r))**
19. "EPA" means the United States Environmental Protection Agency. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(s))**
20. "Flue Gas Desulfurization System" or "FGD" means a pollution control device that removes sulfur compounds from a flue gas stream, including an absorber or absorbers utilizing lime or limestone, or a sodium based material, for the reduction of SO₂ emissions. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(t))**
21. "Fossil Fuel" means any hydrocarbon fuel, including but not limited to coal, metallurgical coke, petroleum coke, petroleum oil, natural gas, or any other fuel made or derived from the foregoing. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(u))**
22. "Greenhouse Gases" means the air pollutant defined at 40 C.F.R. §86.1818-12(a) as of the Date of Lodging of this Consent Decree as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide,

methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This definition continues to apply even if 40 C.F.R. §86.1818-12(a) is subsequently revised, stayed, vacated or otherwise modified. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(v))**

23. "KW means Kilowatt or one thousand watts net. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(w))**
24. "lb/MMBtu" means pounds of a pollutant per million British thermal units of heat input. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(x))**
25. "Low NO_x Combustion System" means burners and associated combustion air control equipment, including Overfire Air (if installed at the Unit), which control mixing characteristics of Fossil Fuel and oxygen, thus restraining the formation of NO_x during combustion of fuel in the boiler. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(y))**
26. "Malfunction" means any sudden, infrequent, and no reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(z))**
27. "MW" means a megawatt or one million units. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(aa))**
28. "Michigan SIP" means the Michigan State Implementation Plan, and any amendments thereto, as approved by EPA pursuant to Section 110 of the Act, 42 U.S.C. §7410. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(bb))**
29. "Monroe" means DTE's Monroe Power Plant consisting of four electric utility steam-generating units designated as Unit 1 (764 MW), Unit 2 (772 MW), Unit 3 (773 MW), and Unit 4 (765 MW) and related equipment, located in Monroe, Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(cc))**
30. "Natural Gas" means natural gas received directly or indirectly through a connection to an interstate pipeline transporting natural gas governed by a tariff approved by the Federal Energy Regulatory Commission. The Parties recognize that Natural Gas is expected to contain no more than 0.5 grains of sulfur per 100 standard cubic feet of Natural Gas. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(dd))**
31. "Netting" shall mean the process of determining whether a particular physical change or change in the method of operation of a major stationary source results in a "net emissions increase" or "net significant emissions increase" as those terms are defined at 40 C.F.R. 52.21 (b)(3)(i) and (ii) and in the Michigan SIP. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ee))**
32. "NO_x" means oxides of nitrogen. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ff))**
33. "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, 2018, a "NO_x Allowance" shall include an allowance created and allocated under such program only for control periods starting on or after the first anniversary of the Date of Entry of the Consent Decree. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(gg))**
34. "Nonattainment NSR" means the new source review program within the meaning of Part D of Subchapter I of the Act, 42 U.S.C. 7501-7515 and 40 C.F.R. Part 51, and corresponding provisions of the federally enforceable Michigan SIP. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(hh))**
35. "Operating Day" or "Operating Days" means any calendar day(s) during which a Unit fires any fuel. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ii))**

36. "Operating Hour" or "Operating Hours" means any clock hour during which a Unit first any fuel. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(jj))**
37. "Operational or Ownership Interest" means part or all of DTE's legal or equitable operational or ownership interest in any operating, not-Retired Unit. The Parties recognize that under this definition, Section XVII (Sales or Transfers or Operational or Ownership Interests) of the Consent Decree does not apply to salvage, scrap, or demolition of a Retired Unit. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(kk))**
38. "Over-Fire Air" or "OFA" means and in-furnace staged combustion control to reduce NO_x emissions. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ll))**
39. "Parties" means the United States of America, the Sierra Club, and Defendants. "Party" means one of the named "Parties". **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(mm))**
40. "PM" means total filterable particulate matter. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(nn))**
41. "PM CEMS" or "PM Continuous Emission Monitoring System" means the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic or paper record of PM emissions. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(oo))**
42. "PM Control Device" means any device, including an ESP or Baghouse, which reduces emissions of PM. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(pp))**
43. "PM Emission Rate" means the number of pounds of PM emitted per million BTU of heat input (lb/MMBtu). **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(qq))**
44. "Prevention of Significant Deterioration" or "PSD" means the new source review program within the meaning of Part C of Subchapter I of the Clean Air Act, 42 U.S.C. §§7470-7492 and 40 C.F.R. Part 52, and corresponding provisions of the federally enforceable Michigan SIP. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(rr))**
45. "Project Dollars" means Defendants' expenditures and payments incurred or made in carrying out the Environmental Mitigation Project identified in Section VI (Environmental Mitigation Project) of this Consent Decree to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section VI (Environmental Mitigation Project) and Appendix A of this Consent Decree, and (b) constitute Defendants' direct payments for such project or Defendants' external costs for contractors, vendors, and equipment. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ss))**
46. "Refuel" or "Refueled" means the modification of a Unit such that the modified unit generates electricity solely through the combustion of Natural Gas. Nothing herein shall prevent the reuse of any equipment at any existing Unit provided that the unit owner(s) applies for, and obtains, all required permits, including, if applicable, a PSD or Nonattainment NSR permit. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(tt))**
47. "Repower" or "Repowered" means the removal and replacement of the Unit components such that the replaced unit generates electricity solely through the combustion of Natural Gas through the use of a combined cycle combustion turbine technology. Nothing herein shall prevent the reuse of any equipment at any existing unit or new emissions unit, provided that the Unit owner(s) applies for, and obtains, all required permits, including, if applicable, a PSD or Nonattainment NSR permit. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(uu))**
48. "Retire", "Retired", or "Retirement" means to permanently shut down and cease to operate the Unit, and to comply with applicable state and federal requirements for permanently ceasing operation of the Unit, including removing the Unit from Michigan's air emissions inventory, and amending all applicable permits so as to reflect the permanent shutdown status of each Unit. The terms "Retire", "Retired", or "Retirement" shall not be construed to apply to electric synchronization motors, capacitors, switch gears, transformers, interconnection equipment and other non-combustion equipment and activities at the sites of System Units, regardless of

whether such equipment was part of the System Units. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(vv))**

49. "River Rouge" means Defendants' River Rouge Power Plant consisting of one electric utility steam-generating unit designated as Unit 3 (276 MW) and related equipment, located in River Rouge, Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(xx))**
50. "SCR" or "Selective Catalytic Reduction" 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. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(yy))**
51. "SO₂" means sulfur dioxide. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(zz))**
52. "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, 2018, an "SO₂ Allowance" shall include an allowance created and allocated under such program only for control period starting on or after the first anniversary of the Date of Entry of the Consent Decree. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(aaa))**
53. "State" means the State of Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(bbb))**
54. "St. Clair" means, for purposes of this Consent Decree, Defendants' St. Clair Power Plant consisting of five electric utility steam-generating units designated as Unit 1 (152 MW), Unit 2 (160 MW), Unit 3 (165 MW), Unit 6 (319 MW) and Unit 7 (452 MW) and related equipment, located in East China Township, Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ccc))**
55. "Surrender" or "Surrender of Allowances" means, for purposes of SO₂ and NO_x Allowances, permanently surrendering allowances from the accounts administered by EPA and the State of Michigan, if applicable, so that such allowances can never be used thereafter to meet any compliance requirements under the CAA, a state implementation plan, or the Consent Decree. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ddd))**
56. "System" means the Belle River, Monroe, River Rouge, St. Clair, and Trenton Channel facilities as defined herein. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(eee))**
57. "System-Wide Annual Tonnage Limitation" for a pollutant means the sum of the tons of the pollutant emitted from all the Units in Defendants' System including, without limitations, all tons of that pollutant emitted during periods of startup, shutdown, and Malfunction, in the designated year. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(fff))**
58. "Title V Permit" means the permit required of major sources pursuant to Subchapter V of the Act, 42 U.S.C. §§ 7661-7661e. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(ggg))**
59. "Trenton Channel" means Defendants' Trenton Channel Power Plant consisting of one electric utility steam-generating unit designated as Unit 9 (536 MW) and related equipment, located in Trenton, Michigan. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(hhh))**
60. "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 be comprised of one or more Units. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 4(iii))**

Appendix 3-1. Monitoring Requirements

3-1-A. The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in EU-UNIT1, EU-UNIT2, EU-UNIT3 and EU-UNIT4.

NO_x, SO₂, CO, PM, CO₂/O₂, Mercury Monitoring Continuous Emission Monitoring and Continuous Emission Rate Monitoring System (CEMS/CERMS) Requirements

1. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS/CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table:

Pollutant	Applicable PS
NO _x /SO ₂	2
CO	4
CO ₂ /O ₂	3
CERMS	6
PM	11
Mercury	12A*
*Or other PS as approved by the AQD	

2. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
3. The CEMS/CERMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2, 3, 6, 11, and 12A (see No. 1 above) of Appendix B to 40 CFR Part 60 or 40 CFR Part 75, Appendices A and B, as applicable.
4. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS/CERMS set forth in Appendix F of 40 CFR Part 60 or 40 CFR Part 75, Appendix B. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F of 40 CFR Part 60).

3-1-B. 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 DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to 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 1-1-B: Definitions. **(Act 451, Section 324.5503(b))**

1. In determining the PM Emissions Rates, DTE shall use the PM CEMS installed at each unit. The PM CEMS shall be comprised of a continuous particle mass monitor measuring filterable 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 at each Unit must be appropriate for the anticipated stack conditions and capable of measuring filterable PM concentrations on an hourly average basis. DTE shall maintain, in an electronic database, the hourly average emission values of all PM CEMS in lb/MMBtu. Except for period of monitor Malfunction, maintenance, or repair, DTE shall operate the PM CEMS at all times when the Unit it serves is operating. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 25)**
2. In maintaining and operating the PM CEMS required under the Consent Decree, DTE shall use the criteria set forth in 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and 40 C.F.R. Part 60, Appendix F, Procedure 2. With respect to relative correlation audits, DTE must conduct such audits no less frequently than

once every 12 operating quarters in which the boiler operates 168 hours or more in each calendar quarter, or earlier if the characteristics of the PM or gas change such that the PM CEMS measurement technology is no longer valid. For each Unit at which DTE installs, certifies, operates, and maintain a PM CEMS, DTE may use the procedures specified in 40 C.F.R. § 63.10010(i)(1)-(3) (including the specified temperature) for purposed of correlating the PM CEMS under the Consent Decree. Diluent capping (i.e.: 5% CO₂) will be applied to the PM rate data for any hours where the measured CO₂ concentration is less than 5% following the procedures in 40 C.F.R. Part 75, Appendix F, Section 3.3.4.1. DTE shall operate the PM CEMS in accordance with all EPA reviewed QA/QC protocols. Compliance with the PM CEMS correlation and quality assurance procedures in 40 C.F.R. Part 63, Subpart UUUUU constitutes compliance with this condition. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 26)**

3-1-C. Optimization of ESPs

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 DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” and also pursuant to 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 1-1-B: Definitions. **(Act 451, Section 324.5503(b))**

DTE Shall:

1. At a minimum, to the extent practicable: (i) fully energize each section of the ESP for each Unit, where applicable; (ii) operate automatic control systems on each ESP to maximize PM collection efficiency, where applicable; (iii) maintain power levels delivered to the ESPs, consistent with manufacturers’ specifications, the operational design of the Unit, and good engineering practices; and (iv) evaluate and restore the plate-cleaning and discharge-electrode cleaning systems for the ESPs at each Unit by varying the time cycle, cycle frequency, rapper vibrator intensity, and number of strikes per cleaning event; and
2. 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 ESP section and any openings in ESP casings, ductwork, and expansion joints to minimize air leakage.

The above requirements are found in “U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020” paragraph 23.

Appendix 8-1. Reporting

8-1-A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use the EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual, and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213 (4)(c) and Rule 213 (3)(c)(i), respectively, and be approved by the AQD District Supervisor.

8-1-B. Other Reporting

Reporting requirements per "U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" paragraph 48

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 DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" 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 1-1-B: Definitions. **(Act 451, Section 324.5503(b))**

1. DTE shall submit a periodic report, within 60 days after the end of each half of the calendar year (January through June and July through December). The report shall include the following information:

- a) All information necessary to determine compliance during the reporting period with the requirements of paragraphs 9-22 of the Consent Decree concerning emissions and monitoring and surrender of Allowances. This information includes but is not limited to
 - (1) spreadsheets of all 30-Day Rolling Average Emission Rates and 24-Hour Rolling Average Emission Rates for EU-UNIT1 through EU-UNIT4,
 - (2) a list of any notifications associated with the retrofit, refuel, or repower options as specified in Appendix 2-BR (Consent Decree paragraph 8),
 - (3) total System-Wide Annual NO_x and SO₂ tonnages for the calendar year, and
 - (4) specific calculations demonstrating the basis and specific amounts of NO_x and SO₂ Allowances to be Surrendered as specified in Appendix 11-1-B SC8;
- b) All period of PM CEMS malfunction, maintenance, and/or repair as provided in paragraph 25 of the Consent Decree;
- c) All information relating to super-compliant NO_x and SO₂ Allowances that DTE claims to have generated in accordance with Appendix 11-1-B of this permit (requirements of paragraph 19 of the Consent Decree), including a detailed description of the basis for such claim and the specific amount of supercompliant NO_x and SO₂ Allowances claimed at each Unit; and
- d) An identification of all period when any pollution control device (FGD system, SCR system and ESPs) required by the Consent Decree was not Continuously Operated while the associated boiler was in operation, the reason(s) for the equipment not being Continuously Operated, and the basis for DTE's compliance or non-compliance with the Continuous Operation requirements of the Consent Decree.

The above requirements are found in "U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" paragraphs 8-22 and 48.

2. In any periodic report submitted pursuant to the Periodic Reporting requirements found in Section IX of the Consent Decree, DTE may incorporate by reference information previously submitted under their Title V permitting requirements, provided that DTE attaches the Title V Permit report (or the pertinent portions of such

report) and provide a specific reference to the provisions of the Title V Permit report that are responsive to the information required in the periodic report. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 49)**

3. If DTE violates or deviates from any provision of the Consent Decree, DTE shall submit a report of any violation or deviation from any provision of the Consent Decree within 10 business days after DTE knew or should have known of the event. In the report, DTE shall explain the cause or causes of the violation or deviation and all measures taken or to be taken by DTE to cure the reported violation or deviation or to prevent such violations or deviations in the future. If at any time the provisions of the Consent Decree are included in Title V Permits, consistent with the requirements for such inclusion in the Consent Decree, then the deviation reports required under applicable Title V regulations shall be deemed to satisfy the Consent Decree requirement. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 50)**
4. Each report required by the Consent Decree shall be signed by the Responsible Official as defined in Title V of the Clean Air Act for the appropriate System Unit(s), and shall contain the following certification: *"This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete, I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States."* **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 51)**
5. Unless otherwise provided herein, whenever notifications, submissions, or communications are required by the Consent Decree, they shall be made in both paper and electronic format to the addresses identified in paragraph 99 of the Consent Decree unless otherwise superseded. Electronic submittals shall not be the only form of notification, submission, or communication unless agreed upon by both the submitting and receiving Parties. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 99)**
6. All paper notifications, communications, or submissions made pursuant to the Consent Decree shall be sent either by: (a) overnight mail or overnight delivery service with signature required for delivery or (b) certified or registered mail, return receipt requested. All notifications, communications, and transmissions (a) sent by overnight, certified, or registered mail shall be deemed submitted on the date they are postmarked, or (b) sent by overnight delivery service shall be deemed submitted on the date they are delivered to the delivery service. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 101)**

Appendix 11-1. NO_x and SO₂ Allowances and Limitations

11-1-A. System Wide NO_x and SO₂ Tonnage Limitations

This appendix is federally enforceable and was established pursuant to Rule 201(1)(a). Appendix 11-1-A and 11-1-B were originally established in the consent decree settling, "U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" 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 1-1-B: Definitions. **(Act 451, Section 324.5503(b))**

System-Wide Annual NO_x and SO₂ Tonnage Limitations

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

For the Calendar Year Specified Below:	System-Wide Annual NO _x Tonnage Limitation	System-Wide Annual SO ₂ Tonnage Limitation:
2020-2022	23,850	54,400
2023-2030	15,400	31,800
2031 and later years	6,400	4,650

(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 11)

1. For purposes of determining compliance with any System-Wide Annual Tonnage Limitation, DTE shall use NO_x and SO₂ emission data obtained from a CEMS in accordance with the procedures specified in 40 CFR Part 75. If a Unit is Refueled, SO₂ emissions shall be calculated using methods set forth in EPA document AP-42 or by use of a stack test emission factor. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 13)**

11-1-B. NO_x and SO₂ Allowance Provisions

This appendix is federally enforceable and was established pursuant to Rule 201(1)(a). Appendix 11-1-A and 11-1-B were originally established in the consent decree settling, "U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" 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 1-1-B: Definitions. **(Act 451, Section 324.5503(b))**

Use and Surrender of NO_x and SO₂ Allowances

1. DTE shall not use NO_x or 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 provided in this permit, by using, tendering, or otherwise applying NO_x or SO₂ Allowances to offset any excess emissions. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 14)**
2. Except as provided by Appendix 11-1-B: Allowance Provisions, DTE shall not sell, bank, trade, or transfer their interest in any NO_x or SO₂ Allowances allocated to Units in the System. Nothing in the Consent Decree shall restrict DTE's ability to transfer NO_x or SO₂ Allowances among their own facility or general accounts. **("U.S. v DTE Energy and Detroit Edison Company, Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, 2020" paragraph 15)**

3. Beginning in 2021 and continuing in each calendar year thereafter, DTE shall Surrender all NO_x and SO₂ Allowances allocated to the Units in the System for that calendar year that DTE does not need to meet federal and/or state CAA regulatory requirements for the System Units. However, NO_x and SO₂ Allowances allocated to the System may be used by DTE to meet their own federal and/or state CAA regulatory requirements for such Units. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 16)**
4. Nothing in the Consent Decree shall prevent DTE from purchasing or otherwise obtaining NO_x or SO₂ Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 17)**

Super-Compliant NO_x and SO₂ Allowances

5. Beginning with the year 2021 and continuing in each calendar year thereafter, DTE may sell, bank, use, trade, or transfer NO_x or SO₂ Allowances made available in that calendar year solely as a result of:
 - a) achievement and maintenance of an Emission Rate below a 30-Day Rolling Average Emission Rate (per individual unit) of 0.090 lb/MMBtu for NO_x and 0.100 lb/MMBtu for SO₂
 - b) compliance with the Consent Decree through Retrofit, Refuel, or Repowering by the Unit specific dates specified in the Consent Decree paragraph 7 provided that DTE is also in compliance for that calendar year with all emission limitation for NO_x or SO₂ set forth in the Consent Decree as provided in this permit. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 19)**

Method for Surrender of NO_x and SO₂ Allowances

6. DTE shall Surrender, or transfer to a non-profit third-party selected by DTE for Surrender, all NO_x and SO₂ Allowances required to be Surrendered pursuant to Appendix 11-1-B by June 30 of the immediately following calendar year. Such Surrender need not include the specific Allowances that were allocated to DTE System Units, so long as DTE surrenders 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. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 20)**
7. If any NO_x or SO₂ Allowances required to be Surrendered under Appendix 11-1-B: Allowance Provisions are transferred directly to a non-profit third-party, DTE shall include a description of such transfer in the next report submitted to EPA pursuant to the Periodic Reporting provisions of the Consent Decree (beginning at paragraph 48 of the Consent Decree). Such report shall:
 - a) Identify the non-profit third-party recipient(s) of the Allowances and list the serial numbers of the transferred 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 Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law;

No later than the third periodic report due after the transfer of any Allowances, DTE shall include a statement that the third-party recipient(s) Surrendered the Allowances for permanent Surrender to EPA in accordance with the provisions of Appendix 11-1-B, "Method for Surrender of NO_x and SO₂ Allowances", within one year after DTE transferred the Allowances to them. DTE shall not have complied with the Allowance Surrender requirements of the NO_x and SO₂ Allowance Surrender requirements of Appendix 11-1-B, "Method for Surrender of NO_x and SO₂ Allowances", until all third-party recipient(s) have actually Surrendered the transferred Allowances to EPA. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraphs 20, 21 and 48a(4))**

8. For all Allowances required to be Surrendered, DTE or the third-party recipient(s) (as the case may be) shall, with respect to the Allowances that DTE is to Surrender, ensure that an Allowance transfer request form is first submitted to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. Such Allowance transfer requests may be made in an electronic manner using the EPA's Clean Air Markets Division Business System, or similar system provided by EPA. As part of submitting these transfer requests, DTE shall ensure that the transfer of their Allowances is irrevocably authorized and that the source and location of the Allowances being Surrendered are identified by name of account and any applicable serial or other identification numbers or station names. **(R 336.1201, Act 451, Section 324.5503(b); 2020 Civil Action No. 2:10-cv-13101-BAF-RSW, E.D. Michigan, paragraph 22)**